

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BELCOURT KEYA RADIO, ND US**

GHCND:USC00320626

Elev: 1959 ft. Lat: 48.841° N Lon: 99.751° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.6	-6.2	5.7	7.2	8.1	7.5	0	0	0	0	0	0	1528	1590	1683	1838	0.0	0.0	-7777	25.0	31.0	19.5
2	22.2	-3.2	9.5	7.1	8.6	7.7	0	0	0	0	0	0	1274	1330	1414	1554	0.0	0.0	0.3	20.3	28.0	15.8
3	32.5	10.6	21.5	5.5	6.2	5.6	-7777	-7777	-7777	-7777	0	0	1037	1099	1192	1347	0.0	0.0	2.4	14.2	30.0	6.9
4	51.4	26.0	38.7	6.0	4.6	4.9	8	5	2	-7777	0	0	497	554	641	790	0.0	0.0	16.7	2.3	21.8	0.4
5	63.2	38.2	50.7	3.9	3.7	3.6	54	37	19	5	1	-7777	187	232	308	448	0.0	-7777	27.3	0.0	7.5	0.0
6	71.8	47.6	59.7	4.4	3.1	3.5	179	138	87	34	10	5	38	57	96	193	-7777	0.8	29.7	0.0	0.7	0.0
7	78.3	53.2	65.8	3.5	2.4	2.6	338	280	198	88	26	13	5	9	20	65	-7777	1.5	31.0	0.0	0.0	0.0
8	77.3	50.6	63.9	4.5	3.0	3.5	289	236	162	69	20	10	12	20	39	102	0.0	1.7	31.0	0.0	0.2	0.0
9	66.5	40.4	53.5	4.2	3.2	3.4	82	59	34	10	2	1	129	166	230	356	0.0	0.1	27.9	0.0	4.7	0.0
10	52.4	27.4	39.9	4.1	3.2	3.1	7	4	1	-7777	0	0	475	534	624	778	0.0	0.0	17.7	1.7	21.5	0.2
11	34.0	13.4	23.7	6.8	6.1	6.3	0	0	0	0	0	0	939	999	1089	1239	0.0	0.0	4.5	13.8	28.9	4.6
12	19.5	-1.2	9.1	7.6	8.4	7.9	0	0	0	0	0	0	1421	1483	1576	1731	0.0	0.0	0.0	24.8	30.9	15.8
Summary	48.9	24.7	36.8	5.4	5.0	5.0	957	759	503	206	59	29	7542	8073	8912	10441	0.0	4.1	188.5	102.1	205.2	63.2

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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www.ncdc.noaa.gov

Station: **BELCOURT KEYA RADIO, ND US**

GHCND:USC00320626

Elev: 1959 ft. Lat: 48.841° N Lon: 99.751° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	@	@	@	@			
2	0.45	@	@	@	@			
3	0.74	@	@	@	@			
4	0.91	@	@	@	@			
5	2.57	@	@	@	@			
6	3.92	@	@	@	@			
7	2.87	@	@	@	@			
8	2.46	@	@	@	@			
9	1.63	@	@	@	@			
10	1.60	@	@	@	@			
11	0.77	@	@	@	@			
12	0.51	@	@	@	@			
Summary	18.92	9999	9999	9999	9999	9999	9999	9999

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GHCND:USC00320626

Elev: 1959 ft. Lat: 48.841° N Lon: 99.751° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	5	109	349	591	798	742	410	117	11	-7777
45	0	-7777	1	55	224	443	643	588	279	57	3	0
50	0	0	-7777	22	122	301	488	435	166	23	-7777	0
55	0	0	-7777	8	54	179	338	289	82	7	0	0
60	0	0	-7777	2	19	87	198	162	34	1	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	91	220	355	501	464	258	98	14	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	5	114	463	1054	1852	2594	3004	3121	3132	-7777
45	0	-7777	1	56	280	723	1366	1954	2233	2290	2293	2293
50	0	0	-7777	22	144	445	933	1368	1534	1557	-7777	1557
55	0	0	-7777	8	62	241	579	868	950	957	957	957
60	0	0	-7777	2	21	108	306	468	502	503	503	503
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	98	318	673	1174	1638	1896	1994	2008	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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www.ncdc.noaa.gov

Station: **MADDOCK, ND US**

GHCND:USC00325434

Elev: 1614 ft. Lat: 47.962° N Lon: 99.526° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.47	4.3	1.5	0.1	0.0	0.24	0.39	0.70
2	0.52	4.1	1.1	0.1	0.0	0.16	0.32	0.63
3	0.80	6.9	2.8	0.3	0.0	0.39	0.72	1.16
4	1.09	6.8	2.9	0.5	0.0	0.44	0.83	1.32
5	2.10	8.3	4.3	1.1	0.3	1.24	1.96	2.67
6	3.68	11.2	6.3	1.9	0.9	2.07	3.67	4.35
7	3.40	10.6	6.4	2.1	0.5	1.96	2.78	4.00
8	1.71	8.6	3.9	1.0	0.3	1.06	1.47	2.07
9	1.90	8.2	3.6	1.1	0.4	1.03	1.86	2.70
10	1.60	7.3	3.1	0.9	0.4	0.56	1.31	2.19
11	0.64	5.7	2.4	0.1	0.0	0.17	0.70	0.92
12	0.54	5.6	1.2	0.0	0.0	0.30	0.47	0.70
Summary	18.45	87.6	39.5	9.2	2.8	9.62	16.48	23.41

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Station: **MADDOCK, ND US**

GHCND:USC00325434

Elev: 1614 ft. Lat: 47.962° N Lon: 99.526° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.6	3.4	3.2	0.7	0.2	0.0	27.3	22.4	16.0	6.5	3.0	4.9	9.0
2	4.7	3.1	2.8	0.5	0.1	0.0	23.9	19.4	15.2	6.0	2.0	3.0	6.3
3	4.5	2.7	2.3	0.6	0.1	0.0	16.4	12.3	8.0	1.3	0.0	4.2	6.9
4	2.4	1.0	0.9	0.4	0.1	0.0	2.0	0.8	0.2	0.0	0.0	1.2	5.0
5	0.6	0.1	0.1	0.1	0.1	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.4	0.4	0.4	0.3	0.2	0.0	1.5	0.8	0.6	0.1	0.0	0.0	0.5
11	6.1	2.8	2.7	0.8	0.1	0.0	13.4	7.7	3.5	1.6	2.0	5.0	9.0
12	5.9	3.7	2.9	0.6	0.2	0.0	23.0	20.2	12.8	4.5	2.8	5.5	8.3
Summary	32.2	17.2	15.3	4.0	1.1	0.0	107.8	83.7	56.4	20.0	9.8	23.8	45.0

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Station: **EDGELEY 3 WNW, ND US**

GHCND:USC00322482  
Elev: 1558 ft. Lat: 46.369° N Lon: 98.766° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.7	2.4	11.6	7.3	7.4	7.2	0	0	0	0	0	0	1347	1409	1502	1657	0.0	0.0	0.4	23.9	30.8	14.2
2	26.6	7.6	17.1	7.1	7.0	6.9	0	0	0	0	0	0	1061	1117	1201	1341	0.0	0.0	1.3	16.7	27.1	9.2
3	37.1	18.5	27.8	6.1	4.8	5.3	-7777	-7777	-7777	-7777	0	0	843	905	998	1153	0.0	0.0	5.2	10.1	27.5	3.2
4	55.0	30.8	42.9	5.5	2.9	4.0	19	12	6	2	-7777	-7777	382	435	519	665	0.0	0.0	19.5	1.6	16.2	0.0
5	67.4	43.0	55.2	3.7	3.0	3.1	115	85	49	16	3	1	109	141	198	320	0.0	0.2	29.0	0.0	3.0	0.0
6	75.6	52.8	64.2	3.7	2.6	3.0	287	236	165	77	27	16	11	20	39	101	0.1	1.6	29.9	0.0	0.0	0.0
7	82.3	57.3	69.8	4.2	2.2	3.0	459	398	308	173	73	47	1	2	5	24	0.3	4.8	31.0	0.0	0.0	0.0
8	81.5	55.5	68.5	3.6	2.3	2.8	421	362	275	147	57	36	3	5	12	38	0.2	4.7	31.0	0.0	0.0	0.0
9	71.2	45.7	58.5	4.0	2.5	2.9	165	129	84	32	8	4	61	85	130	229	0.0	0.5	29.5	0.0	0.9	0.0
10	56.7	33.2	44.9	4.5	2.9	3.3	29	20	11	3	-7777	-7777	340	393	477	624	0.0	0.2	22.0	0.9	13.3	0.0
11	38.3	19.8	29.0	6.9	5.1	5.8	-7777	-7777	-7777	0	0	0	779	839	928	1078	0.0	0.0	6.2	10.3	26.5	1.3
12	24.3	6.2	15.2	7.9	7.9	7.8	0	0	0	0	0	0	1232	1294	1387	1542	0.0	0.0	0.7	20.9	30.9	10.3
Summary	53.1	31.1	42.1	5.4	4.2	4.6	1495	1242	898	450	168	104	6169	6645	7396	8772	0.6	12.0	205.7	84.4	176.2	38.2

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GHCND:USC00322482

Elev: 1558 ft. Lat: 46.369° N Lon: 98.766° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	4.4	2.7	0.3	0.0	0.26	0.46	0.82
2	0.34	2.5	1.5	0.0	0.0	0.09	0.27	0.48
3	1.11	4.1	2.8	0.5	0.0	0.52	1.10	1.53
4	1.55	4.5	3.4	0.5	0.1	0.81	1.40	1.85
5	3.03	7.5	5.2	1.5	0.8	1.64	2.67	4.12
6	3.26	7.0	5.4	2.1	0.7	1.81	3.19	4.25
7	2.59	6.8	4.9	1.9	0.8	1.61	2.27	3.44
8	2.74	5.8	4.3	1.8	0.8	1.66	2.52	3.86
9	2.43	4.5	3.6	1.1	0.4	0.67	1.88	3.70
10	1.71	3.4	2.8	1.0	0.3	0.66	1.41	2.09
11	0.76	3.2	2.2	0.4	0.1	0.17	0.67	1.22
12	0.31	2.7	1.2	0.0	0.0	0.09	0.23	0.51
Summary	20.38	56.4	40.0	11.1	4.0	9.99	18.07	27.87

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 Elev: 1558 ft. Lat: 46.369° N Lon: 98.766° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	11.9	3.6	3.5	1.6	0.9	0.0	@	@	@	@	8.5	12.5	15.0
2	4.9	2.4	2.2	0.8	0.2	0.0	@	@	@	@	0.0	4.0	10.0
3	8.1	2.5	2.5	1.1	0.5	0.1	@	@	@	@	1.5	8.5	11.9
4	2.4	0.7	0.7	0.5	0.2	0.0	@	@	@	@	0.0	0.0	3.0
5	0.3	-7777	-7777	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.5	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
11	5.5	2.2	2.0	1.0	0.4	0.1	@	@	@	@	0.0	4.0	11.0
12	5.4	2.0	2.0	0.6	0.1	0.1	@	@	@	@	2.0	3.0	8.5
Summary	39.0	13.5	13.0	5.7	2.3	0.3	9999	9999	9999	9999	12.0	32.0	59.4

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Elev: 1558 ft. Lat: 46.369° N Lon: 98.766° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	23	172	476	726	923	883	554	217	26	-7777
45	-7777	1	7	96	336	576	769	728	409	126	11	-7777
50	0	-7777	2	47	213	428	614	573	275	65	3	0
55	0	0	-7777	19	115	287	459	421	165	29	-7777	0
60	0	0	-7777	6	49	165	308	275	84	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	19	126	287	439	593	563	335	142	21	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	28	200	676	1402	2325	3208	3762	3979	4005	-7777
45	-7777	1	8	104	440	1016	1785	2513	2922	3048	3059	-7777
50	0	-7777	2	49	262	690	1304	1877	2152	2217	2220	2220
55	0	0	-7777	19	134	421	880	1301	1466	1495	-7777	1495
60	0	0	-7777	6	55	220	528	803	887	898	-7777	898
Growing Degree Units for Corn (Monthly)												
50/86	1	4	23	149	436	875	1468	2031	2366	2508	2529	2530

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GACKLE, ND US**

GHCND:USC00323309

Elev: 1952 ft. Lat: 46.628° N Lon: 99.138° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.4	2.1	11.3	7.4	7.6	7.4	0	0	0	0	0	0	1356	1418	1511	1666	0.0	0.0	0.1	23.2	30.8	13.9
2	25.3	7.2	16.2	7.2	7.7	7.3	0	0	0	0	0	0	1085	1141	1225	1365	0.0	0.0	0.8	17.6	27.8	9.1
3	37.5	18.8	28.2	6.0	4.7	5.2	1	-7777	-7777	-7777	0	0	833	895	987	1142	0.0	0.0	5.1	8.7	27.7	2.8
4	56.1	31.4	43.7	5.2	3.1	3.9	25	17	9	2	-7777	-7777	362	415	496	640	0.0	0.1	20.7	1.1	16.0	0.0
5	68.2	43.9	56.0	3.4	3.3	3.0	127	95	57	19	4	2	95	125	179	296	0.0	0.2	29.7	0.0	3.1	0.0
6	76.3	53.5	64.9	3.9	3.0	3.2	305	252	179	85	32	20	8	15	32	88	0.1	1.5	30.0	0.0	0.0	0.0
7	82.2	59.0	70.6	4.4	2.6	3.3	484	422	333	194	88	57	-7777	1	4	21	0.2	5.0	31.0	0.0	0.0	0.0
8	81.1	56.8	68.9	3.9	2.8	3.2	435	375	288	161	67	42	2	5	11	38	0.3	4.1	31.0	0.0	0.0	0.0
9	71.0	46.9	58.9	3.6	2.6	2.9	178	141	94	40	13	7	60	82	126	222	0.1	0.9	29.5	0.0	1.0	0.0
10	56.3	34.1	45.2	4.0	2.9	2.9	25	17	8	2	-7777	-7777	329	382	467	616	0.0	0.1	21.6	1.0	12.1	0.1
11	37.2	19.5	28.4	6.8	5.3	5.9	1	-7777	-7777	0	0	0	800	860	949	1099	0.0	0.0	5.4	10.7	26.6	1.9
12	23.3	6.3	14.8	7.3	7.2	7.2	0	0	0	0	0	0	1246	1308	1401	1556	0.0	0.0	0.1	21.6	30.9	10.2
Summary	52.9	31.6	42.3	5.3	4.4	4.6	1581	1319	968	503	204	128	6176	6647	7388	8749	0.7	11.9	205.0	83.9	176.0	38.0

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GACKLE, ND US**

GHCND:USC00323309

Elev: 1952 ft. Lat: 46.628° N Lon: 99.138° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	7.0	2.0	0.1	0.0	0.25	0.41	0.74
2	0.42	5.1	1.7	0.0	0.0	0.17	0.37	0.54
3	0.95	6.4	2.8	0.5	-7777	0.47	0.83	1.34
4	1.32	7.2	3.8	0.7	0.2	0.64	1.10	1.84
5	3.00	9.7	5.8	1.7	0.5	1.24	2.81	4.50
6	3.40	11.1	6.7	2.1	0.7	2.49	3.02	3.70
7	3.77	11.1	6.3	2.5	1.0	2.38	3.31	4.22
8	2.15	7.7	4.5	1.3	0.3	1.38	2.00	2.56
9	2.00	7.9	4.2	1.1	0.4	1.12	1.83	2.64
10	1.62	7.0	3.4	1.0	0.4	0.80	1.28	2.27
11	0.69	6.4	2.6	0.3	0.0	0.12	0.65	1.00
12	0.46	6.0	1.3	0.1	0.0	0.19	0.32	0.63
Summary	20.31	92.6	45.1	11.4	3.5	11.25	17.93	25.98

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www.ncdc.noaa.gov

Station: **GACKLE, ND US**

GHCND:USC00323309

Elev: 1952 ft. Lat: 46.628° N Lon: 99.138° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.3	5.5	3.4	0.7	0.3	0.0	@	@	@	@	4.8	5.8	13.0
2	5.3	3.8	2.4	0.5	0.1	0.0	@	@	@	@	2.3	4.0	8.1
3	7.5	3.9	2.7	0.8	0.1	0.0	@	@	@	@	1.5	4.0	15.0
4	3.2	1.4	1.0	0.3	0.2	-7777	@	@	@	@	0.0	2.0	4.0
5	0.2	-7777	-7777	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.2	0.1	0.1	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.1	0.9	0.5	0.1	0.1	0.0	@	@	@	@	0.0	0.3	2.0
11	7.8	4.1	3.1	1.2	0.4	0.0	@	@	@	@	3.3	7.3	11.2
12	5.3	4.5	2.9	0.5	0.1	0.0	@	@	@	@	3.5	5.1	6.5
Summary	38.9	24.2	16.1	4.1	1.3	0.0	9999	9999	9999	9999	15.4	28.5	59.8

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GACKLE, ND US**

GHCND:USC00323309

Elev: 1952 ft. Lat: 46.628° N Lon: 99.138° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	18	187	501	747	948	897	570	221	27	-7777
45	0	-7777	5	106	358	597	793	742	425	128	11	0
50	0	-7777	1	55	231	448	638	587	291	64	3	0
55	0	0	1	25	127	305	484	435	178	25	1	0
60	0	0	-7777	9	57	179	333	288	94	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	17	133	301	461	617	577	341	138	20	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	206	707	1454	2402	3299	3869	4090	4117	-7777
45	0	-7777	5	111	469	1066	1859	2601	3026	3154	3165	3165
50	0	-7777	1	56	287	735	1373	1960	2251	2315	2318	2318
55	0	0	1	26	153	458	942	1377	1555	1580	1581	1581
60	0	0	-7777	9	66	245	578	866	960	968	-7777	968
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	151	452	913	1530	2107	2448	2586	2606	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TIOGA 1 E, ND US**

GHCND:USC00328737  
Elev: 2244 ft. Lat: 48.399° N Lon: 102.918° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.0	0.5	11.2	7.8	8.0	7.9	0	0	0	0	0	0	1356	1418	1511	1666	0.0	0.0	0.2	21.7	30.9	14.4
2	27.3	5.9	16.6	7.6	8.6	8.0	0	0	0	0	0	0	1075	1131	1215	1355	0.0	0.0	1.0	16.1	27.5	9.7
3	39.9	17.6	28.7	6.7	6.1	6.2	1	-7777	-7777	-7777	0	0	814	876	969	1124	0.0	0.0	7.3	8.6	28.1	3.8
4	57.5	29.5	43.5	4.7	3.1	3.7	19	13	6	2	-7777	-7777	365	418	501	647	0.0	0.1	21.7	1.0	17.9	0.2
5	68.8	40.1	54.5	3.7	2.9	3.0	105	78	46	15	3	2	122	157	218	342	0.0	0.8	29.5	0.0	5.6	0.0
6	77.4	50.1	63.7	4.4	3.4	3.8	277	227	160	77	30	19	14	24	47	115	0.2	3.2	30.0	0.0	0.1	0.0
7	84.3	54.9	69.6	3.8	2.6	3.0	453	393	304	173	78	52	1	2	6	30	0.9	7.8	31.0	0.0	0.0	0.0
8	84.3	53.2	68.7	4.0	2.7	3.2	430	371	286	164	76	51	4	7	15	48	0.8	8.9	31.0	0.0	0.1	0.0
9	72.2	41.9	57.1	4.8	2.9	3.5	152	119	78	34	10	6	90	117	167	272	0.1	2.3	29.0	0.0	3.6	0.0
10	56.9	30.1	43.5	4.2	3.0	3.2	20	13	7	2	-7777	-7777	377	432	518	668	0.0	0.1	21.3	1.2	17.6	0.2
11	38.3	17.5	27.9	7.1	5.8	6.2	1	-7777	0	0	0	0	814	873	963	1113	0.0	0.0	6.3	9.7	27.0	3.0
12	24.7	3.9	14.3	7.4	7.2	7.2	0	0	0	0	0	0	1262	1324	1416	1571	0.0	0.0	0.3	19.7	30.9	11.4
Summary	54.5	28.8	41.6	5.5	4.7	4.9	1458	1214	887	467	197	130	6294	6779	7546	8951	2.0	23.2	208.6	78.0	189.3	42.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TIOGA 1 E, ND US**

GHCND:USC00328737  
Elev: 2244 ft. Lat: 48.399° N Lon: 102.918° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	5.6	2.0	-7777	0.0	0.30	0.48	0.82
2	0.35	4.1	1.1	-7777	0.0	0.11	0.25	0.46
3	0.61	5.9	2.4	-7777	0.0	0.34	0.60	0.83
4	0.98	6.4	2.7	0.2	0.1	0.39	0.83	1.43
5	2.07	9.0	5.2	1.1	0.3	1.13	1.73	2.51
6	2.78	11.6	6.7	1.8	0.5	1.68	2.38	3.59
7	2.49	9.1	5.7	1.3	0.6	1.48	2.46	3.02
8	1.66	7.7	4.0	0.9	0.2	0.91	1.36	2.35
9	1.23	6.9	3.6	0.4	0.1	0.55	0.93	1.62
10	1.04	6.6	2.6	0.5	0.1	0.40	0.89	1.44
11	0.56	5.1	1.9	0.2	0.0	0.19	0.47	0.80
12	0.57	6.1	2.0	0.2	0.0	0.28	0.54	0.76
Summary	14.93	84.1	39.9	6.6	1.9	7.76	12.92	19.63

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Station: **TIOGA 1 E, ND US**

GHCND:USC00328737  
Elev: 2244 ft. Lat: 48.399° N Lon: 102.918° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.0	5.0	3.3	0.8	0.2	0.0	28.0	20.5	13.6	9.4	4.1	5.5	10.0
2	4.2	3.7	2.1	0.4	0.1	-7777	22.3	16.8	12.2	6.4	1.0	2.5	6.0
3	6.0	4.2	2.9	0.4	0.1	0.0	16.8	10.5	7.4	4.0	4.0	5.5	8.5
4	3.8	1.7	1.3	0.5	0.1	-7777	3.0	1.7	1.1	0.3	0.0	1.0	4.0
5	0.9	0.4	0.4	0.2	0.1	0.0	0.4	0.2	0.1	-7777	0.0	0.0	0.0
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.4	0.2	0.1	-7777	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	3.3	1.5	1.1	0.4	0.2	-7777	2.3	0.7	0.2	-7777	0.0	1.5	5.0
11	6.6	3.8	2.6	0.7	0.2	-7777	12.5	6.4	3.9	0.6	1.5	6.2	9.4
12	7.8	5.4	3.4	0.6	0.3	-7777	24.6	15.9	9.6	3.8	3.0	6.1	10.0
Summary	41.0	25.9	17.2	4.0	1.3	0.0	110.0	72.7	48.1	24.5	13.6	28.3	52.9

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Station: **TIOGA 1 E, ND US**

GHCND:USC00328737  
Elev: 2244 ft. Lat: 48.399° N Lon: 102.918° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	27	185	455	712	917	891	516	193	28	-7777
45	-7777	-7777	9	103	317	563	762	736	378	108	12	0
50	0	-7777	3	49	197	416	608	582	253	51	4	0
55	0	0	1	19	105	277	453	430	152	20	1	0
60	0	0	-7777	6	46	160	304	286	78	7	0	0
Growing Degree Units for Corn (Monthly)												
50/86	1	2	28	148	299	442	580	561	336	150	25	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	29	214	669	1381	2298	3189	3705	3898	3926	-7777
45	-7777	-7777	9	112	429	992	1754	2490	2868	2976	2988	2988
50	0	-7777	3	52	249	665	1273	1855	2108	2159	2163	2163
55	0	0	1	20	125	402	855	1285	1437	1457	1458	1458
60	0	0	-7777	6	52	212	516	802	880	887	887	887
Growing Degree Units for Corn (Monthly)												
50/86	1	3	31	179	478	920	1500	2061	2397	2547	2572	2573

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HILLSBORO 3 N, ND US**

GHCND:USC00324203  
Elev: 909 ft. Lat: 47.439° N Lon: 97.066° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.0	-0.7	8.7	7.0	8.1	7.5	0	0	0	0	0	0	1437	1499	1592	1747	0.0	0.0	0.0	25.5	31.0	15.9
2	23.1	3.9	13.5	6.9	8.1	7.4	0	0	0	0	0	0	1162	1218	1302	1442	0.0	0.0	0.2	20.3	27.6	11.8
3	35.6	17.7	26.6	5.2	5.4	5.0	-7777	-7777	-7777	0	0	0	879	941	1034	1189	0.0	0.0	3.3	10.2	28.1	3.1
4	54.4	31.8	43.1	5.0	4.1	4.2	20	13	7	2	-7777	-7777	377	430	514	659	0.0	-7777	18.9	1.1	15.4	0.0
5	68.5	43.8	56.1	3.6	3.8	3.4	131	99	62	22	5	3	95	126	181	296	0.0	0.5	29.5	0.0	2.5	0.0
6	76.6	54.0	65.3	3.5	3.8	3.3	317	263	191	95	35	21	8	15	32	86	0.0	1.9	30.0	0.0	0.0	0.0
7	81.9	58.4	70.2	3.4	2.9	2.8	470	408	318	180	74	47	-7777	1	4	20	0.1	3.8	31.0	0.0	0.0	0.0
8	80.8	56.3	68.6	3.4	3.0	2.8	421	361	274	147	59	37	1	3	9	37	0.3	3.6	31.0	0.0	0.0	0.0
9	70.3	46.1	58.2	3.5	3.7	3.1	161	125	82	34	10	5	65	89	136	238	-7777	0.6	29.3	0.0	1.1	0.0
10	55.2	34.3	44.8	3.9	3.9	3.3	22	15	7	2	-7777	-7777	340	394	480	630	0.0	-7777	20.8	0.6	12.4	0.0
11	36.8	19.4	28.1	6.5	5.8	6.0	-7777	-7777	-7777	0	0	0	807	867	957	1107	0.0	0.0	4.7	11.3	26.6	2.1
12	22.0	5.7	13.8	6.9	7.5	7.1	0	0	0	0	0	0	1275	1337	1430	1585	0.0	0.0	0.2	22.7	31.0	11.4
Summary	51.9	30.9	41.4	4.9	5.0	4.7	1542	1284	941	482	183	113	6446	6920	7671	9036	0.4	10.4	198.9	91.7	175.7	44.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HILLSBORO 3 N, ND US**

GHCND:USC00324203

Elev: 909 ft. Lat: 47.439° N Lon: 97.066° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	5.5	1.8	0.1	0.0	0.22	0.40	0.88
2	0.58	4.9	1.9	0.2	-7777	0.22	0.48	0.75
3	1.12	5.1	3.1	0.7	0.1	0.50	0.86	1.60
4	1.40	5.3	3.4	0.9	0.2	0.65	1.23	1.77
5	2.70	10.2	6.0	1.6	0.5	1.65	2.56	3.68
6	3.61	10.5	6.7	2.4	0.8	2.67	3.27	4.93
7	3.29	8.7	5.8	2.2	0.8	1.64	3.16	4.01
8	2.49	7.8	5.2	1.7	0.6	1.72	2.39	3.43
9	2.19	7.4	4.7	1.4	0.5	1.52	1.93	2.70
10	2.17	7.0	4.1	1.5	0.6	0.36	1.95	3.46
11	0.88	5.2	2.2	0.3	0.1	0.17	0.62	1.15
12	0.66	5.6	1.9	0.3	-7777	0.31	0.54	0.99
Summary	21.62	83.2	46.8	13.3	4.2	11.63	19.39	29.35

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Station: **HILLSBORO 3 N, ND US**

GHCND:USC00324203  
Elev: 909 ft. Lat: 47.439° N Lon: 97.066° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	12	174	503	759	935	885	547	204	23	-7777
45	0	-7777	4	98	360	609	779	730	403	115	8	-7777
50	0	-7777	1	48	232	460	624	575	271	55	2	0
55	0	0	-7777	20	131	317	470	421	161	22	-7777	0
60	0	0	-7777	7	62	191	318	274	82	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	10	117	306	470	610	567	330	122	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	12	186	689	1448	2383	3268	3815	4019	4042	-7777
45	0	-7777	4	102	462	1071	1850	2580	2983	3098	3106	-7777
50	0	-7777	1	49	281	741	1365	1940	2211	2266	2268	2268
55	0	0	-7777	20	151	468	938	1359	1520	1542	-7777	1542
60	0	0	-7777	7	69	260	578	852	934	941	-7777	941
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	10	127	433	903	1513	2080	2410	2532	2548	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LIDGERWOOD, ND US**

GHCND:USC00325186

Elev: 1125 ft. Lat: 46.072° N Lon: 97.146° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	1.5	10.7				0	0	0	0	0	0	1373	1435	1528	1683	0.0	0.0	0.1	24.3	31.0	14.3
2	25.6	6.1	15.9				0	0	0	0	0	0	1096	1152	1236	1376	0.0	0.0	0.7	19.4	27.3	9.8
3	37.6	18.9	28.3				-7777	-7777	-7777	0	0	0	829	891	984	1139	0.0	0.0	4.5	9.3	27.3	2.7
4	56.2	32.6	44.4				20	13	6	1	-7777	0	338	391	474	619	0.0	0.0	20.6	0.9	14.3	0.0
5	68.9	45.6	57.3				146	111	68	23	6	3	76	103	153	263	0.0	0.6	30.2	0.0	0.7	0.0
6	77.6	56.0	66.8				357	300	220	109	38	22	3	7	16	55	0.0	1.6	29.9	0.0	0.0	0.0
7	83.0	60.7	71.9				522	461	370	224	101	66	-7777	1	2	12	0.2	4.1	31.0	0.0	0.0	0.0
8	81.6	58.8	70.2				471	410	320	184	81	55	-7777	1	4	23	0.1	3.5	31.0	0.0	0.0	0.0
9	71.8	48.0	59.9				192	152	102	48	17	11	45	65	105	201	0.0	1.0	29.9	0.0	0.4	0.0
10	57.3	35.7	46.5				28	20	10	1	-7777	-7777	292	345	429	575	0.0	0.0	22.1	0.2	9.4	0.0
11	38.5	21.5	30.0				-7777	-7777	-7777	0	0	0	750	810	900	1050	0.0	0.0	6.1	8.7	26.3	0.9
12	24.4	6.9	15.7				0	0	0	0	0	0	1219	1281	1374	1529	0.0	0.0	0.2	22.3	30.7	8.2
Summary	53.5	32.7	43.1	9999	9999	9999	1736	1467	1096	590	243	157	6021	6482	7205	8525	0.3	10.8	206.3	85.1	167.4	35.9

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LIDGERWOOD, ND US**

GHCND:USC00325186

Elev: 1125 ft. Lat: 46.072° N Lon: 97.146° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.68	5.3	2.0	0.3	-7777	0.16	0.53	1.11
2	0.63	5.1	2.2	0.2	0.1	0.30	0.62	0.87
3	1.28	6.3	3.0	0.7	0.1	0.77	1.29	1.60
4	1.87	7.2	4.2	1.2	0.2	0.60	1.79	2.20
5	3.02	10.0	6.0	1.8	0.6	1.71	2.67	3.85
6	3.89	11.6	7.0	2.4	1.0	1.45	3.26	5.31
7	3.50	10.0	6.2	2.2	0.9	1.87	3.42	4.51
8	2.24	8.5	4.8	1.3	0.5	1.24	2.06	2.98
9	2.54	9.2	5.3	1.6	0.6	1.62	2.17	3.49
10	2.06	7.5	4.1	1.2	0.4	0.48	1.66	2.65
11	0.96	5.7	2.7	0.5	-7777	0.27	0.80	1.41
12	0.64	5.6	2.2	0.2	0.0	0.24	0.44	0.95
Summary	23.31	92.0	49.7	13.6	4.4	10.71	20.71	30.93

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LIDGERWOOD, ND US**

GHCND:USC00325186

Elev: 1125 ft. Lat: 46.072° N Lon: 97.146° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	5.0	2.8	1.0	0.5	0.1	24.4	18.5	15.5	11.1	2.3	5.2	10.5
2	6.3	4.4	2.5	0.8	0.3	0.0	20.5	16.3	14.3	9.3	3.1	6.3	8.4
3	7.0	3.4	2.2	1.0	0.5	-7777	14.6	11.4	9.9	5.7	3.0	5.5	11.2
4	4.0	1.5	1.0	0.7	0.3	0.0	1.0	0.5	0.2	-7777	0.0	2.8	6.3
5	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.8	0.6	0.4	-7777	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	2.0
11	7.2	3.6	2.6	0.9	0.4	0.0	7.0	3.9	2.3	1.1	1.0	5.8	9.0
12	8.5	5.4	3.3	1.2	0.6	0.0	19.1	14.5	10.0	6.6	3.3	5.9	11.0
Summary	41.4	23.9	14.8	5.6	2.6	0.1	86.7	65.1	52.2	33.8	12.7	31.5	58.4

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LIDGERWOOD, ND US**

GHCND:USC00325186

Elev: 1125 ft. Lat: 46.072° N Lon: 97.146° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	21	201	535	804	987	936	597	241	23	-7777
45	-7777	-7777	7	115	388	654	832	781	450	140	7	-7777
50	0	0	2	54	255	504	677	625	312	70	1	0
55	0	0	-7777	20	146	357	522	471	192	28	-7777	0
60	0	0	-7777	6	68	220	370	320	102	10	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	136	312	506	658	611	356	145	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	22	223	758	1562	2549	3485	4082	4323	4346	-7777
45	-7777	-7777	7	122	510	1164	1996	2777	3227	3367	3374	-7777
50	0	0	2	56	311	815	1492	2117	2429	2499	2500	2500
55	0	0	-7777	20	166	523	1045	1516	1708	1736	-7777	1736
60	0	0	-7777	6	74	294	664	984	1086	1096	-7777	1096
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	155	467	973	1631	2242	2598	2743	2760	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COURTENAY 1 NW, ND US**

GHCND:USC00321816

Elev: 1516 ft. Lat: 47.241° N Lon: 98.584° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	2.6	1.6	0.2	-7777	0.05	0.35	0.72
2	0.43	2.2	1.5	0.2	0.0	0.18	0.31	0.57
3	0.85	3.5	2.5	0.5	-7777	0.31	0.55	1.19
4	1.05	3.9	3.0	0.6	0.2	0.29	0.75	1.36
5	2.68	7.7	5.7	1.8	0.5	1.48	2.21	3.35
6	3.30	8.9	7.0	2.0	0.6	1.95	3.17	4.76
7	3.36	7.5	6.1	2.6	0.8	1.78	3.01	4.00
8	2.38	6.1	4.7	1.5	0.6	1.69	2.30	3.09
9	2.05	5.5	4.4	1.3	0.5	0.82	1.89	2.90
10	1.65	4.3	3.2	1.2	0.4	0.36	1.49	2.07
11	0.68	2.8	1.9	0.3	0.1	0.05	0.51	1.24
12	0.43	2.3	1.4	0.1	0.0	0.17	0.40	0.61
Summary	19.32	57.3	43.0	12.3	3.7	9.13	16.94	25.86

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COURTENAY 1 NW, ND US**

GHCND:USC00321816

Elev: 1516 ft. Lat: 47.241° N Lon: 98.584° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	2.4	2.3	1.2	0.4	0.0	@	@	@	@	1.0	6.3	10.0
2	5.3	1.8	1.7	0.6	0.2	-7777	@	@	@	@	2.5	4.4	7.0
3	5.3	2.0	1.9	0.8	0.3	-7777	@	@	@	@	2.0	4.0	9.0
4	2.0	0.6	0.6	0.2	0.1	-7777	@	@	@	@	0.0	0.0	4.0
5	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.1	0.3	0.3	0.2	-7777	0.0	@	@	@	@	0.0	0.0	1.0
11	4.2	1.5	1.4	0.6	0.3	-7777	@	@	@	@	0.0	2.5	5.4
12	7.7	2.0	1.9	0.8	0.4	0.1	@	@	@	@	2.0	6.5	13.0
Summary	33.2	10.6	10.1	4.4	1.7	0.1	9999	9999	9999	9999	7.5	23.7	49.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ABERCROMBIE, ND US**

GHCND:USC00320005

Elev: 935 ft. Lat: 46.450° N Lon: 96.733° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.57	5.8	1.8	0.2	0.1	0.25	0.55	0.69
2	0.59	4.9	2.1	0.1	0.0	0.32	0.58	0.76
3	1.51	6.9	4.0	0.5	0.0	1.08	1.34	1.80
4	1.69	7.3	4.6	0.9	0.2	1.26	1.53	1.93
5	2.79	7.6	5.3	1.6	0.3	2.30	2.61	3.23
6	3.63	9.4	5.9	2.3	0.5	2.43	3.31	4.76
7	3.48	9.4	5.8	2.1	0.6	2.16	3.03	4.63
8	2.96	8.6	4.5	1.5	0.7	1.78	2.63	3.78
9	2.93	7.8	5.3	1.3	0.5	1.89	2.63	3.83
10	2.26	5.9	3.3	1.2	0.4	0.77	1.99	3.46
11	0.81	6.7	2.2	0.1	0.0	0.32	0.63	1.10
12	0.64	5.2	1.5	0.1	0.0	0.30	0.50	0.82
Summary	23.86	85.5	46.3	11.9	3.3	14.86	21.33	30.79

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U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ABERCROMBIE, ND US**

GHCND:USC00320005  
Elev: 935 ft. Lat: 46.450° N Lon: 96.733° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.5	5.4	3.0	0.7	0.3	0.2	25.1	16.7	10.3	3.2	3.2	6.2	12.4
2	5.8	3.8	2.3	0.7	0.2	0.0	19.1	12.7	10.5	3.4	3.3	5.0	6.8
3	6.7	3.8	2.2	0.6	0.3	0.0	14.0	9.5	6.3	1.8	1.5	7.2	11.4
4	1.4	1.3	0.8	0.1	0.0	0.0	1.4	0.2	0.0	0.0	0.0	0.4	1.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.5	0.5	0.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.0
11	5.9	4.6	2.5	0.4	0.1	0.0	9.3	3.0	1.2	0.4	2.2	5.5	8.7
12	5.7	4.7	2.3	0.5	0.1	0.0	20.0	8.4	5.4	1.0	1.4	6.6	8.4
Summary	35.5	24.1	13.4	3.0	1.0	0.2	89.1	50.5	33.7	9.8	11.6	30.9	49.7

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U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **AMBROSE 3 N, ND US**

GHCND:USC00320189

Elev: 2028 ft. Lat: 48.998° N Lon: 103.488° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.27	3.0	0.9	-7777	0.0	0.10	0.22	0.40
2	0.27	2.0	0.6	-7777	0.0	0.08	0.19	0.31
3	0.58	2.8	1.9	-7777	0.0	0.27	0.39	0.95
4	0.85	3.7	2.3	0.5	0.1	0.27	0.51	1.31
5	2.25	7.1	5.1	1.3	0.3	1.16	1.80	2.98
6	2.82	8.7	6.7	1.8	0.4	2.00	2.54	3.76
7	2.60	7.1	5.0	1.7	0.6	1.45	2.45	3.47
8	1.64	5.0	3.6	1.2	0.3	0.69	1.63	2.15
9	1.24	4.7	3.1	0.7	0.2	0.54	1.06	1.74
10	1.00	3.7	2.5	0.7	0.2	0.43	0.91	1.55
11	0.38	2.0	1.0	0.2	-7777	0.02	0.24	0.50
12	0.25	2.6	0.9	-7777	0.0	0.15	0.20	0.33
Summary	14.15	52.4	33.6	8.1	2.1	7.16	12.14	19.45

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **AMBROSE 3 N, ND US**

GHCND:USC00320189  
Elev: 2028 ft. Lat: 48.998° N Lon: 103.488° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	3.6	3.0	1.0	0.3	-7777	@	@	@	@	2.5	5.5	9.1
2	3.9	2.5	2.1	0.3	0.2	-7777	@	@	@	@	1.0	3.0	5.0
3	5.5	2.3	2.0	0.8	0.2	0.0	@	@	@	@	2.0	4.0	9.0
4	2.5	0.9	0.8	0.4	0.2	-7777	@	@	@	@	0.0	1.5	4.0
5	1.3	0.3	0.3	0.2	0.1	0.0	@	@	@	@	0.0	0.0	1.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	3.2	0.9	0.8	0.6	0.2	0.0	@	@	@	@	0.0	1.7	6.8
11	4.7	1.8	1.4	0.6	0.3	0.1	@	@	@	@	0.0	4.0	6.0
12	6.3	3.0	2.6	0.6	0.3	-7777	@	@	@	@	3.0	6.5	8.2
Summary	35.0	15.3	13.0	4.5	1.8	0.1	9999	9999	9999	9999	8.5	26.2	49.1

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U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON RANCH HQ, ND US**

GHCND:USC00322193  
Elev: 2379 ft. Lat: 47.194° N Lon: 102.841° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.9	4.6	14.8	7.4	8.5	7.8	0	0	0	0	0	0	1248	1310	1403	1558	0.0	0.0	0.5	19.0	30.6	12.0
2	29.6	9.5	19.6	7.8	7.8	7.7	-7777	-7777	0	0	0	0	993	1048	1133	1273	0.0	0.0	2.4	14.2	27.4	7.9
3	40.2	19.1	29.6	6.7	5.1	5.7	1	-7777	-7777	-7777	0	0	787	848	941	1096	0.0	0.0	8.1	8.7	27.7	2.5
4	55.4	29.7	42.5	4.6	2.4	3.3	16	10	5	1	-7777	0	389	444	528	674	0.0	0.1	19.8	1.3	17.1	0.1
5	66.1	40.9	53.5	3.8	2.7	2.9	89	64	36	11	2	1	135	172	237	367	0.0	0.2	28.5	-7777	4.7	0.0
6	75.6	50.2	62.9	4.7	3.1	3.7	254	205	142	65	25	16	17	28	55	128	0.3	2.4	29.8	0.0	0.2	0.0
7	83.7	55.7	69.7	4.4	2.3	3.1	457	396	308	176	81	54	1	2	7	31	1.1	7.6	31.0	0.0	0.0	0.0
8	83.1	53.9	68.5	3.8	2.7	3.1	422	362	278	156	68	44	4	6	15	48	0.6	7.6	31.0	0.0	-7777	0.0
9	71.4	43.4	57.4	4.6	2.5	3.2	153	119	77	30	8	4	81	107	155	258	-7777	1.7	28.8	-7777	2.6	0.0
10	56.6	31.2	43.9	4.1	2.6	3.1	21	13	6	1	-7777	-7777	365	419	505	655	0.0	0.1	20.8	1.2	16.3	0.1
11	39.8	18.9	29.4	7.2	5.3	6.1	1	-7777	-7777	0	0	0	770	830	920	1069	0.0	0.0	7.5	8.5	27.2	1.9
12	27.0	7.3	17.1	8.6	7.6	8.0	0	0	0	0	0	0	1173	1235	1328	1483	0.0	0.0	1.2	17.5	30.6	9.1
Summary	54.4	30.4	42.4	5.6	4.4	4.8	1414	1169	852	440	184	119	5963	6449	7227	8640	2.0	19.7	209.4	70.4	184.4	33.6

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON RANCH HQ, ND US**

GHCND:USC00322193

Elev: 2379 ft. Lat: 47.194° N Lon: 102.841° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	4.6	1.4	-7777	0.0	0.17	0.42	0.72
2	0.42	3.7	1.4	0.2	0.0	0.18	0.33	0.52
3	0.86	5.1	2.7	0.4	0.1	0.37	0.75	1.13
4	1.37	5.2	3.3	0.7	0.3	0.86	1.25	1.86
5	2.43	8.3	5.8	1.4	0.5	1.39	1.92	3.68
6	3.30	9.5	6.8	2.1	0.7	1.70	3.39	4.51
7	2.42	7.6	5.2	1.6	0.4	1.13	2.09	3.04
8	1.71	5.5	3.5	1.2	0.4	0.78	1.45	2.66
9	1.43	5.3	3.4	0.9	0.2	0.72	1.06	1.94
10	1.30	4.2	2.6	0.8	0.3	0.18	0.81	1.96
11	0.62	3.8	1.8	0.2	-7777	0.20	0.45	0.79
12	0.53	4.1	1.8	-7777	0.0	0.19	0.46	0.68
Summary	16.84	66.9	39.7	9.5	2.9	7.87	14.38	23.49

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON RANCH HQ, ND US**

GHCND:USC00322193  
Elev: 2379 ft. Lat: 47.194° N Lon: 102.841° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	35	167	427	687	920	883	526	200	31	2
45	-7777	1	13	92	292	538	766	728	386	114	12	-7777
50	0	-7777	4	42	176	392	611	574	258	54	3	0
55	0	-7777	1	16	89	254	457	422	153	21	1	0
60	0	0	-7777	5	36	142	308	278	77	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	5	33	127	262	414	581	555	328	146	30	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	40	207	634	1321	2241	3124	3650	3850	3881	3883
45	-7777	1	14	106	398	936	1702	2430	2816	2930	2942	-7777
50	0	-7777	4	46	222	614	1225	1799	2057	2111	2114	2114
55	0	-7777	1	17	106	360	817	1239	1392	1413	1414	1414
60	0	0	-7777	5	41	183	491	769	846	852	-7777	852
Growing Degree Units for Corn (Monthly)												
50/86	1	6	39	166	428	842	1423	1978	2306	2452	2482	2484

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FORTUNA 1 W, ND US**

GHCND:USC00323196

Elev: 2349 ft. Lat: 48.908° N Lon: 103.806° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.8	-2.4	7.7	8.8	8.6	8.6	0	0	0	0	0	0	1466	1528	1621	1776	0.0	0.0	-7777	24.6	31.0	15.5
2	22.6	3.3	12.9	7.8	8.4	7.9	0	0	0	0	0	0	1177	1233	1317	1457	0.0	0.0	0.4	19.1	27.9	11.0
3	34.8	15.1	24.9	7.2	5.6	6.2	-7777	-7777	-7777	0	0	0	932	994	1086	1241	0.0	0.0	4.2	12.2	30.0	4.3
4	53.2	27.6	40.4	4.6	3.2	3.6	9	5	2	-7777	-7777	0	447	503	590	738	0.0	0.0	18.1	1.6	20.6	0.2
5	64.5	39.0	51.8	3.4	2.8	2.8	67	46	25	6	1	1	167	209	280	417	0.0	0.2	27.8	0.1	6.3	0.0
6	73.3	49.1	61.2	4.5	3.3	3.8	215	170	114	50	18	12	29	44	79	165	0.1	1.5	29.7	0.0	0.1	0.0
7	80.0	53.7	66.8	4.3	2.4	3.0	370	311	227	114	43	26	2	5	15	57	0.2	4.0	31.0	0.0	0.0	0.0
8	79.8	51.5	65.7	4.3	2.8	3.4	339	284	207	105	40	24	9	16	32	85	0.2	4.6	31.0	0.0	0.2	0.0
9	67.9	40.1	54.0	4.8	2.6	3.4	100	76	47	16	4	2	130	166	227	346	0.0	0.9	27.9	-7777	4.7	0.0
10	53.1	27.5	40.3	4.0	2.7	3.0	9	5	2	-7777	0	0	464	523	612	766	0.0	-7777	18.3	2.0	21.3	0.2
11	34.8	14.5	24.7	7.4	5.8	6.4	-7777	0	0	0	0	0	910	970	1060	1210	0.0	0.0	4.3	12.5	28.8	3.8
12	21.5	1.6	11.6	7.3	7.1	7.1	0	0	0	0	0	0	1347	1409	1502	1657	0.0	0.0	0.1	22.5	31.0	12.3
Summary	50.3	26.7	38.5	5.7	4.6	4.9	1109	897	624	291	106	65	7080	7600	8421	9915	0.5	11.2	192.8	94.6	201.9	47.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORTUNA 1 W, ND US**

GHCND:USC00323196  
Elev: 2349 ft. Lat: 48.908° N Lon: 103.806° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	128	377	636	832	795	428	132	12	-7777
45	0	-7777	3	66	249	487	677	640	297	66	4	0
50	0	0	1	27	141	344	522	487	184	27	1	0
55	0	0	-7777	9	67	215	370	339	100	9	-7777	0
60	0	0	-7777	2	25	114	227	207	47	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	105	237	378	519	496	276	111	14	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	13	141	518	1154	1986	2781	3209	3341	3353	-7777
45	0	-7777	3	69	318	805	1482	2122	2419	2485	2489	2489
50	0	0	1	28	169	513	1035	1522	1706	1733	1734	1734
55	0	0	-7777	9	76	291	661	1000	1100	1109	-7777	1109
60	0	0	-7777	2	27	141	368	575	622	624	624	624
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	120	357	735	1254	1750	2026	2137	2151	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HEBRON, ND US**

GHCND:USC00324102  
Elev: 2159 ft. Lat: 46.908° N Lon: 102.038° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.5	3.6	14.1	8.0	8.3	8.1	0	0	0	0	0	0	1269	1331	1424	1579	0.0	0.0	0.7	19.6	30.7	12.6
2	28.9	7.5	18.2	7.4	7.9	7.5	0	0	0	0	0	0	1030	1086	1170	1310	0.0	0.0	2.1	15.3	27.4	8.7
3	39.3	17.0	28.1	7.0	5.5	6.0	-7777	-7777	-7777	-7777	0	0	832	894	987	1142	0.0	0.0	7.7	9.5	29.3	3.5
4	55.0	28.2	41.6	4.9	2.9	3.7	15	10	5	1	-7777	-7777	417	472	557	703	0.0	-7777	19.4	1.5	19.7	0.1
5	66.4	40.2	53.3	3.5	2.9	2.9	90	65	36	11	2	1	143	180	244	374	0.0	0.2	28.2	0.0	5.7	0.0
6	74.8	49.9	62.4	4.5	3.1	3.7	241	194	132	58	20	13	21	34	61	137	0.2	1.8	29.9	0.0	0.2	0.0
7	82.6	55.0	68.8	4.4	2.4	3.2	429	370	284	159	72	48	2	4	11	42	0.8	6.5	31.0	0.0	0.0	0.0
8	82.4	52.7	67.6	3.8	2.5	3.0	395	337	255	141	61	40	6	10	22	62	0.6	7.2	31.0	0.0	0.1	0.0
9	70.3	41.8	56.1	4.7	2.8	3.5	127	97	61	23	6	3	95	125	179	291	0.0	1.3	28.7	0.0	3.3	0.0
10	56.3	29.4	42.9	4.0	2.8	2.8	18	11	5	1	-7777	-7777	394	449	536	688	0.0	0.1	20.5	1.2	18.6	0.1
11	39.3	18.1	28.7	7.5	4.9	5.9	-7777	-7777	0	0	0	0	789	849	939	1089	0.0	0.0	7.0	9.0	28.1	2.4
12	27.1	6.6	16.8	7.9	7.4	7.5	0	0	0	0	0	0	1182	1244	1337	1492	0.0	0.0	1.4	18.2	30.8	8.7
Summary	53.9	29.2	41.6	5.6	4.4	4.8	1315	1084	778	394	161	105	6180	6678	7467	8909	1.6	17.1	207.6	74.3	193.9	36.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HEBRON, ND US**

GHCND:USC00324102

Elev: 2159 ft. Lat: 46.908° N Lon: 102.038° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.34	2.7	1.2	0.1	0.0	0.08	0.25	0.53
2	0.32	2.7	0.9	0.1	-7777	0.13	0.27	0.36
3	1.06	3.9	2.1	0.3	0.1	0.42	0.90	1.89
4	1.53	6.9	4.1	0.9	0.2	0.71	1.23	1.94
5	2.49	10.5	6.0	1.4	0.5	1.48	2.42	3.30
6	3.28	11.0	7.3	2.1	0.7	2.13	3.05	4.05
7	2.66	8.7	6.0	1.8	0.7	1.54	2.22	3.12
8	1.67	6.7	3.6	0.7	0.2	0.83	1.50	2.41
9	1.53	5.9	3.4	1.0	0.4	0.84	1.20	2.00
10	1.39	4.9	2.6	0.6	0.3	0.34	0.78	1.88
11	0.69	3.4	1.6	0.2	0.1	0.20	0.53	1.03
12	0.33	3.8	1.7	-7777	-7777	0.17	0.32	0.45
Summary	17.29	71.1	40.5	9.2	3.2	8.87	14.67	22.96

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HEBRON, ND US**

GHCND:USC00324102  
Elev: 2159 ft. Lat: 46.908° N Lon: 102.038° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.0	3.4	2.9	0.6	0.1	0.0	22.8	14.9	8.8	2.8	2.0	4.0	8.0
2	5.5	3.5	3.2	0.6	0.1	0.0	20.8	13.2	9.2	3.8	2.5	5.0	8.0
3	6.4	3.2	3.1	0.7	0.2	-7777	15.6	12.2	9.8	6.8	1.0	4.0	8.0
4	2.9	1.2	1.2	0.4	0.2	0.1	6.5	5.4	5.2	4.4	0.0	0.0	4.0
5	0.6	0.3	0.3	0.2	0.0	0.0	1.4	1.2	1.1	1.1	0.0	0.0	0.0
6	0.0	-7777	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	1.8	0.7	0.7	0.3	0.2	0.0	0.9	0.4	0.2	0.1	0.0	0.0	2.0
11	6.5	3.0	2.9	0.6	0.2	0.0	12.1	6.8	4.2	2.7	1.0	4.0	12.0
12	6.5	3.8	3.4	0.8	0.4	-7777	18.7	12.2	8.5	4.6	2.0	5.0	7.5
Summary	35.3	19.2	17.8	4.2	1.4	0.1	98.8	66.3	47.0	26.3	8.5	22.0	49.5

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U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HEBRON, ND US**

GHCND:USC00324102  
Elev: 2159 ft. Lat: 46.908° N Lon: 102.038° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	26	149	423	671	893	854	486	178	26	1
45	-7777	1	8	81	289	521	738	699	348	98	9	-7777
50	0	-7777	2	37	175	376	583	545	224	46	2	0
55	0	0	-7777	15	90	241	429	395	127	18	-7777	0
60	0	0	-7777	5	36	132	284	255	61	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	2	6	29	123	267	405	563	537	310	142	30	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	6	32	181	604	1275	2168	3022	3508	3686	3712	3713
45	-7777	1	9	90	379	900	1638	2337	2685	2783	2792	-7777
50	0	-7777	2	39	214	590	1173	1718	1942	1988	1990	1990
55	0	0	-7777	15	105	346	775	1170	1297	1315	-7777	1315
60	0	0	-7777	5	41	173	457	712	773	778	778	778
Growing Degree Units for Corn (Monthly)												
50/86	2	8	37	160	427	832	1395	1932	2242	2384	2414	2417

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BEULAH 1 W, ND US**

GHCND:USC00320766  
Elev: 1785 ft. Lat: 47.262° N Lon: 101.791° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.4	2.7	13.5	8.3	8.3	8.2	0	0	0	0	0	0	1285	1347	1440	1595	0.0	0.0	0.4	19.3	30.9	12.2
2	30.0	8.1	19.1	7.9	8.3	7.9	0	0	0	0	0	0	1006	1062	1146	1286	0.0	0.0	2.1	13.8	27.4	8.0
3	42.4	19.1	30.8	6.5	5.1	5.6	1	-7777	-7777	-7777	0	0	752	814	907	1062	0.0	0.0	9.9	7.7	27.6	2.7
4	59.5	29.9	44.7	4.9	2.8	3.6	27	18	9	3	1	-7777	336	387	468	612	0.0	0.4	22.9	1.1	17.9	0.1
5	70.5	41.3	55.9	3.7	3.1	3.0	127	95	59	22	6	3	99	130	186	304	0.0	1.0	29.7	0.0	5.2	0.0
6	78.5	50.2	64.4	4.0	3.6	3.6	293	241	172	85	35	23	12	20	42	104	0.4	3.4	30.0	0.0	0.4	0.0
7	85.8	55.7	70.8	4.5	2.5	3.2	488	427	338	202	99	70	-7777	1	4	24	1.4	9.9	31.0	0.0	0.0	0.0
8	85.6	54.0	69.8	4.1	2.6	3.1	461	402	316	188	91	62	3	5	12	40	1.3	10.6	31.0	0.0	0.1	0.0
9	74.5	43.1	58.8	4.5	2.6	3.2	178	140	93	40	14	8	64	86	129	226	0.2	2.7	29.2	0.0	3.2	0.0
10	59.7	31.6	45.6	4.2	2.9	2.7	27	18	8	2	-7777	-7777	317	370	453	602	-7777	0.3	23.6	0.7	16.2	0.1
11	40.3	18.0	29.2	7.7	4.8	6.0	-7777	-7777	-7777	-7777	0	0	776	835	925	1075	0.0	0.0	7.6	8.5	27.3	2.1
12	26.9	6.2	16.5	7.5	6.7	7.0	0	0	0	0	0	0	1192	1254	1347	1502	0.0	0.0	0.8	17.9	30.9	9.6
Summary	56.5	30.0	43.3	5.6	4.4	4.8	1602	1341	995	542	246	166	5842	6311	7059	8432	3.3	28.3	218.2	69.0	187.1	34.8

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BEULAH 1 W, ND US**

GHCND:USC00320766

Elev: 1785 ft. Lat: 47.262° N Lon: 101.791° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.33	2.8	1.6	0.1	0.0	0.20	0.27	0.47
2	0.46	2.7	1.5	0.1	-7777	0.15	0.30	0.46
3	0.68	3.6	2.6	0.3	0.2	0.20	0.45	1.00
4	1.52	5.0	3.8	0.8	0.3	0.70	1.22	1.98
5	2.43	6.8	5.4	1.7	0.3	1.22	2.25	3.32
6	3.47	8.2	6.6	2.3	0.9	2.45	2.98	4.05
7	2.48	7.1	5.9	1.7	0.4	1.29	2.03	2.83
8	1.69	5.6	4.2	1.2	0.2	0.81	1.32	2.78
9	1.44	5.0	3.7	0.6	0.2	0.89	1.18	1.77
10	1.38	4.1	3.0	0.8	0.3	0.27	0.90	1.89
11	0.72	3.8	2.7	0.3	-7777	0.26	0.65	1.23
12	0.42	3.5	1.6	0.1	-7777	0.17	0.35	0.56
Summary	17.02	58.2	42.6	10.0	2.8	8.61	13.90	22.34

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BEULAH 1 W, ND US**

GHCND:USC00320766  
Elev: 1785 ft. Lat: 47.262° N Lon: 101.791° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	38	210	497	730	953	923	566	233	27	-7777
45	0	1	12	122	355	581	798	769	424	137	10	-7777
50	0	-7777	3	62	227	433	643	614	291	67	3	0
55	0	0	1	27	127	293	488	461	178	27	-7777	0
60	0	0	-7777	9	59	172	338	316	93	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	5	44	174	329	462	606	587	372	180	32	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	41	251	748	1478	2431	3354	3920	4153	4180	-7777
45	0	1	13	135	490	1071	1869	2638	3062	3199	3209	-7777
50	0	-7777	3	65	292	725	1368	1982	2273	2340	2343	2343
55	0	0	1	28	155	448	936	1397	1575	1602	-7777	1602
60	0	0	-7777	9	68	240	578	894	987	995	-7777	995
Growing Degree Units for Corn (Monthly)												
50/86	1	6	50	224	553	1015	1621	2208	2580	2760	2792	2793

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LITCHVILLE 2 NW, ND US

GHCND:USC00325230

Elev: 1483 ft. Lat: 46.661° N Lon: 98.227° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	4.7	1.7	0.2	-7777	0.17	0.42	0.95
2	0.46	4.0	1.8	0.1	-7777	0.13	0.33	0.53
3	1.11	5.1	3.0	0.5	0.1	0.60	1.07	1.61
4	1.52	5.7	3.8	0.9	0.2	0.61	1.23	2.01
5	3.03	8.0	6.0	2.3	0.6	1.58	2.53	4.49
6	3.50	9.0	7.3	2.2	0.9	2.34	3.05	4.24
7	3.36	7.5	5.8	2.2	0.8	1.84	3.38	4.02
8	2.21	5.6	4.3	1.6	0.5	1.28	1.93	2.98
9	2.45	6.0	4.4	1.4	0.5	1.22	2.00	2.67
10	2.13	5.1	3.9	1.5	0.6	0.92	1.58	3.06
11	0.77	5.1	2.4	0.3	0.0	0.27	0.67	1.15
12	0.60	4.5	1.9	0.1	-7777	0.24	0.51	0.72
Summary	21.73	70.3	46.3	13.3	4.2	11.20	18.70	28.43

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LITCHVILLE 2 NW, ND US

GHCND:USC00325230

Elev: 1483 ft. Lat: 46.661° N Lon: 98.227° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.5	3.4	2.8	1.3	0.5	-7777	26.7	21.0	16.2	8.3	2.0	6.5	15.0
2	6.0	2.6	2.2	0.9	0.1	0.0	22.6	19.4	14.5	8.0	2.5	5.5	7.5
3	7.6	2.5	2.1	1.3	0.3	0.1	16.8	12.4	8.7	3.8	3.0	7.0	11.0
4	3.0	0.8	0.7	0.3	0.2	0.1	2.6	1.1	0.7	0.4	0.0	0.0	4.5
5	-7777	-7777	0.0	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.9	0.4	0.3	0.1	-7777	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.9
11	6.8	3.0	2.5	0.9	0.3	-7777	9.5	4.3	2.6	0.8	1.6	4.4	11.1
12	9.6	3.7	3.1	1.0	0.5	0.1	19.8	12.0	9.0	5.3	2.3	6.9	13.2
Summary	42.4	16.4	13.7	5.8	1.9	0.3	98.1	70.2	51.7	26.6	11.4	30.3	63.2

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **NEW SALEM 5 NW, ND US**

GHCND:USC00326365  
Elev: 2149 ft. Lat: 46.892° N Lon: 101.490° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.1	2.0	11.6	7.6	8.2	7.8	0	0	0	0	0	0	1347	1409	1502	1657	0.0	0.0	0.2	22.4	30.9	12.9
2	26.4	6.6	16.5	7.5	8.1	7.7	0	0	0	0	0	0	1078	1134	1218	1358	0.0	0.0	1.4	17.1	27.6	9.2
3	37.8	18.1	27.9	6.3	5.1	5.5	-7777	-7777	-7777	0	0	0	839	901	993	1148	0.0	0.0	6.4	10.2	28.8	2.7
4	54.6	30.0	42.3	5.0	3.0	3.8	18	12	6	1	-7777	-7777	399	453	537	682	0.0	0.0	19.2	1.8	17.0	0.1
5	66.1	41.6	53.9	3.5	3.0	3.1	95	68	38	12	2	1	131	166	229	357	0.0	0.1	28.4	0.0	4.3	0.0
6	74.9	50.6	62.8	4.4	3.4	3.7	251	203	139	62	22	14	19	30	56	130	0.2	1.6	29.9	0.0	0.2	0.0
7	82.6	56.3	69.5	4.6	2.5	3.3	449	388	301	171	76	50	1	3	8	33	0.7	5.9	31.0	0.0	0.0	0.0
8	81.7	54.7	68.2	4.3	2.7	3.3	413	354	271	152	64	41	4	7	17	53	0.2	5.8	31.0	0.0	0.0	0.0
9	71.1	44.5	57.8	3.8	2.5	2.9	159	124	81	34	10	6	75	100	147	250	0.0	1.3	28.9	0.0	1.8	0.0
10	56.1	31.7	43.9	3.9	3.0	3.0	22	14	7	1	-7777	-7777	366	420	506	655	0.0	0.1	20.8	1.2	15.1	0.1
11	37.2	17.8	27.5	7.9	5.0	6.2	-7777	-7777	-7777	-7777	0	0	825	885	975	1125	0.0	0.0	5.8	10.9	27.9	2.4
12	23.7	4.9	14.3	7.7	7.4	7.5	0	0	0	0	0	0	1261	1323	1416	1571	0.0	0.0	0.5	21.0	30.9	10.6
Summary	52.8	29.9	41.4	5.5	4.5	4.8	1407	1163	843	433	174	112	6345	6831	7604	9019	1.1	14.8	203.5	84.6	184.5	38.0

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW SALEM 5 NW, ND US**

GHCND:USC00326365  
Elev: 2149 ft. Lat: 46.892° N Lon: 101.490° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.44	5.6	1.5	0.0	0.0	0.21	0.40	0.64
2	0.47	5.7	1.7	0.1	0.0	0.24	0.32	0.56
3	0.80	6.9	2.4	0.3	-7777	0.40	0.70	1.22
4	1.54	6.9	3.7	1.0	0.2	0.75	1.25	2.28
5	2.51	9.7	5.8	1.6	0.4	1.47	2.12	3.67
6	3.05	11.1	6.9	1.9	0.6	2.18	2.72	4.28
7	2.77	9.5	5.7	1.8	0.6	1.48	2.61	3.40
8	1.91	7.6	4.5	1.1	0.3	0.91	1.73	2.82
9	1.48	7.1	3.6	0.8	0.3	1.01	1.26	1.67
10	1.26	6.5	3.1	0.6	0.2	0.39	0.82	1.48
11	0.67	5.8	1.8	0.2	-7777	0.09	0.57	1.03
12	0.51	6.7	1.8	0.1	0.0	0.20	0.48	0.61
Summary	17.41	89.1	42.5	9.5	2.6	9.33	14.98	23.66

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW SALEM 5 NW, ND US**

GHCND:USC00326365  
Elev: 2149 ft. Lat: 46.892° N Lon: 101.490° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.1	6.7	2.6	0.7	0.1	0.0	25.0	19.0	11.7	6.3	3.6	7.0	9.1
2	7.5	6.5	2.7	0.6	0.1	0.0	17.3	14.0	9.8	4.6	4.1	5.8	9.8
3	6.8	5.0	3.0	0.8	0.3	-7777	11.8	8.0	5.8	2.7	2.8	6.1	9.0
4	5.2	1.8	1.3	0.7	0.4	-7777	2.9	2.1	1.7	0.7	0.0	3.3	9.4
5	0.9	0.4	0.3	0.1	-7777	0.0	0.2	0.1	0.0	0.0	0.0	0.0	1.0
6	-7777	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	0.1	0.1	0.1	0.0	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
10	2.7	1.5	0.8	0.4	0.1	0.0	1.3	0.6	0.3	0.1	0.0	0.6	3.4
11	6.9	5.1	2.6	0.7	0.4	0.1	10.0	6.8	3.6	1.3	0.2	5.2	9.2
12	9.1	7.8	3.0	0.6	0.2	-7777	18.7	11.0	6.5	2.1	4.4	8.0	10.7
Summary	46.4	34.9	16.4	4.7	1.6	0.1	87.3	61.6	39.4	17.8	15.1	36.0	61.6

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW SALEM 5 NW, ND US**

GHCND:USC00326365  
Elev: 2149 ft. Lat: 46.892° N Lon: 101.490° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	22	163	438	683	913	874	537	200	23	-7777
45	0	-7777	7	91	301	533	758	719	396	114	8	-7777
50	0	-7777	2	43	184	387	603	565	266	55	2	0
55	0	0	-7777	18	95	251	449	413	159	22	-7777	0
60	0	0	-7777	6	38	139	301	271	81	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	22	121	265	414	580	554	331	141	23	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	24	187	625	1308	2221	3095	3632	3832	3855	-7777
45	0	-7777	7	98	399	932	1690	2409	2805	2919	2927	-7777
50	0	-7777	2	45	229	616	1219	1784	2050	2105	2107	2107
55	0	0	-7777	18	113	364	813	1226	1385	1407	-7777	1407
60	0	0	-7777	6	44	183	484	755	836	843	-7777	843
Growing Degree Units for Corn (Monthly)												
50/86	1	4	26	147	412	826	1406	1960	2291	2432	2455	2456

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MAX, ND US**

GHCND:USC00325638

Elev: 2110 ft. Lat: 47.821° N Lon: 101.292° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.7	0.2	10.0	7.8	8.4	8.0	0	0	0	0	0	0	1396	1458	1551	1706	0.0	0.0	0.1	23.2	30.8	14.9
2	24.6	5.0	14.8	7.1	8.3	7.6	0	0	0	0	0	0	1125	1181	1265	1406	0.0	0.0	0.5	18.3	27.8	10.6
3	36.3	16.9	26.6	6.5	5.4	5.8	-7777	-7777	-7777	0	0	0	881	942	1035	1190	0.0	0.0	4.5	10.6	29.2	3.6
4	54.1	30.3	42.2	5.0	3.4	4.0	17	10	5	1	-7777	-7777	401	455	539	685	0.0	-7777	18.4	1.5	16.3	0.0
5	66.3	42.3	54.3	3.4	2.7	2.8	104	76	44	14	3	2	126	160	221	346	0.0	0.3	28.5	-7777	3.4	0.0
6	75.1	52.1	63.6	4.6	3.5	3.7	273	223	156	72	25	15	15	25	48	114	0.2	1.8	29.9	0.0	-7777	0.0
7	81.8	56.9	69.3	3.8	2.6	3.0	446	385	296	164	69	44	1	2	6	29	0.4	4.6	31.0	0.0	0.0	0.0
8	81.5	55.1	68.3	3.6	2.7	3.0	416	357	273	152	65	42	4	7	16	50	0.3	5.8	30.9	0.0	0.0	0.0
9	69.9	44.4	57.2	4.0	2.9	3.3	147	115	75	31	10	5	83	111	161	267	0.0	1.2	28.9	0.0	2.0	0.0
10	54.9	31.3	43.1	4.0	3.1	3.1	20	12	6	1	-7777	-7777	389	443	530	680	0.0	-7777	19.8	1.2	15.7	0.1
11	36.3	17.2	26.8	7.4	6.2	6.6	-7777	-7777	0	0	0	0	847	907	997	1147	0.0	0.0	5.4	11.4	27.8	3.0
12	22.8	4.0	13.4	7.3	7.2	7.2	0	0	0	0	0	0	1289	1351	1444	1599	0.0	0.0	0.1	22.1	30.9	11.6
Summary	51.9	29.6	40.8	5.4	4.7	4.8	1423	1178	855	435	172	108	6557	7042	7813	9219	0.9	13.7	198.0	88.3	183.9	43.8

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@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MAX, ND US**

GHCND:USC00325638

Elev: 2110 ft. Lat: 47.821° N Lon: 101.292° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.58	4.8	2.0	0.1	0.0	0.22	0.52	0.95
2	0.42	4.2	1.4	0.1	0.0	0.12	0.33	0.48
3	0.82	4.8	2.6	0.3	0.0	0.44	0.72	1.15
4	1.17	5.1	3.2	0.6	0.2	0.50	0.87	1.54
5	2.61	7.8	5.4	1.8	0.6	1.46	2.56	3.48
6	3.66	10.1	7.2	2.4	0.9	2.74	3.46	4.20
7	2.76	8.0	5.9	1.9	0.7	1.45	1.95	3.59
8	2.03	6.5	4.4	1.1	0.4	1.17	1.67	2.47
9	1.52	6.0	3.7	0.7	0.2	0.87	1.24	2.00
10	1.32	5.0	3.0	0.8	0.2	0.38	0.80	1.63
11	0.70	3.9	2.2	0.2	0.1	0.21	0.50	1.12
12	0.49	4.6	1.9	0.1	0.0	0.27	0.38	0.54
Summary	18.08	70.8	42.9	10.1	3.3	9.83	15.00	23.15

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**Summary of  
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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MAX, ND US**

GHCND:USC00325638

Elev: 2110 ft. Lat: 47.821° N Lon: 101.292° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.0	4.2	4.1	1.2	0.3	0.0	26.9	22.6	14.6	9.7	4.0	8.0	13.0
2	5.6	3.5	3.1	0.5	0.2	0.0	22.3	17.8	12.2	5.5	2.0	5.0	8.0
3	7.2	3.3	3.1	1.0	0.4	0.0	16.5	10.7	8.0	3.7	3.0	8.0	11.0
4	3.5	1.4	1.4	0.5	0.2	0.0	3.3	1.9	1.3	0.6	0.0	2.0	5.0
5	0.9	0.3	0.3	0.2	0.0	0.0	0.5	0.2	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.1	0.1	-7777	-7777	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
10	3.6	1.0	1.0	0.4	0.2	0.1	2.0	0.8	0.4	0.3	0.0	2.0	4.0
11	7.4	2.8	2.6	1.1	0.4	-7777	11.9	8.0	4.6	1.8	0.7	4.8	10.2
12	8.1	4.3	3.9	0.8	0.3	-7777	23.8	15.4	9.7	3.8	3.0	6.0	8.5
Summary	45.6	20.9	19.6	5.7	2.0	0.1	107.3	77.4	50.9	25.4	12.7	35.8	59.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MAX, ND US**

GHCND:USC00325638

Elev: 2110 ft. Lat: 47.821° N Lon: 101.292° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	162	451	708	910	877	518	183	20	-7777
45	0	-7777	5	89	314	558	755	722	378	102	7	-7777
50	0	-7777	1	42	195	412	600	568	251	49	1	0
55	0	0	-7777	17	104	273	446	416	147	20	-7777	0
60	0	0	-7777	5	44	156	296	273	75	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	115	267	425	580	552	311	127	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	178	629	1337	2247	3124	3642	3825	3845	-7777
45	0	-7777	5	94	408	966	1721	2443	2821	2923	2930	-7777
50	0	-7777	1	43	238	650	1250	1818	2069	2118	2119	2119
55	0	0	-7777	17	121	394	840	1256	1403	1423	-7777	1423
60	0	0	-7777	5	49	205	501	774	849	855	855	855
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	16	131	398	823	1403	1955	2266	2393	2411	-7777

M indicates the value is missing

-7777 indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **DICKINSON EXPERIMENTAL STATION, ND US**

GHCND:USC00322188  
Elev: 2461 ft. Lat: 46.891° N Lon: 102.811° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.9	2.6	14.7	6.9	8.3	7.5	0	0	0	0	0	0	1248	1310	1403	1558	0.0	0.0	0.8	17.5	31.0	12.6
2	31.3	6.9	19.1	7.3	7.9	7.4	0	0	0	0	0	0	1005	1061	1145	1285	0.0	0.0	2.9	13.6	27.7	8.8
3	41.3	16.9	29.1	6.0	5.2	5.4	-7777	-7777	-7777	0	0	0	803	865	958	1113	0.0	0.0	9.0	7.8	29.4	2.8
4	55.6	27.9	41.7	4.3	3.0	3.4	13	8	3	-7777	0	0	410	465	551	698	0.0	-7777	20.1	1.2	20.0	0.2
5	66.3	39.2	52.8	3.7	2.7	2.9	77	54	29	8	1	-7777	147	186	254	388	0.0	0.3	28.7	0.0	6.1	0.0
6	75.3	48.6	62.0	4.6	3.5	3.9	232	187	127	57	21	13	24	38	69	149	0.2	1.9	29.9	0.0	0.3	0.0
7	83.3	54.5	68.9	4.7	2.8	3.6	432	373	286	160	71	47	2	4	11	40	0.9	7.1	31.0	0.0	0.0	0.0
8	83.4	52.2	67.8	4.0	2.7	3.2	402	345	263	147	63	41	6	10	21	60	0.5	7.8	31.0	0.0	0.1	0.0
9	71.8	40.9	56.4	4.4	2.9	3.2	136	105	68	27	8	4	95	125	178	286	-7777	1.9	28.6	0.0	3.9	0.0
10	57.5	28.4	43.0	4.4	2.6	3.0	15	9	4	1	-7777	-7777	389	445	532	684	0.0	0.1	21.6	1.1	19.9	0.2
11	41.0	16.4	28.7	7.2	4.7	5.7	-7777	-7777	-7777	0	0	0	789	849	939	1089	0.0	0.0	8.3	7.8	28.8	2.8
12	29.1	4.6	16.9	7.6	7.0	7.1	0	0	0	0	0	0	1182	1244	1337	1492	0.0	0.0	1.7	16.0	31.0	10.6
Summary	55.2	28.3	41.8	5.4	4.4	4.7	1307	1081	780	400	164	105	6100	6602	7398	8842	1.6	19.1	213.6	65.0	198.2	38.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON EXPERIMENTAL STATION, ND US**

GHCND:USC00322188  
Elev: 2461 ft. Lat: 46.891° N Lon: 102.811° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	5.3	1.2	-7777	0.0	0.17	0.32	0.55
2	0.45	4.7	1.3	0.1	-7777	0.11	0.37	0.49
3	0.75	5.9	2.5	0.3	0.1	0.31	0.71	1.00
4	1.34	7.0	3.4	0.8	0.2	0.70	1.04	1.85
5	2.32	10.6	5.3	1.5	0.3	1.44	1.87	3.18
6	3.60	11.9	6.7	2.0	0.6	2.00	3.35	5.21
7	2.58	9.1	5.2	1.6	0.5	1.38	2.19	3.59
8	1.56	7.2	3.3	1.0	0.2	0.78	1.18	2.63
9	1.49	7.5	3.7	0.8	0.2	0.82	1.38	2.03
10	1.27	6.0	2.8	0.7	0.3	0.28	0.72	1.48
11	0.59	4.9	1.8	0.1	-7777	0.11	0.37	0.91
12	0.39	5.6	1.3	-7777	0.0	0.17	0.35	0.54
Summary	16.71	85.7	38.5	8.9	2.4	8.27	13.85	23.46

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151 Patton Avenue  
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Station: **DICKINSON EXPERIMENTAL STATION, ND US**

GHCND:USC00322188  
Elev: 2461 ft. Lat: 46.891° N Lon: 102.811° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	4.9	4.1	2.0	0.5	0.3	0.0	@	@	@	@	1.9	3.3	6.0
2	4.4	4.5	2.2	0.5	0.1	-7777	@	@	@	@	1.0	2.5	7.5
3	5.8	3.7	2.1	0.6	0.2	-7777	@	@	@	@	1.3	4.7	5.8
4	4.2	1.5	1.0	0.5	0.2	0.1	@	@	@	@	0.1	1.9	6.0
5	0.8	0.3	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.3	0.1	-7777	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
10	3.0	1.0	0.7	0.3	0.2	0.1	@	@	@	@	0.0	1.0	1.9
11	4.4	2.9	1.6	0.4	0.2	0.0	@	@	@	@	0.2	2.0	9.8
12	6.5	5.3	2.6	0.6	0.1	-7777	@	@	@	@	2.3	4.8	8.1
Summary	34.3	23.4	12.4	3.5	1.3	0.2	9999	9999	9999	9999	6.8	20.2	45.1

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON EXPERIMENTAL STATION, ND US**

GHCND:USC00322188  
Elev: 2461 ft. Lat: 46.891° N Lon: 102.811° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	29	151	406	658	896	861	496	179	27	1
45	-7777	1	10	81	271	510	741	707	359	98	10	-7777
50	0	-7777	2	36	159	365	586	553	236	44	3	0
55	0	0	-7777	13	77	232	432	402	136	15	-7777	0
60	0	0	-7777	3	29	127	286	263	68	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	2	7	36	128	263	404	566	542	329	157	35	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	34	185	591	1249	2145	3006	3502	3681	3708	3709
45	-7777	1	11	92	363	873	1614	2321	2680	2778	2788	-7777
50	0	-7777	2	38	197	562	1148	1701	1937	1981	1984	1984
55	0	0	-7777	13	90	322	754	1156	1292	1307	-7777	1307
60	0	0	-7777	3	32	159	445	708	776	780	-7777	780
Growing Degree Units for Corn (Monthly)												
50/86	2	9	45	173	436	840	1406	1948	2277	2434	2469	2472

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data



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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BEULAH 2 NW, ND US**

GHCND:USC00320767  
Elev: 2070 ft. Lat: 47.295° N Lon: 101.819° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.6	2.1	11.9				0	0	0	0	0	0	1337	1399	1492	1647	0.0	0.0	0.3	24.2	31.0	12.9
2	28.0	7.5	17.8				0	0	0	0	0	0	1043	1099	1183	1323	0.0	0.0	1.0	19.6	27.7	7.8
3	40.5	19.0	29.8				0	0	0	0	0	0	783	845	938	1093	0.0	0.0	4.9	5.6	27.6	1.4
4	55.6	31.0	43.3				5	2	1	-7777	-7777	0	357	413	502	651	0.0	0.0	22.7	0.3	16.3	0.0
5	67.4	42.2	54.8				86	58	28	7	1	-7777	92	126	189	323	0.0	0.3	30.0	0.0	1.8	0.0
6	75.5	51.8	63.7				269	216	144	51	10	4	10	16	35	91	0.0	0.5	29.7	0.0	0.0	0.0
7	83.3	56.9	70.1				467	406	316	178	72	46	0	1	3	20	0.3	6.0	31.0	0.0	0.0	0.0
8	83.6	54.6	69.1				438	379	293	166	71	46	2	5	11	39	0.8	7.3	31.0	0.0	0.0	0.0
9	71.5	45.1	58.3				166	129	84	36	12	7	67	90	135	237	0.3	1.8	29.3	0.0	1.0	0.0
10	56.9	31.7	44.3				17	11	5	-7777	0	0	349	405	492	642	0.0	0.0	20.5	0.3	15.8	0.0
11	38.7	18.0	28.4				-7777	0	0	0	0	0	799	859	949	1099	0.0	0.0	6.3	8.8	29.0	2.0
12	24.5	5.7	15.1				0	0	0	0	0	0	1236	1298	1391	1546	0.0	0.0	0.0	23.5	31.0	9.8
Summary	53.9	30.5	42.2	9999	9999	9999	1448	1201	871	438	166	103	6075	6556	7320	8711	1.4	15.9	206.7	82.3	181.2	33.9

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Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BEULAH 2 NW, ND US**

GHCND:USC00320767  
Elev: 2070 ft. Lat: 47.295° N Lon: 101.819° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	17	152	460	709	932	901	550	186	18	-7777
45	0	-7777	6	68	313	560	778	746	407	100	5	-7777
50	0	0	1	23	186	411	623	592	277	45	-7777	0
55	0	0	0	5	86	269	467	438	166	17	-7777	0
60	0	0	0	1	28	144	316	293	84	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	17	111	274	431	600	567	334	140	21	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	17	169	629	1338	2270	3171	3721	3907	3925	-7777
45	0	-7777	6	74	387	947	1725	2471	2878	2978	2983	-7777
50	0	0	1	24	210	621	1244	1836	2113	2158	-7777	2158
55	0	0	0	5	91	360	827	1265	1431	1448	-7777	1448
60	0	0	0	1	29	173	489	782	866	871	871	871
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	129	403	834	1434	2001	2335	2475	2496	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WILLISTON EXPERIMENTAL FARM, ND US**

GHCND:USC00329430

Elev: 2106 ft. Lat: 48.138° N Lon: 103.737° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.1	4.4	14.3	7.2	8.8	7.9	0	0	0	0	0	0	1263	1325	1418	1573	0.0	0.0	0.2	19.6	30.7	11.8
2	30.3	9.6	20.0	7.7	8.0	7.8	-7777	-7777	0	0	0	0	981	1037	1121	1261	0.0	0.0	1.9	13.8	27.3	7.7
3	43.1	20.5	31.8	6.6	5.4	5.8	1	-7777	-7777	-7777	0	0	720	781	874	1029	0.0	0.0	10.1	6.2	27.0	2.3
4	59.6	31.8	45.7	4.4	3.0	3.5	26	17	8	2	-7777	-7777	305	356	437	581	0.0	0.1	23.7	0.6	15.2	-7777
5	70.3	42.7	56.5	4.0	2.6	3.1	133	100	60	21	5	2	87	115	169	284	0.0	0.5	29.8	0.0	3.2	0.0
6	78.4	52.1	65.2	4.2	3.1	3.5	315	260	187	94	38	25	7	13	29	86	0.4	3.5	30.0	0.0	0.0	0.0
7	85.9	57.4	71.6	4.4	2.6	3.4	516	455	364	221	109	76	-7777	1	3	15	1.4	9.7	31.0	0.0	0.0	0.0
8	85.8	55.8	70.8	4.1	2.7	3.3	492	431	343	210	104	72	2	4	8	30	1.1	10.7	31.0	0.0	0.0	0.0
9	74.3	45.2	59.7	5.3	2.5	3.7	198	159	109	49	18	10	56	77	116	207	-7777	2.9	29.2	0.0	1.7	0.0
10	59.2	33.3	46.3	4.1	2.6	3.1	33	22	11	2	-7777	-7777	304	356	438	583	0.0	0.2	23.5	0.8	12.6	-7777
11	39.8	20.0	29.9	7.4	5.6	6.3	1	-7777	-7777	0	0	0	754	813	903	1053	0.0	0.0	7.3	8.0	25.8	2.3
12	26.3	7.3	16.8	7.3	7.6	7.4	0	0	0	0	0	0	1184	1246	1339	1494	0.0	0.0	0.4	18.2	30.6	9.1
Summary	56.4	31.7	44.0	5.6	4.5	4.9	1715	1444	1082	599	274	185	5663	6124	6855	8196	2.9	27.6	218.1	67.2	174.1	33.2

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLISTON EXPERIMENTAL FARM, ND US**

GHCND:USC00329430

Elev: 2106 ft. Lat: 48.138° N Lon: 103.737° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	5.8	1.3	0.1	0.0	0.19	0.29	0.71
2	0.29	3.7	0.9	0.1	0.0	0.10	0.16	0.37
3	0.58	5.5	1.9	0.2	0.1	0.19	0.51	0.88
4	1.00	6.9	2.8	0.5	0.1	0.30	0.84	1.44
5	2.03	9.8	5.1	1.1	0.2	1.19	1.59	2.90
6	2.75	11.1	6.1	1.7	0.5	1.52	2.38	3.31
7	2.47	8.9	4.7	1.4	0.5	1.14	2.10	3.17
8	1.60	7.5	4.0	0.7	0.2	0.95	1.29	2.26
9	1.18	6.8	3.0	0.6	0.2	0.45	0.86	1.83
10	0.97	5.7	2.5	0.5	0.1	0.37	0.77	1.22
11	0.55	5.5	1.4	0.2	0.1	0.14	0.35	0.80
12	0.40	6.4	1.2	0.1	0.0	0.22	0.36	0.56
Summary	14.31	83.6	34.9	7.2	2.0	6.76	11.50	19.45

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Station: **WILLISTON EXPERIMENTAL FARM, ND US**

GHCND:USC00329430  
Elev: 2106 ft. Lat: 48.138° N Lon: 103.737° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.0	5.4	3.0	0.9	0.3	0.0	24.6	17.4	11.1	5.3	3.0	5.4	10.4
2	4.7	3.8	1.8	0.4	0.2	-7777	17.1	11.2	8.2	4.0	1.6	3.0	6.1
3	4.6	3.0	2.1	0.4	0.1	0.0	9.9	6.3	4.3	1.4	1.3	3.5	6.5
4	2.9	1.3	1.0	0.4	0.1	0.1	1.3	0.4	0.2	0.1	0.0	1.5	3.0
5	1.2	0.4	0.3	0.1	0.1	-7777	0.3	0.1	0.1	-7777	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	-7777	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.5	1.1	0.8	0.3	0.1	0.0	1.5	0.5	0.1	0.0	0.0	0.5	5.0
11	4.8	3.2	1.8	0.6	0.2	0.0	7.8	4.9	3.1	0.9	1.0	2.5	6.5
12	9.0	6.2	3.2	0.7	0.2	-7777	21.6	11.8	7.0	1.6	4.1	6.7	8.5
Summary	37.8	24.4	14.0	3.8	1.3	0.1	84.1	52.6	34.1	13.3	11.0	23.1	46.0

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1981-2010**

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Federal Building  
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Asheville, North Carolina 28801  
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Station: **WILLISTON EXPERIMENTAL FARM, ND US**

GHCND:USC00329430  
Elev: 2106 ft. Lat: 48.138° N Lon: 103.737° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	44	224	515	757	981	954	595	251	35	1
45	-7777	1	16	129	370	608	826	799	451	150	15	-7777
50	0	-7777	5	65	240	459	671	645	316	76	5	0
55	0	-7777	1	26	133	315	516	492	198	33	1	0
60	0	0	-7777	8	60	187	364	343	109	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	3	42	169	325	467	625	603	372	174	27	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	49	273	788	1545	2526	3480	4075	4326	4361	4362
45	-7777	1	17	146	516	1124	1950	2749	3200	3350	3365	-7777
50	0	-7777	5	70	310	769	1440	2085	2401	2477	2482	2482
55	0	-7777	1	27	160	475	991	1483	1681	1714	1715	1715
60	0	0	-7777	8	68	255	619	962	1071	1082	-7777	1082
Growing Degree Units for Corn (Monthly)												
50/86	-7777	3	45	214	539	1006	1631	2234	2606	2780	2807	2808

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MC HENRY 3 W, ND US**

GHCND:USC00325730

Elev: 1555 ft. Lat: 47.581° N Lon: 98.642° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.3	-1.7	7.8	7.5	8.0	7.7	0	0	0	0	0	0	1463	1525	1618	1773	0.0	0.0	0.1	25.7	31.0	15.9
2	22.6	3.6	13.1	7.0	8.2	7.5	-7777	0	0	0	0	0	1173	1229	1313	1453	0.0	0.0	0.3	19.9	27.6	11.8
3	34.9	16.7	25.8	5.7	5.4	5.4	-7777	-7777	-7777	0	0	0	905	967	1060	1215	0.0	0.0	3.2	11.3	28.9	3.7
4	54.3	30.3	42.3	5.6	3.3	4.3	18	12	6	1	-7777	-7777	399	453	537	682	0.0	0.1	18.9	1.4	17.1	0.1
5	67.7	42.3	55.0	3.9	3.4	3.4	115	85	50	16	3	1	115	147	205	326	0.0	0.3	29.1	0.0	3.8	0.0
6	75.8	52.3	64.1	3.6	3.2	3.3	283	231	162	75	26	15	11	20	41	104	-7777	1.4	30.0	0.0	0.0	0.0
7	81.5	57.0	69.2	3.9	2.4	2.8	442	381	292	158	63	38	-7777	1	5	27	0.2	3.4	31.0	0.0	0.0	0.0
8	80.7	54.9	67.8	3.7	2.7	3.0	400	341	257	136	53	32	3	6	15	49	0.3	3.6	31.0	0.0	-7777	0.0
9	70.1	44.9	57.5	3.5	2.7	2.8	151	117	75	31	8	4	76	102	150	256	-7777	0.7	29.1	0.0	1.6	0.0
10	55.1	32.3	43.7	3.8	3.3	3.0	21	14	7	2	-7777	-7777	372	426	512	662	0.0	-7777	20.5	1.0	14.6	0.1
11	35.8	17.9	26.9	7.1	6.0	6.3	-7777	-7777	0	0	0	0	845	904	994	1144	0.0	0.0	5.1	12.0	27.7	2.4
12	20.9	3.6	12.3	7.0	7.7	7.2	0	0	0	0	0	0	1325	1387	1480	1635	0.0	0.0	-7777	23.7	30.9	12.6
Summary	51.4	29.5	40.5	5.2	4.7	4.7	1430	1181	849	419	153	90	6687	7167	7930	9326	0.5	9.5	198.3	95.0	183.2	46.6

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1981-2010**

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC HENRY 3 W, ND US**

GHCND:USC00325730

Elev: 1555 ft. Lat: 47.581° N Lon: 98.642° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	6.8	1.9	0.1	0.0	0.30	0.46	0.99
2	0.54	5.7	1.6	0.1	-7777	0.18	0.43	0.75
3	0.98	6.1	3.1	0.6	-7777	0.44	0.81	1.47
4	1.19	6.1	3.4	0.6	0.1	0.50	1.00	1.46
5	2.58	9.2	5.4	1.5	0.5	1.42	1.85	3.55
6	3.62	10.9	7.3	2.4	0.8	2.55	3.18	4.25
7	3.41	9.7	6.2	2.2	0.9	1.94	2.94	4.75
8	2.86	8.7	5.7	1.8	0.6	1.89	2.73	3.74
9	2.04	7.6	4.4	1.2	0.5	0.96	1.63	2.96
10	1.66	6.3	3.7	1.1	0.4	0.47	1.50	2.53
11	0.96	5.9	3.0	0.4	0.1	0.30	0.61	1.85
12	0.74	7.2	2.3	0.2	0.0	0.31	0.66	1.03
Summary	21.19	90.2	48.0	12.2	3.9	11.26	17.80	29.33

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Station: **MC HENRY 3 W, ND US**

GHCND:USC00325730

Elev: 1555 ft. Lat: 47.581° N Lon: 98.642° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.2	6.4	3.8	0.9	0.4	0.1	29.2	25.5	19.7	9.5	5.1	8.5	16.0
2	7.4	4.9	2.9	0.7	0.3	0.0	23.8	20.5	17.7	11.7	2.5	8.0	11.3
3	7.3	4.0	2.7	0.8	0.3	0.0	18.8	16.2	12.7	5.3	0.2	8.5	11.0
4	3.9	1.6	1.1	0.5	0.3	-7777	3.4	2.1	1.6	0.6	0.0	2.0	7.1
5	0.6	0.3	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	2.2	0.8	0.8	0.3	0.2	-7777	1.5	0.6	0.4	-7777	0.0	1.0	3.5
11	7.9	4.5	3.4	0.9	0.4	0.1	12.6	8.2	5.4	1.9	2.0	5.9	12.2
12	11.7	6.8	4.4	0.9	0.4	-7777	24.5	19.6	13.7	6.5	5.3	9.6	14.8
Summary	51.3	29.4	19.3	5.1	2.4	0.2	114.0	92.8	71.2	35.5	15.1	43.5	75.9

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Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC HENRY 3 W, ND US**

GHCND:USC00325730  
Elev: 1555 ft. Lat: 47.581° N Lon: 98.642° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	11	163	470	722	907	861	527	192	20	-7777
45	0	-7777	4	91	331	572	752	707	386	109	7	0
50	0	-7777	1	44	209	424	597	552	257	53	2	0
55	0	-7777	-7777	18	115	283	442	400	151	21	-7777	0
60	0	0	-7777	6	50	162	292	257	75	7	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	119	290	441	584	547	319	127	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	175	645	1367	2274	3135	3662	3854	3874	-7777
45	0	-7777	4	95	426	998	1750	2457	2843	2952	2959	2959
50	0	-7777	1	45	254	678	1275	1827	2084	2137	2139	2139
55	0	-7777	-7777	18	133	416	858	1258	1409	1430	-7777	1430
60	0	0	-7777	6	56	218	510	767	842	849	849	849
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	130	420	861	1445	1992	2311	2438	2455	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BREIEN, ND US**

GHCND:USC00321052

Elev: 1719 ft. Lat: 46.380° N Lon: 100.941° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.5	1.2	13.8	7.5	7.4	7.3	0	0	0	0	0	0	1275	1337	1430	1585	0.0	0.0	1.1	18.2	30.7	14.3
2	30.8	7.0	18.9	7.5	8.8	8.0	-7777	0	0	0	0	0	1011	1067	1151	1291	0.0	0.0	2.9	13.9	27.4	8.7
3	42.6	19.1	30.9	6.7	4.6	5.3	-7777	-7777	-7777	0	0	0	749	811	904	1059	0.0	0.0	9.7	7.2	28.4	2.5
4	59.3	29.3	44.3	4.7	2.5	3.2	19	12	6	1	-7777	-7777	340	393	477	622	0.0	0.1	23.1	0.7	18.9	-7777
5	70.0	41.4	55.7	3.4	2.9	2.7	118	86	50	16	3	1	96	127	183	304	0.0	0.7	30.0	0.0	5.2	0.0
6	78.6	51.0	64.8	4.4	3.2	3.5	302	249	176	85	34	23	8	15	32	92	0.4	3.3	30.0	0.0	0.2	0.0
7	85.5	56.6	71.1	4.2	2.8	3.2	498	436	346	207	98	67	-7777	1	3	19	1.5	9.1	31.0	0.0	0.0	0.0
8	85.6	53.7	69.7	3.9	2.6	3.1	456	396	310	181	82	54	2	4	11	37	1.1	10.2	31.0	0.0	-7777	0.0
9	74.3	43.1	58.7	4.4	2.6	2.9	172	135	89	37	12	7	61	84	128	226	0.1	2.6	29.4	0.0	3.0	0.0
10	60.2	30.1	45.1	4.2	2.3	2.7	21	13	6	1	-7777	0	327	381	466	616	0.0	0.2	24.8	0.6	17.5	-7777
11	41.6	17.0	29.3	7.6	4.9	5.9	-7777	-7777	-7777	0	0	0	771	831	921	1071	0.0	0.0	8.8	7.4	27.9	2.6
12	28.1	4.0	16.1	7.8	7.9	7.6	0	0	0	0	0	0	1207	1269	1362	1517	0.0	0.0	1.1	17.4	31.0	11.0
Summary	56.9	29.5	43.2	5.5	4.4	4.6	1586	1327	983	528	229	152	5847	6320	7068	8439	3.1	26.2	222.9	65.4	190.2	39.1

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BREIEN, ND US**

GHCND:USC00321052  
Elev: 1719 ft. Lat: 46.380° N Lon: 100.941° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	33	190	490	744	962	919	562	217	28	-7777
45	-7777	1	10	103	346	594	807	764	419	122	10	-7777
50	0	-7777	2	48	218	445	652	609	285	55	2	0
55	0	-7777	-7777	19	118	302	498	456	172	21	-7777	0
60	0	0	-7777	6	50	176	346	310	89	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	7	41	167	321	466	614	583	372	183	39	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	37	227	717	1461	2423	3342	3904	4121	4149	-7777
45	-7777	1	11	114	460	1054	1861	2625	3044	3166	3176	-7777
50	0	-7777	2	50	268	713	1365	1974	2259	2314	2316	2316
55	0	-7777	-7777	19	137	439	937	1393	1565	1586	-7777	1586
60	0	0	-7777	6	56	232	578	888	977	983	-7777	983
Growing Degree Units for Corn (Monthly)												
50/86	3	10	51	218	539	1005	1619	2202	2574	2757	2796	2798

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PETTIBONE, ND US**

GHCND:USC00327047

Elev: 1850 ft. Lat: 47.117° N Lon: 99.533° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.9	0.3	9.6	7.9	7.7	7.7	0	0	0	0	0	0	1407	1469	1562	1717	0.0	0.0	0.1	24.6	30.9	15.2
2	24.3	5.6	14.9	7.5	7.7	7.5	0	0	0	0	0	0	1121	1177	1261	1401	0.0	0.0	0.5	18.3	27.8	9.7
3	36.1	17.4	26.7	6.4	5.4	5.7	-7777	-7777	-7777	0	0	0	876	938	1031	1186	0.0	0.0	4.1	9.5	28.7	3.5
4	55.1	30.6	42.9	5.5	3.5	4.3	20	13	6	1	-7777	-7777	385	438	521	666	0.0	0.1	19.8	1.3	17.2	0.1
5	68.2	42.7	55.4	3.2	3.3	3.0	120	90	54	17	4	2	106	138	195	313	0.0	0.2	29.6	0.1	3.6	0.0
6	76.1	52.9	64.5	4.1	3.2	3.5	296	244	175	86	34	22	12	20	40	101	0.1	2.0	29.9	0.0	0.0	0.0
7	83.1	58.3	70.7	4.4	2.5	3.2	487	426	335	196	88	59	-7777	1	4	19	0.6	5.8	31.0	0.0	0.0	0.0
8	82.5	56.6	69.5	3.7	2.5	2.9	453	393	307	179	82	53	3	5	12	39	0.5	6.6	30.9	0.0	0.1	0.0
9	70.9	46.3	58.6	4.0	2.7	3.1	174	137	91	39	13	8	66	89	133	231	0.0	1.0	29.2	0.0	1.4	0.0
10	56.1	33.4	44.7	4.2	2.9	3.0	25	16	8	1	-7777	-7777	343	396	480	629	0.0	0.0	21.0	0.7	13.4	0.1
11	36.3	18.6	27.5	7.0	4.9	5.8	-7777	-7777	-7777	0	0	0	826	886	976	1126	0.0	0.0	4.6	11.2	27.2	2.0
12	21.9	5.4	13.7	6.7	7.9	7.2	0	0	0	0	0	0	1282	1344	1437	1592	0.0	0.0	0.0	23.0	30.8	10.7
Summary	52.5	30.7	41.6	5.4	4.5	4.7	1575	1319	976	519	221	144	6427	6901	7652	9020	1.2	15.7	200.7	88.7	181.1	41.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PETTIBONE, ND US**

GHCND:USC00327047

Elev: 1850 ft. Lat: 47.117° N Lon: 99.533° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.56	3.0	2.3	0.2	0.0	0.36	0.48	0.70
2	0.36	2.7	1.8	0.1	0.0	0.20	0.31	0.40
3	0.78	3.3	2.3	0.4	0.0	0.41	0.67	1.02
4	1.11	4.4	3.0	0.6	0.1	0.52	0.86	1.44
5	2.34	6.6	4.7	1.4	0.4	1.15	2.04	3.14
6	3.37	9.1	6.6	2.2	0.7	2.00	3.27	3.72
7	3.09	8.8	6.7	1.8	0.8	1.70	2.84	3.76
8	1.93	5.8	4.2	1.3	0.4	1.38	1.74	2.38
9	2.21	6.3	4.2	1.1	0.3	0.83	1.76	2.80
10	1.43	4.4	2.9	1.1	0.3	0.49	1.06	2.13
11	0.74	3.9	3.2	0.3	0.0	0.15	0.58	1.19
12	0.59	2.5	1.7	0.0	0.0	0.23	0.45	0.80
Summary	18.51	60.8	43.6	10.5	3.0	9.42	16.06	23.48

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PETTIBONE, ND US**

GHCND:USC00327047

Elev: 1850 ft. Lat: 47.117° N Lon: 99.533° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	169	483	735	952	916	559	213	20	-7777
45	0	0	3	93	342	585	796	761	416	124	7	0
50	0	0	1	46	218	437	642	606	284	62	1	0
55	0	0	-7777	20	120	296	487	453	174	25	-7777	0
60	0	0	-7777	6	54	175	335	307	91	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	125	299	452	614	586	337	138	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	180	663	1398	2350	3266	3825	4038	4058	-7777
45	0	0	3	96	438	1023	1819	2580	2996	3120	3127	3127
50	0	0	1	47	265	702	1344	1950	2234	2296	2297	2297
55	0	0	-7777	20	140	436	923	1376	1550	1575	-7777	1575
60	0	0	-7777	6	60	235	570	877	968	976	-7777	976
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	138	437	889	1503	2089	2426	2564	2580	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STREETER 7 NW, ND US**

GHCND:USC00328415  
Elev: 1962 ft. Lat: 46.715° N Lon: 99.448° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	1.1	10.5	7.3	7.4	7.3	0	0	0	0	0	0	1379	1441	1534	1690	0.0	0.0	-7777	24.4	30.9	14.4
2	24.0	5.9	15.0	7.0	8.4	7.6	0	0	0	0	0	0	1121	1177	1261	1401	0.0	0.0	0.7	18.9	27.4	10.1
3	36.0	17.8	26.9	6.2	5.1	5.5	-7777	-7777	-7777	-7777	0	0	871	933	1026	1181	0.0	0.0	4.5	11.0	27.9	3.5
4	54.1	30.3	42.2	5.6	3.3	4.2	17	12	6	1	-7777	-7777	402	456	540	686	0.0	0.0	18.8	1.7	16.9	0.0
5	65.9	42.3	54.1	3.8	3.3	3.3	98	71	40	12	2	1	126	161	223	350	0.0	0.1	28.1	0.0	3.6	0.0
6	74.2	52.5	63.4	4.0	3.3	3.4	266	216	149	68	23	14	15	25	49	117	0.2	1.1	30.0	0.0	0.1	0.0
7	80.9	58.2	69.5	4.2	2.6	3.1	452	391	303	169	73	48	1	2	7	29	0.6	4.0	31.0	0.0	0.0	0.0
8	80.4	55.4	67.9	3.7	3.1	3.1	403	344	260	139	57	36	4	7	15	49	0.2	4.0	31.0	0.0	0.0	0.0
9	69.4	45.8	57.6	3.7	2.8	2.9	150	115	74	30	9	5	72	98	146	252	0.0	0.7	29.1	0.0	1.4	0.0
10	55.7	32.7	44.2	4.1	3.1	3.0	23	15	7	1	-7777	-7777	358	412	497	646	0.0	-7777	21.0	1.2	14.6	-7777
11	37.5	19.3	28.4	7.2	5.5	6.1	-7777	-7777	-7777	0	0	0	798	858	948	1098	0.0	0.0	6.0	10.7	27.0	1.7
12	23.1	5.8	14.4	7.2	7.7	7.3	0	0	0	0	0	0	1257	1319	1412	1567	0.0	0.0	0.2	21.9	31.0	10.4
Summary	51.8	30.6	41.2	5.3	4.6	4.7	1409	1164	839	420	164	104	6404	6889	7658	9066	1.0	9.9	200.4	89.8	180.8	40.1

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STREETER 7 NW, ND US**

GHCND:USC00328415

Elev: 1962 ft. Lat: 46.715° N Lon: 99.448° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	4.3	1.3	-7777	0.0	0.13	0.22	0.49
2	0.39	4.1	1.4	0.0	0.0	0.17	0.32	0.58
3	0.79	5.1	2.2	0.2	-7777	0.29	0.68	1.05
4	1.08	5.1	3.3	0.3	0.1	0.46	0.78	1.47
5	2.45	8.4	5.8	2.0	0.4	1.02	1.92	3.36
6	3.41	10.5	7.2	2.4	0.6	2.44	3.51	4.12
7	3.20	9.1	6.6	2.0	0.7	1.90	2.75	3.63
8	2.31	6.8	4.1	1.5	0.8	1.40	1.72	2.76
9	2.04	5.9	3.9	1.3	0.5	1.00	1.85	2.51
10	1.36	5.2	3.2	0.9	0.1	0.50	1.06	1.88
11	0.61	4.2	2.0	0.1	-7777	0.16	0.52	0.82
12	0.40	4.6	1.4	0.0	0.0	0.20	0.36	0.55
Summary	18.40	73.3	42.4	10.7	3.2	9.67	15.69	23.22

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **STREETER 7 NW, ND US**

GHCND:USC00328415  
Elev: 1962 ft. Lat: 46.715° N Lon: 99.448° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.0	4.1	3.9	1.1	0.6	-7777	28.4	22.2	17.6	9.0	4.0	8.0	14.5
2	7.1	3.7	3.3	0.8	0.2	0.0	23.7	18.9	14.3	7.3	3.0	8.0	9.5
3	6.1	3.4	2.9	1.0	0.3	-7777	18.6	12.8	8.6	4.6	2.0	3.5	8.0
4	3.2	1.2	1.0	0.5	0.1	-7777	3.8	2.6	1.8	0.9	0.0	1.9	6.5
5	0.8	0.2	0.2	0.1	0.1	0.0	0.3	0.2	0.1	0.1	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	0.9	0.6	0.5	0.1	0.1	0.0	0.8	0.4	0.1	0.0	0.0	0.0	0.7
11	5.9	3.2	2.8	1.1	0.3	0.0	11.1	7.3	4.3	1.5	0.0	5.0	9.6
12	8.3	4.3	3.4	1.2	0.6	0.0	22.4	13.3	9.0	6.7	4.5	7.0	9.8
Summary	41.3	20.8	18.0	5.9	2.3	0.0	109.2	77.7	55.8	30.1	13.5	33.4	58.6

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STREETER 7 NW, ND US**

GHCND:USC00328415

Elev: 1962 ft. Lat: 46.715° N Lon: 99.448° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	18	163	444	701	916	865	530	202	27	-7777
45	-7777	-7777	6	92	307	551	761	710	387	115	10	-7777
50	0	-7777	2	44	189	404	606	555	257	56	3	0
55	0	0	-7777	17	98	266	452	403	150	23	-7777	0
60	0	0	-7777	6	40	149	303	260	74	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	118	264	423	591	550	313	133	22	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	182	626	1327	2243	3108	3638	3840	3867	-7777
45	-7777	-7777	6	98	405	956	1717	2427	2814	2929	2939	-7777
50	0	-7777	2	46	235	639	1245	1800	2057	2113	2116	2116
55	0	0	-7777	17	115	381	833	1236	1386	1409	-7777	1409
60	0	0	-7777	6	46	195	498	758	832	839	-7777	839
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	16	134	398	821	1412	1962	2275	2408	2430	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **STANLEY 3 NNW, ND US**

GHCND:USC00328276  
Elev: 2280 ft. Lat: 48.456° N Lon: 102.595° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.8	-0.8	8.5	8.2	8.4	8.2	0	0	0	0	0	0	1441	1503	1596	1751	0.0	0.0	-7777	24.3	30.9	15.1
2	22.7	3.8	13.3	7.7	8.3	7.9	0	0	0	0	0	0	1169	1225	1309	1449	0.0	0.0	0.3	19.1	27.9	11.0
3	35.0	14.9	24.9	6.7	5.6	6.0	-7777	-7777	-7777	0	0	0	932	993	1086	1241	0.0	0.0	4.1	11.6	29.7	4.7
4	53.1	27.3	40.2	4.5	3.0	3.6	9	5	2	-7777	-7777	0	453	509	597	744	0.0	0.0	17.9	1.7	21.5	0.1
5	64.7	38.4	51.6	3.7	2.8	3.0	65	44	23	6	1	-7777	172	213	285	423	0.0	0.2	27.7	-7777	6.9	0.0
6	73.4	48.8	61.1	4.6	3.0	3.7	211	166	109	45	15	9	28	43	76	162	0.1	1.6	29.7	0.0	0.2	0.0
7	80.1	53.6	66.9	4.0	2.5	3.0	369	310	225	109	38	22	2	5	13	52	0.2	3.4	31.0	0.0	0.0	0.0
8	80.2	51.5	65.9	4.1	2.6	3.2	343	287	209	103	38	23	7	13	28	77	0.4	4.9	30.9	0.0	0.1	0.0
9	68.6	41.1	54.8	4.6	2.4	3.3	111	83	51	18	4	2	115	148	206	322	0.0	1.1	28.2	-7777	3.4	0.0
10	53.4	29.0	41.2	4.1	2.6	3.0	12	7	3	-7777	-7777	-7777	440	497	586	738	0.0	0.1	18.2	1.9	19.3	0.1
11	34.8	15.9	25.4	7.2	5.6	6.1	-7777	-7777	0	0	0	0	889	949	1039	1189	0.0	0.0	4.6	12.4	28.6	3.5
12	21.0	3.1	12.0	7.4	7.5	7.4	0	0	0	0	0	0	1331	1393	1486	1641	0.0	0.0	0.1	23.0	30.9	11.9
Summary	50.4	27.2	38.8	5.6	4.5	4.9	1120	902	622	281	96	56	6979	7491	8307	9789	0.7	11.3	192.7	94.0	199.4	46.4

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STANLEY 3 NNW, ND US**

GHCND:USC00328276

Elev: 2280 ft. Lat: 48.456° N Lon: 102.595° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.58	8.6	2.0	0.0	0.0	0.29	0.54	0.81
2	0.44	6.8	1.4	0.1	0.0	0.18	0.38	0.54
3	0.80	7.9	2.5	0.1	0.0	0.43	0.73	1.18
4	1.22	8.0	3.6	0.5	0.1	0.61	1.15	1.81
5	2.55	11.2	6.5	1.3	0.3	1.65	2.21	3.56
6	3.64	13.7	8.6	2.3	0.5	2.35	3.25	4.69
7	3.03	10.6	6.7	2.0	0.5	1.61	2.79	3.53
8	2.12	9.3	5.3	1.1	0.3	1.63	1.95	2.93
9	1.70	9.2	4.8	0.8	0.1	1.05	1.40	2.27
10	1.30	8.2	3.5	0.7	0.1	0.68	1.09	1.60
11	0.73	7.0	2.5	0.1	0.0	0.29	0.67	1.12
12	0.58	8.1	1.7	-7777	0.0	0.40	0.52	0.71
Summary	18.69	108.6	49.1	9.0	1.9	11.17	16.68	24.75

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STANLEY 3 NNW, ND US**

GHCND:USC00328276  
Elev: 2280 ft. Lat: 48.456° N Lon: 102.595° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.1	7.5	4.1	0.7	0.1	0.0	29.6	25.4	19.8	10.8	4.4	5.6	9.6
2	6.0	5.7	2.5	0.3	0.1	0.0	23.6	19.9	16.8	9.6	2.8	5.2	7.5
3	8.1	5.7	3.5	0.7	0.2	0.0	19.8	14.6	11.6	5.8	4.3	6.7	11.8
4	4.5	2.5	1.7	0.6	0.2	0.0	4.4	2.6	1.7	0.7	0.8	2.5	7.7
5	1.5	0.7	0.5	0.2	0.1	0.0	0.7	0.3	0.1	0.0	0.0	0.0	1.6
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.2	0.2	-7777	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
10	3.6	1.8	1.2	0.5	0.2	0.0	2.8	1.1	0.5	0.1	0.0	2.2	5.5
11	5.3	4.8	2.9	0.7	0.1	0.0	13.4	8.4	5.2	1.0	2.0	3.0	10.0
12	8.5	7.0	3.7	0.5	0.1	-7777	26.9	20.6	13.6	3.5	5.0	6.7	10.6
Summary	45.9	35.9	20.3	4.2	1.1	0.0	121.4	92.9	69.3	31.5	19.3	31.9	64.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **STANLEY 3 NNW, ND US**

GHCND:USC00328276  
Elev: 2280 ft. Lat: 48.456° N Lon: 102.595° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	13	124	372	633	832	801	452	148	15	-7777
45	0	-7777	4	62	244	484	677	646	317	78	5	0
50	0	-7777	1	26	139	340	522	493	200	34	1	0
55	0	0	-7777	9	65	211	369	343	111	12	-7777	0
60	0	0	-7777	2	23	109	225	209	51	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	105	240	374	517	495	285	114	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	14	138	510	1143	1975	2776	3228	3376	3391	-7777
45	0	-7777	4	66	310	794	1471	2117	2434	2512	2517	2517
50	0	-7777	1	27	166	506	1028	1521	1721	1755	1756	1756
55	0	0	-7777	9	74	285	654	997	1108	1120	-7777	1120
60	0	0	-7777	2	25	134	359	568	619	622	622	622
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	120	360	734	1251	1746	2031	2145	2160	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BISMARCK 5 NNW, ND US**

GHCND:USC00320817  
Elev: 1831 ft. Lat: 46.834° N Lon: 100.797° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.6	2.0	12.8				0	0	0	0	0	0	1307	1370	1463	1618	0.0	0.0	0.0	22.3	31.0	13.0
2	27.8	7.2	17.5				0	0	0	0	0	0	1049	1106	1190	1330	0.0	0.0	0.3	18.6	27.7	9.0
3	39.3	18.1	28.7				-7777	0	0	0	0	0	815	877	970	1125	0.0	0.0	5.0	7.7	28.0	2.0
4	56.2	30.4	43.3				4	2	-7777	0	0	0	356	413	501	651	0.0	0.0	22.7	0.0	18.3	0.0
5	67.2	43.1	55.2				77	48	20	5	1	-7777	72	105	170	310	0.0	0.0	30.0	0.0	1.7	0.0
6	76.0	52.4	64.2				281	225	150	49	5	2	5	10	24	73	0.0	0.0	30.0	0.0	0.0	0.0
7	83.0	58.4	70.7				485	424	332	187	70	39	-7777	-7777	1	10	0.0	3.3	31.0	0.0	0.0	0.0
8	81.4	56.2	68.8				428	368	281	153	63	38	2	3	9	35	0.0	5.0	31.0	0.0	0.0	0.0
9	70.7	45.1	57.9				149	113	73	29	8	4	62	86	136	242	0.0	0.8	29.3	0.0	0.3	0.0
10	56.5	32.0	44.3				17	11	6	-7777	0	0	351	407	494	644	0.0	0.0	20.9	0.3	15.5	0.0
11	38.7	18.4	28.6				-7777	-7777	0	0	0	0	793	853	943	1093	0.0	0.0	6.0	8.5	30.0	2.0
12	26.0	6.1	16.1				0	0	0	0	0	0	1206	1268	1362	1517	0.0	0.0	0.3	22.5	31.0	8.3
Summary	53.9	30.8	42.3	9999	9999	9999	1441	1191	862	423	147	83	6018	6498	7263	8648	0.0	9.1	206.5	79.9	183.5	34.3

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK 5 NNW, ND US**

GHCND:USC00320817  
Elev: 1831 ft. Lat: 46.834° N Lon: 100.797° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	@	@	@	@			
2	0.50	@	@	@	@			
3	0.94	@	@	@	@			
4	1.84	@	@	@	@			
5	2.55	@	@	@	@			
6	3.16	@	@	@	@			
7	3.00	@	@	@	@			
8	2.89	@	@	@	@			
9	1.48	@	@	@	@			
10	1.47	@	@	@	@			
11	0.80	@	@	@	@			
12	0.51	@	@	@	@			
Summary	19.59	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK 5 NNW, ND US**

GHCND:USC00320817  
Elev: 1831 ft. Lat: 46.834° N Lon: 100.797° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	17	150	470	726	951	891	537	183	13	-7777
45	0	-7777	4	67	323	576	796	737	392	96	2	0
50	0	0	1	20	188	427	641	582	259	45	-7777	0
55	0	0	-7777	4	77	281	485	428	149	17	-7777	0
60	0	0	0	-7777	20	150	332	281	73	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	18	117	274	443	626	568	327	135	19	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	18	168	638	1364	2315	3206	3743	3926	3939	-7777
45	0	-7777	4	71	394	970	1766	2503	2895	2991	2993	2993
50	0	0	1	21	209	636	1277	1859	2118	2163	-7777	2163
55	0	0	-7777	4	81	362	847	1275	1424	1441	-7777	1441
60	0	0	0	-7777	20	170	502	783	856	862	862	862
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	18	135	409	852	1478	2046	2373	2508	2527	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GARRISON 1 NNW, ND US**

GHCND:USC00323376

Elev: 1932 ft. Lat: 47.654° N Lon: 101.420° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.2	-0.7	9.7	7.7	8.7	8.1	0	0	0	0	0	0	1403	1465	1558	1713	0.0	0.0	0.2	23.3	31.0	14.9
2	25.2	3.9	14.6	7.7	8.2	7.9	0	0	0	0	0	0	1133	1189	1273	1413	0.0	0.0	0.8	17.4	27.7	11.1
3	37.1	16.1	26.6	6.1	5.6	5.7	-7777	-7777	-7777	0	0	0	880	942	1035	1190	0.0	0.0	5.3	10.2	29.6	3.7
4	54.7	28.5	41.6	5.0	3.4	3.9	13	8	4	1	-7777	0	415	471	556	703	0.0	-7777	19.6	1.5	19.4	0.1
5	66.0	40.6	53.3	3.3	2.8	2.8	85	61	33	9	2	1	138	175	241	372	0.0	0.1	28.8	-7777	5.2	0.0
6	74.7	50.4	62.5	4.1	3.1	3.4	246	197	133	57	20	12	19	31	57	131	0.1	1.6	29.9	0.0	0.1	0.0
7	81.3	55.4	68.3	3.9	2.5	2.9	415	355	267	140	54	33	1	3	8	36	0.2	4.2	31.0	0.0	0.0	0.0
8	81.2	53.4	67.3	3.8	2.8	3.2	385	327	244	129	51	31	4	8	18	58	0.3	5.1	31.0	0.0	-7777	0.0
9	70.2	42.9	56.5	4.3	2.4	3.0	134	102	64	24	6	3	87	116	168	278	0.0	1.2	29.0	-7777	2.6	0.0
10	55.6	30.2	42.9	3.9	2.8	2.8	15	9	4	1	-7777	-7777	391	446	534	686	0.0	-7777	20.4	1.1	17.6	-7777
11	37.4	17.3	27.3	7.3	4.9	5.8	-7777	-7777	0	0	0	0	830	890	979	1129	0.0	0.0	6.1	9.9	28.0	2.8
12	24.2	4.4	14.3	7.9	7.6	7.7	0	0	0	0	0	0	1262	1324	1417	1572	0.0	0.0	0.4	19.9	31.0	10.7
Summary	52.3	28.5	40.4	5.4	4.6	4.8	1293	1059	749	361	133	80	6563	7060	7844	9281	0.6	12.2	202.5	83.3	192.2	43.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GARRISON 1 NNW, ND US**

GHCND:USC00323376  
Elev: 1932 ft. Lat: 47.654° N Lon: 101.420° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.48	4.6	1.5	-7777	0.0	0.31	0.42	0.63
2	0.31	3.4	1.1	0.1	-7777	0.08	0.22	0.34
3	0.62	5.0	1.9	0.2	-7777	0.20	0.61	1.02
4	1.17	5.8	3.3	0.6	-7777	0.62	0.91	1.65
5	2.61	8.8	5.1	1.7	0.6	1.48	2.41	3.50
6	3.77	10.8	6.8	2.3	0.8	2.59	3.27	4.39
7	2.92	8.3	5.6	2.1	0.6	1.42	2.11	3.27
8	2.11	7.2	3.9	1.3	0.6	0.95	1.76	2.94
9	1.40	6.4	3.4	0.6	0.1	0.85	1.26	1.93
10	1.18	5.3	2.7	0.6	0.1	0.31	0.74	1.40
11	0.59	3.7	1.7	0.3	-7777	0.14	0.36	1.00
12	0.34	3.7	1.6	0.0	0.0	0.17	0.27	0.46
Summary	17.50	73.0	38.6	9.8	2.8	9.12	14.34	22.53

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Station: **GARRISON 1 NNW, ND US**

GHCND:USC00323376  
Elev: 1932 ft. Lat: 47.654° N Lon: 101.420° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.2	3.5	2.5	1.0	0.3	0.0	@	@	@	@	2.1	4.8	8.8
2	4.1	2.8	2.1	0.4	0.2	0.0	@	@	@	@	1.8	3.0	5.1
3	4.9	2.4	1.9	0.8	0.1	0.0	@	@	@	@	2.0	4.0	8.0
4	2.8	0.7	0.7	0.4	0.2	0.0	@	@	@	@	0.0	0.5	2.5
5	0.9	0.3	0.2	0.2	0.1	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.8	0.6	0.6	0.3	0.1	-7777	@	@	@	@	0.0	0.0	2.5
11	5.5	2.2	1.9	0.9	0.2	0.1	@	@	@	@	0.0	6.0	10.5
12	8.8	3.4	2.7	0.8	0.3	-7777	@	@	@	@	0.0	5.2	10.5
Summary	35.0	15.9	12.6	4.8	1.5	0.1	9999	9999	9999	9999	5.9	23.5	47.9

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U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GARRISON 1 NNW, ND US**

GHCND:USC00323376

Elev: 1932 ft. Lat: 47.654° N Lon: 101.420° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	147	421	676	879	846	501	175	19	-7777
45	0	-7777	5	79	286	527	724	691	361	95	6	0
50	0	-7777	1	35	171	382	569	537	235	43	1	0
55	0	0	-7777	13	85	246	415	385	134	15	-7777	0
60	0	0	-7777	4	33	133	267	244	64	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	18	120	260	406	557	533	312	132	21	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	17	164	585	1261	2140	2986	3487	3662	3681	-7777
45	0	-7777	5	84	370	897	1621	2312	2673	2768	2774	2774
50	0	-7777	1	36	207	589	1158	1695	1930	1973	1974	1974
55	0	0	-7777	13	98	344	759	1144	1278	1293	-7777	1293
60	0	0	-7777	4	37	170	437	681	745	749	749	749
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	140	400	806	1363	1896	2208	2340	2361	2362

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: WESTHOPE, ND US

GHCND:USC00329333

Elev: 1503 ft. Lat: 48.910° N Lon: 101.019° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.9	-2.0	7.4	8.0	8.6	8.2	0	0	0	0	0	0	1474	1536	1629	1784	0.0	0.0	0.0	25.2	30.9	16.2
2	22.8	3.6	13.2	7.1	8.2	7.5	0	0	0	0	0	0	1170	1226	1310	1450	0.0	0.0	0.3	19.7	27.7	11.6
3	35.4	16.7	26.1	6.8	6.2	6.3	-7777	-7777	-7777	0	0	0	897	959	1052	1207	0.0	0.0	3.7	11.1	29.0	4.0
4	56.6	30.3	43.4	5.1	3.2	3.9	18	12	6	1	-7777	-7777	365	418	502	648	0.0	0.1	21.2	1.2	16.8	0.1
5	69.0	41.7	55.4	3.7	3.0	3.1	113	83	48	16	4	2	102	134	192	315	0.0	0.6	29.9	0.0	4.5	0.0
6	76.8	51.7	64.2	4.4	3.1	3.5	287	234	163	75	27	17	9	16	35	98	0.1	1.9	30.0	0.0	-7777	0.0
7	81.9	55.7	68.8	3.6	2.4	2.7	428	367	277	145	55	33	-7777	1	5	28	0.1	3.7	31.0	0.0	0.0	0.0
8	82.0	54.0	68.0	4.1	2.5	3.1	405	346	261	140	56	35	2	5	14	48	0.2	5.6	31.0	0.0	-7777	0.0
9	71.2	43.9	57.6	4.3	2.5	3.1	150	115	72	27	7	4	73	98	146	251	0.0	0.8	29.0	0.0	2.2	0.0
10	55.4	31.3	43.4	3.7	2.9	2.8	17	10	5	-7777	-7777	0	378	434	521	672	0.0	-7777	20.6	1.2	15.8	0.1
11	34.8	16.9	25.9	7.3	5.9	6.4	-7777	-7777	0	0	0	0	874	934	1024	1174	0.0	0.0	4.4	12.7	27.7	3.3
12	19.9	2.1	11.0	7.4	7.8	7.5	0	0	0	0	0	0	1364	1426	1519	1674	0.0	0.0	0.1	24.3	30.9	12.7
Summary	51.9	28.8	40.4	5.5	4.7	4.8	1418	1167	832	404	149	91	6708	7187	7949	9349	0.4	12.7	201.2	95.4	185.5	48.0

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WESTHOPE, ND US**

GHCND:USC00329333

Elev: 1503 ft. Lat: 48.910° N Lon: 101.019° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.52	5.9	1.7	-7777	0.0	0.21	0.41	0.84
2	0.44	4.7	1.2	0.2	-7777	0.14	0.27	0.48
3	0.84	6.1	2.2	0.3	-7777	0.35	0.72	1.23
4	1.09	6.2	2.7	0.4	0.1	0.43	0.92	1.39
5	2.35	9.0	5.5	1.6	0.3	1.48	1.80	2.50
6	3.42	11.7	6.7	2.3	0.8	2.06	2.94	4.37
7	2.88	9.3	5.3	1.6	0.7	1.35	2.06	4.67
8	2.01	8.1	4.5	1.2	0.4	0.87	1.57	3.07
9	1.39	7.4	3.6	0.7	0.2	0.98	1.35	1.85
10	1.29	6.2	3.0	0.9	0.1	0.34	1.03	1.80
11	0.67	5.6	2.1	0.2	-7777	0.21	0.50	1.07
12	0.53	6.3	1.7	0.1	0.0	0.23	0.57	0.80
Summary	17.43	86.5	40.2	9.5	2.6	8.65	14.14	24.07

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Station: WESTHOPE, ND US

GHCND:USC00329333  
Elev: 1503 ft. Lat: 48.910° N Lon: 101.019° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	12	179	480	727	893	868	529	184	16	-7777
45	0	-7777	4	99	338	578	738	713	387	102	6	0
50	0	0	1	47	213	429	583	558	258	47	1	0
55	0	0	-7777	18	113	287	428	405	150	17	-7777	0
60	0	0	-7777	6	48	163	277	261	72	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	12	137	304	446	574	551	331	131	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	12	191	671	1398	2291	3159	3688	3872	3888	-7777
45	0	-7777	4	103	441	1019	1757	2470	2857	2959	2965	2965
50	0	0	1	48	261	690	1273	1831	2089	2136	2137	2137
55	0	0	-7777	18	131	418	846	1251	1401	1418	-7777	1418
60	0	0	-7777	6	54	217	494	755	827	832	832	832
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	12	149	453	899	1473	2024	2355	2486	2501	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LA MOURE, ND US**

GHCND:USC00324937

Elev: 1316 ft. Lat: 46.355° N Lon: 98.293° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.0	0.4	10.7	7.4	7.6	7.3	0	0	0	0	0	0	1373	1435	1528	1683	0.0	0.0	0.3	23.3	31.0	15.1
2	26.9	5.6	16.2	7.3	8.2	7.6	0	0	0	0	0	0	1085	1141	1225	1365	0.0	0.0	1.3	17.1	27.6	10.4
3	39.5	18.7	29.1	5.7	5.2	5.2	1	-7777	-7777	-7777	0	0	804	865	958	1113	0.0	0.0	5.9	8.0	27.6	3.0
4	57.3	31.5	44.4	5.3	2.9	3.8	27	19	10	3	1	-7777	345	397	478	621	0.0	0.1	20.9	0.9	16.0	0.0
5	69.8	44.0	56.9	3.8	3.5	3.3	146	112	70	27	7	3	87	115	166	278	0.0	0.7	29.6	0.0	2.8	0.0
6	78.1	54.3	66.2	3.8	3.0	3.2	343	288	213	109	43	27	7	12	27	73	0.1	2.5	30.0	0.0	0.0	0.0
7	84.0	59.0	71.5	4.1	2.4	3.0	511	450	359	216	101	67	-7777	1	2	14	0.5	6.2	31.0	0.0	0.0	0.0
8	83.0	56.0	69.5	3.3	2.4	2.5	450	390	302	171	73	46	1	3	8	31	0.3	5.3	31.0	0.0	-7777	0.0
9	72.7	45.5	59.1	3.4	2.9	2.8	180	142	94	40	13	7	57	79	121	217	-7777	1.3	29.5	0.0	1.8	0.0
10	58.3	32.8	45.6	3.2	3.2	2.5	28	19	9	2	-7777	-7777	321	374	457	605	0.0	0.1	23.8	0.5	14.5	0.0
11	39.8	19.4	29.6	7.0	5.3	5.8	-7777	-7777	-7777	0	0	0	762	822	912	1062	0.0	0.0	7.4	8.8	26.6	1.8
12	25.4	6.0	15.7	7.2	7.1	6.9	0	0	0	0	0	0	1218	1280	1373	1528	0.0	0.0	0.7	19.8	30.9	10.4
Summary	54.6	31.1	42.9	5.1	4.5	4.5	1686	1420	1057	568	238	150	6060	6524	7255	8590	0.9	16.2	211.4	78.4	178.8	40.7

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LA MOURE, ND US**

GHCND:USC00324937

Elev: 1316 ft. Lat: 46.355° N Lon: 98.293° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.76	3.9	2.4	0.5	0.2	0.20	0.78	1.24
2	0.64	3.9	2.2	0.2	0.0	0.37	0.57	0.81
3	1.50	4.9	3.2	0.9	0.3	0.50	1.64	2.05
4	1.68	5.7	3.8	1.3	0.3	0.65	1.60	2.14
5	2.98	7.8	5.5	1.9	0.5	1.63	2.73	3.88
6	3.51	9.4	7.3	2.3	0.7	2.02	3.18	4.41
7	3.52	8.1	5.8	2.3	1.0	2.04	3.39	4.28
8	2.35	6.3	4.5	1.5	0.6	1.58	2.39	2.84
9	2.23	6.2	4.2	1.6	0.5	1.06	2.00	2.60
10	1.88	5.4	3.5	1.2	0.4	0.73	1.61	2.71
11	1.02	4.2	2.9	0.4	-7777	0.40	0.83	1.65
12	0.70	3.7	1.9	0.2	0.1	0.16	0.65	1.07
Summary	22.77	69.5	47.2	14.3	4.6	11.34	21.37	29.68

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LA MOURE, ND US**

GHCND:USC00324937

Elev: 1316 ft. Lat: 46.355° N Lon: 98.293° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.7	4.4	3.2	1.1	0.5	-7777	26.3	22.3	17.3	10.5	2.7	7.0	10.0
2	6.0	3.4	2.5	1.0	0.3	0.0	19.6	17.4	15.4	9.3	2.5	5.6	9.6
3	9.4	3.2	2.7	1.1	0.6	0.1	13.5	10.7	8.7	4.8	3.5	6.9	18.9
4	4.0	1.2	1.0	0.6	0.2	0.0	2.1	1.5	1.1	0.5	0.0	2.6	7.0
5	0.1	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.5	0.4	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.3
11	8.3	3.5	2.8	1.2	0.4	-7777	10.3	6.3	4.0	1.0	1.1	7.3	11.5
12	6.9	3.8	2.9	0.5	0.2	-7777	18.2	11.0	7.6	5.0	2.0	4.3	11.0
Summary	43.9	19.9	15.4	5.6	2.2	0.1	90.2	69.3	54.1	31.1	11.8	33.7	68.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LA MOURE, ND US**

GHCND:USC00324937  
Elev: 1316 ft. Lat: 46.355° N Lon: 98.293° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	24	200	526	786	976	914	574	225	31	-7777
45	-7777	-7777	8	116	381	636	821	759	430	129	11	-7777
50	0	-7777	3	59	252	487	666	604	295	64	2	0
55	0	0	1	27	146	343	511	450	180	28	-7777	0
60	0	0	-7777	10	70	213	359	302	94	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	24	150	326	494	638	591	359	158	29	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	26	226	752	1538	2514	3428	4002	4227	4258	-7777
45	-7777	-7777	8	124	505	1141	1962	2721	3151	3280	3291	-7777
50	0	-7777	3	62	314	801	1467	2071	2366	2430	2432	2432
55	0	0	1	28	174	517	1028	1478	1658	1686	-7777	1686
60	0	0	-7777	10	80	293	652	954	1048	1057	-7777	1057
Growing Degree Units for Corn (Monthly)												
50/86	1	4	28	178	504	998	1636	2227	2586	2744	2773	2774

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MOFFIT 3 SE, ND US**

GHCND:USC00326015  
Elev: 1801 ft. Lat: 46.670° N Lon: 100.229° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.2	2.1	13.1	7.7	8.5	8.0	0	0	0	0	0	0	1297	1359	1452	1607	0.0	0.0	0.2	20.4	30.9	13.1
2	28.7	6.7	17.7	7.4	8.2	7.7	0	0	0	0	0	0	1044	1100	1184	1324	0.0	0.0	1.6	15.1	27.4	9.6
3	41.2	18.7	30.0	6.3	4.8	5.4	-7777	-7777	-7777	0	0	0	777	839	932	1086	0.0	0.0	8.2	7.2	27.7	3.0
4	59.0	31.4	45.2	4.9	2.9	3.7	27	18	9	3	-7777	-7777	321	372	454	597	0.0	0.1	23.6	0.6	15.4	0.0
5	70.4	43.2	56.8	3.5	3.3	3.0	138	104	64	22	5	3	82	111	164	276	0.0	0.3	30.2	0.0	3.8	0.0
6	78.5	53.1	65.8	4.5	3.2	3.7	331	276	202	102	40	27	7	12	28	78	0.3	2.7	30.0	0.0	0.0	0.0
7	85.1	58.6	71.8	4.3	2.6	3.2	522	461	370	226	110	75	-7777	1	2	14	0.9	7.8	31.0	0.0	-7777	0.0
8	85.0	56.5	70.8	3.6	2.4	2.8	489	429	340	204	98	66	1	3	7	26	0.6	8.9	31.0	0.0	0.0	0.0
9	74.5	45.8	60.2	4.2	2.6	3.1	204	163	111	50	17	10	49	69	107	195	0.1	1.9	29.6	0.0	2.0	0.0
10	59.4	33.5	46.5	3.6	2.8	2.8	31	20	10	2	-7777	-7777	296	348	430	577	0.0	-7777	24.2	0.7	13.0	-7777
11	40.0	19.5	29.7	7.0	5.1	5.9	-7777	-7777	-7777	0	0	0	758	818	907	1057	0.0	0.0	7.9	8.4	26.6	1.9
12	26.6	7.0	16.8	7.6	8.2	7.8	0	0	0	0	0	0	1184	1246	1339	1494	0.0	0.0	0.5	18.2	30.8	9.4
Summary	56.0	31.3	43.7	5.4	4.6	4.8	1742	1471	1106	609	270	181	5816	6278	7006	8331	1.9	21.7	218.0	70.6	177.6	37.0

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOFFIT 3 SE, ND US**

GHCND:USC00326015  
Elev: 1801 ft. Lat: 46.670° N Lon: 100.229° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.24	3.1	0.8	-7777	0.0	0.11	0.19	0.31
2	0.33	2.9	1.1	0.0	0.0	0.12	0.22	0.36
3	0.62	4.5	1.6	0.4	0.1	0.22	0.44	0.92
4	1.00	4.6	2.6	0.5	0.1	0.56	0.78	1.33
5	2.24	6.9	4.7	1.4	0.3	1.08	1.95	2.96
6	3.51	10.1	6.8	2.4	0.6	2.39	3.25	4.69
7	3.01	8.1	5.2	2.0	0.7	1.91	2.53	3.45
8	2.23	6.2	3.8	1.4	0.5	1.22	1.81	2.88
9	1.73	5.3	3.0	0.9	0.3	0.74	1.36	2.66
10	1.29	4.9	2.5	0.8	0.3	0.32	0.93	2.16
11	0.38	3.4	1.3	-7777	0.0	0.07	0.29	0.51
12	0.32	3.2	0.8	-7777	0.0	0.10	0.24	0.44
Summary	16.90	63.2	34.2	9.8	2.9	8.84	13.99	22.67

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOFFIT 3 SE, ND US**

GHCND:USC00326015  
Elev: 1801 ft. Lat: 46.670° N Lon: 100.229° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	4.6	3.3	1.6	0.5	0.2	-7777	@	@	@	@	1.9	2.7	8.2
2	5.1	3.0	1.6	0.4	0.1	0.0	@	@	@	@	1.8	3.5	9.1
3	6.2	2.1	1.4	0.6	0.3	0.1	@	@	@	@	0.0	4.1	7.1
4	1.9	0.8	0.5	0.2	0.2	-7777	@	@	@	@	0.0	0.0	1.0
5	0.2	0.1	-7777	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.2	0.1	0.1	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.9	0.4	0.3	0.2	0.0	0.0	@	@	@	@	0.0	0.0	1.0
11	4.0	2.0	1.4	0.5	0.3	-7777	@	@	@	@	0.0	2.0	6.4
12	6.2	3.0	1.4	0.5	0.2	-7777	@	@	@	@	1.9	5.0	10.5
Summary	29.3	14.8	8.3	2.9	1.3	0.1	9999	9999	9999	9999	5.6	17.3	43.3

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOFFIT 3 SE, ND US**

GHCND:USC00326015  
Elev: 1801 ft. Lat: 46.670° N Lon: 100.229° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	25	214	523	774	987	953	606	250	31	-7777
45	-7777	-7777	8	124	378	624	832	798	461	149	11	-7777
50	0	-7777	2	62	246	475	677	643	324	76	2	0
55	0	0	-7777	27	138	331	522	489	204	31	-7777	0
60	0	0	-7777	9	64	202	370	340	111	10	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	28	164	333	486	641	612	384	175	28	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	27	241	764	1538	2525	3478	4084	4334	4365	-7777
45	-7777	-7777	8	132	510	1134	1966	2764	3225	3374	3385	-7777
50	0	-7777	2	64	310	785	1462	2105	2429	2505	2507	2507
55	0	0	-7777	27	165	496	1018	1507	1711	1742	-7777	1742
60	0	0	-7777	9	73	275	645	985	1096	1106	-7777	1106
Growing Degree Units for Corn (Monthly)												
50/86	1	4	32	196	529	1015	1656	2268	2652	2827	2855	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VERONA, ND US**

GHCND:USC00329035

Elev: 1371 ft. Lat: 46.364° N Lon: 98.076° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	3.1	1.8	0.2	0.0	0.14	0.48	0.65
2	0.36	3.2	1.5	0.1	0.0	0.17	0.27	0.43
3	0.92	3.3	2.3	0.7	0.1	0.47	0.88	1.43
4	1.41	4.0	3.1	0.7	0.2	0.51	0.97	1.65
5	2.84	7.3	5.4	2.0	0.5	1.52	2.56	3.86
6	3.11	8.6	6.3	2.4	0.5	1.70	2.72	4.62
7	3.55	8.1	5.9	2.2	1.1	2.04	3.29	4.35
8	1.94	5.7	4.0	1.3	0.4	1.31	1.93	2.24
9	2.48	5.4	4.0	1.5	0.7	1.23	2.11	3.15
10	1.95	4.4	3.4	1.3	0.6	0.75	1.46	2.91
11	0.75	3.5	2.2	0.3	0.0	0.08	0.61	1.05
12	0.63	2.8	1.5	0.4	-7777	0.05	0.38	0.87
Summary	20.40	59.4	41.4	13.1	4.1	9.97	17.66	27.21

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VERONA, ND US**

GHCND:USC00329035

Elev: 1371 ft. Lat: 46.364° N Lon: 98.076° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.8	3.6	3.1	0.9	0.4	0.0	@	@	@	@	3.0	6.9	10.3
2	5.5	3.3	2.8	0.7	0.3	0.0	@	@	@	@	1.8	4.2	7.5
3	6.3	2.0	1.9	0.9	0.3	-7777	@	@	@	@	0.0	5.0	7.0
4	1.9	0.5	0.5	0.3	0.1	0.0	@	@	@	@	0.0	0.0	3.0
5	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.6	0.2	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
11	6.1	2.0	1.6	0.8	0.4	-7777	@	@	@	@	0.0	2.2	9.0
12	9.5	2.9	2.7	1.0	0.5	-7777	@	@	@	@	1.0	5.0	13.0
Summary	37.7	14.5	12.8	4.7	2.0	0.0	9999	9999	9999	9999	5.8	23.3	49.8

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BOWBELLS, ND US**

GHCND:USC00320961  
Elev: 1962 ft. Lat: 48.799° N Lon: 102.246° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.8	-0.1	9.4	8.0	7.8	7.8	0	0	0	0	0	0	1415	1477	1570	1725	0.0	0.0	0.2	23.4	30.7	15.9
2	23.9	3.7	13.8	7.7	7.9	7.7	0	0	0	0	0	0	1153	1209	1293	1433	0.0	0.0	0.7	17.8	27.9	11.4
3	34.8	14.8	24.8	6.9	6.2	6.4	-7777	-7777	0	0	0	0	936	998	1091	1246	0.0	0.0	4.1	11.6	29.9	5.2
4	54.2	28.1	41.1	5.3	3.0	3.9	12	8	3	-7777	-7777	0	428	483	569	716	0.0	0.1	17.8	1.9	20.3	0.2
5	65.6	39.5	52.6	3.8	2.6	2.9	76	54	30	9	2	1	152	192	261	395	0.0	0.3	28.0	0.0	5.3	0.0
6	74.0	48.8	61.4	4.6	2.9	3.4	218	173	115	50	17	11	26	41	73	158	0.0	1.9	29.6	0.0	0.2	0.0
7	80.3	54.0	67.2	4.0	2.4	2.9	378	318	233	116	44	26	2	4	12	49	0.3	4.3	31.0	0.0	0.0	0.0
8	79.8	51.8	65.8	4.5	3.3	3.7	345	288	211	107	41	25	10	16	31	82	0.2	4.9	30.9	0.0	0.1	0.0
9	68.1	41.1	54.6	4.4	2.6	3.2	106	80	49	17	4	2	118	152	211	329	0.0	0.9	28.2	0.1	4.1	0.0
10	53.2	28.8	41.0	3.9	3.0	3.0	10	6	3	1	-7777	0	444	502	592	745	0.0	0.1	18.3	1.7	18.8	0.2
11	34.6	15.8	25.2	7.4	5.7	6.3	-7777	-7777	0	0	0	0	894	954	1044	1194	0.0	0.0	3.8	12.2	28.4	3.5
12	20.9	3.0	11.9	7.5	7.7	7.5	0	0	0	0	0	0	1334	1396	1489	1644	0.0	0.0	0.3	22.5	31.0	11.8
Summary	50.7	27.4	39.1	5.7	4.6	4.9	1145	927	644	300	108	65	6912	7424	8236	9716	0.5	12.5	192.9	91.2	196.7	48.2

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOWBELLS, ND US**

GHCND:USC00320961  
Elev: 1962 ft. Lat: 48.799° N Lon: 102.246° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.35	4.8	1.1	0.1	0.1	0.13	0.19	0.46
2	0.49	3.2	0.9	0.1	0.1	0.08	0.28	0.58
3	0.65	4.7	2.5	0.4	0.1	0.24	0.52	0.90
4	0.98	4.2	2.5	0.6	0.1	0.48	0.83	1.22
5	2.43	6.5	4.8	1.5	0.3	1.26	2.19	2.76
6	3.28	8.6	6.2	1.9	0.4	2.34	3.02	3.90
7	3.12	7.4	5.5	2.4	0.6	1.96	2.77	3.78
8	2.11	6.3	5.0	1.0	0.3	1.26	1.76	2.60
9	1.71	5.4	3.6	1.2	0.4	0.92	1.82	2.20
10	1.15	4.0	3.0	1.0	0.1	0.34	0.68	1.23
11	0.47	3.0	1.4	0.1	0.0	0.10	0.35	0.69
12	0.32	3.6	0.9	0.0	0.0	0.05	0.16	0.55
Summary	17.06	61.7	37.4	10.3	2.5	9.16	14.57	20.87

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOWBELLS, ND US**

GHCND:USC00320961  
Elev: 1962 ft. Lat: 48.799° N Lon: 102.246° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	1	12	142	400	642	841	799	445	146	13	-7777
45	-7777	-7777	4	75	269	493	686	645	311	78	5	0
50	0	-7777	1	34	157	349	531	492	195	33	1	0
55	0	0	-7777	12	76	218	378	345	106	10	-7777	0
60	0	0	0	3	30	115	233	211	49	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	118	254	384	525	497	280	112	13	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	14	156	556	1198	2039	2838	3283	3429	3442	-7777
45	-7777	-7777	4	79	348	841	1527	2172	2483	2561	2566	2566
50	0	-7777	1	35	192	541	1072	1564	1759	1792	1793	1793
55	0	0	-7777	12	88	306	684	1029	1135	1145	-7777	1145
60	0	0	0	3	33	148	381	592	641	644	644	644
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	133	387	771	1296	1793	2073	2185	2198	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ALEXANDER 4 NNW, ND US**

GHCND:USC00320096

Elev: 2139 ft. Lat: 47.902° N Lon: 103.661° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.48	3.4	1.1	0.0	0.0	0.14	0.30	0.65
2	0.21	2.5	0.8	0.0	0.0	0.06	0.12	0.26
3	0.53	4.0	1.8	0.3	0.0	0.17	0.36	0.75
4	1.00	4.5	2.6	0.5	-7777	0.43	0.80	1.46
5	2.03	7.7	5.2	1.3	0.4	1.22	1.85	2.76
6	2.79	9.1	6.6	1.9	0.4	1.76	2.69	3.80
7	2.60	7.6	5.4	1.9	0.6	1.38	2.43	3.35
8	1.51	5.9	3.8	0.8	0.2	0.77	1.25	2.14
9	1.12	5.3	3.5	0.5	0.1	0.47	0.69	1.83
10	1.00	4.1	2.6	0.6	0.1	0.27	0.59	1.29
11	0.50	2.9	1.3	0.2	-7777	0.12	0.33	0.59
12	0.46	3.2	1.1	-7777	-7777	0.18	0.41	0.71
Summary	14.23	60.2	35.8	8.0	1.8	6.97	11.82	19.59

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: VALLEY CITY 3 NNW, ND US

GHCND:USC00328937

Elev: 1211 ft. Lat: 46.956° N Lon: 98.020° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.1	-2.6	8.2	7.4	8.4	7.7	0	0	0	0	0	0	1449	1511	1604	1759	0.0	0.0	0.2	24.4	30.9	16.9
2	24.6	2.2	13.4	6.9	8.6	7.6	0	0	0	0	0	0	1165	1221	1305	1445	0.0	0.0	0.6	18.3	27.7	13.0
3	36.3	15.5	25.9	5.6	5.4	5.3	-7777	-7777	-7777	0	0	0	902	964	1057	1212	0.0	0.0	3.9	10.4	29.1	4.2
4	54.9	28.4	41.7	5.2	2.7	3.6	15	10	5	1	-7777	-7777	415	470	555	702	0.0	0.0	19.2	1.2	20.1	0.1
5	67.9	41.4	54.6	3.6	3.2	3.1	106	79	47	16	3	2	117	152	213	336	0.0	0.4	29.1	0.0	4.3	0.0
6	76.1	52.0	64.1	3.5	3.1	3.1	283	232	163	75	26	15	12	20	41	104	-7777	1.7	30.0	0.0	0.1	0.0
7	81.7	56.5	69.1	3.4	2.3	2.6	437	376	288	154	60	37	-7777	1	6	27	0.2	3.7	31.0	0.0	0.0	0.0
8	80.7	53.9	67.3	3.3	2.5	2.8	384	325	242	125	48	29	3	6	16	54	0.1	3.4	31.0	0.0	0.0	0.0
9	70.7	43.6	57.1	3.5	2.6	2.7	140	107	69	27	7	4	76	103	154	263	-7777	0.6	29.4	0.0	2.4	0.0
10	56.5	31.2	43.9	3.9	3.0	2.8	19	12	6	1	-7777	-7777	365	420	506	657	0.0	-7777	21.8	0.8	17.0	0.0
11	37.8	17.4	27.6	6.7	5.8	5.9	-7777	-7777	0	0	0	0	822	882	972	1122	0.0	0.0	5.9	10.3	27.8	2.3
12	23.1	3.7	13.4	7.2	7.3	7.1	0	0	0	0	0	0	1289	1351	1444	1599	0.0	0.0	0.4	21.7	30.9	12.2
Summary	52.4	28.6	40.5	5.0	4.6	4.5	1384	1141	820	399	144	87	6615	7101	7873	9280	0.3	9.8	202.5	87.1	190.3	48.7

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VALLEY CITY 3 NNW, ND US**

GHCND:USC00328937

Elev: 1211 ft. Lat: 46.956° N Lon: 98.020° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.52	5.2	1.9	-7777	0.0	0.15	0.45	0.83
2	0.48	4.9	1.9	-7777	0.0	0.25	0.39	0.57
3	0.89	5.7	3.0	0.3	-7777	0.36	0.81	1.21
4	1.18	5.5	3.1	0.5	0.1	0.46	0.93	1.57
5	2.91	9.2	6.1	2.0	0.5	1.58	2.50	3.90
6	3.59	10.0	7.4	2.2	0.6	2.09	3.27	4.84
7	2.89	8.7	6.0	1.7	0.5	1.70	2.30	3.19
8	2.64	7.2	4.7	1.8	0.9	1.80	2.40	3.39
9	2.40	7.1	4.5	1.3	0.4	1.34	2.21	2.91
10	1.82	5.7	4.2	1.2	0.4	0.47	1.59	2.45
11	0.72	5.1	2.5	0.2	-7777	0.20	0.54	1.19
12	0.58	5.3	1.8	0.1	0.0	0.24	0.48	0.78
Summary	20.62	79.6	47.1	11.3	3.4	10.64	17.87	26.83

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VALLEY CITY 3 NNW, ND US**

GHCND:USC00328937

Elev: 1211 ft. Lat: 46.956° N Lon: 98.020° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.0	5.3	3.4	1.1	0.3	0.0	@	@	@	@	2.6	8.0	16.0
2	6.6	4.3	2.5	0.5	-7777	0.0	@	@	@	@	4.0	7.5	9.3
3	4.7	3.8	2.5	0.6	0.2	0.0	@	@	@	@	1.5	4.2	8.3
4	2.1	1.1	0.8	0.2	0.1	-7777	@	@	@	@	0.0	0.5	2.0
5	-7777	-7777	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.5	0.3	0.3	-7777	0.0	0.0	@	@	@	@	0.0	0.0	1.0
11	3.8	3.4	2.4	0.6	0.1	0.0	@	@	@	@	0.3	2.0	5.0
12	8.7	5.1	3.3	0.7	0.3	-7777	@	@	@	@	3.9	9.2	12.0
Summary	35.4	23.3	15.2	3.7	1.0	0.0	9999	9999	9999	9999	12.3	31.4	53.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: VALLEY CITY 3 NNW, ND US

GHCND:USC00328937

Elev: 1211 ft. Lat: 46.956° N Lon: 98.020° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	145	459	721	902	846	516	185	21	-7777
45	0	-7777	3	77	319	572	747	691	373	102	7	-7777
50	0	-7777	1	36	198	423	592	536	245	48	1	0
55	0	0	-7777	15	106	283	437	384	140	19	-7777	0
60	0	0	-7777	5	47	163	288	242	69	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	123	290	443	580	539	323	137	21	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	156	615	1336	2238	3084	3600	3785	3806	-7777
45	0	-7777	3	80	399	971	1718	2409	2782	2884	2891	-7777
50	0	-7777	1	37	235	658	1250	1786	2031	2079	2080	2080
55	0	0	-7777	15	121	404	841	1225	1365	1384	-7777	1384
60	0	0	-7777	5	52	215	503	745	814	820	820	820
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	137	427	870	1450	1989	2312	2449	2470	-7777

M indicates the value is missing

-7777 indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOTTINEAU, ND US**

GHCND:USC00320941  
Elev: 1621 ft. Lat: 48.822° N Lon: 100.452° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.0	-4.2	5.9	7.4	8.2	7.7	0	0	0	0	0	0	1522	1584	1677	1832	0.0	0.0	0.0	26.8	31.0	17.0
2	21.1	0.7	10.9	6.9	8.2	7.4	0	0	0	0	0	0	1235	1291	1375	1515	0.0	0.0	0.3	21.3	27.9	13.3
3	33.5	14.3	23.9	5.9	5.7	5.6	-7777	-7777	-7777	0	0	0	964	1026	1119	1274	0.0	0.0	2.3	12.5	30.0	5.0
4	53.1	28.8	40.9	5.1	3.5	4.1	12	7	3	1	-7777	0	434	489	575	722	0.0	0.0	18.0	1.6	18.8	0.2
5	65.6	40.8	53.2	3.5	3.3	3.2	86	61	34	10	2	1	142	179	245	376	0.0	0.4	28.7	0.0	5.0	0.0
6	74.2	50.6	62.4	4.2	3.0	3.5	242	195	132	58	20	11	20	33	60	136	0.0	1.1	29.9	0.0	0.1	0.0
7	79.7	55.3	67.5	3.6	2.4	2.9	389	329	242	122	44	26	1	3	10	44	-7777	2.2	31.0	0.0	0.0	0.0
8	79.4	53.3	66.3	3.6	2.6	3.0	357	299	218	108	39	22	5	9	21	67	0.1	3.1	31.0	0.0	0.0	0.0
9	68.4	42.9	55.6	4.1	2.7	3.2	119	91	58	22	6	3	100	131	188	302	0.0	0.6	28.6	-7777	2.6	0.0
10	53.1	29.4	41.3	3.8	3.1	2.9	11	7	3	-7777	-7777	-7777	437	495	584	737	0.0	-7777	17.9	1.3	18.8	0.1
11	34.1	15.2	24.6	7.0	6.3	6.5	-7777	0	0	0	0	0	910	970	1060	1210	0.0	0.0	3.9	13.5	28.6	3.9
12	19.3	0.6	9.9	6.9	7.7	7.2	0	0	0	0	0	0	1396	1458	1551	1706	0.0	0.0	0.0	25.6	31.0	14.2
Summary	49.8	27.3	38.5	5.2	4.7	4.8	1216	989	690	321	111	63	7166	7668	8465	9921	0.1	7.4	191.6	102.6	193.8	53.7

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOTTINEAU, ND US**

GHCND:USC00320941  
Elev: 1621 ft. Lat: 48.822° N Lon: 100.452° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	6.5	1.8	0.1	0.0	0.27	0.49	0.67
2	0.42	4.7	1.3	-7777	-7777	0.19	0.27	0.50
3	0.77	5.4	2.0	0.4	-7777	0.40	0.61	1.20
4	1.00	6.7	2.8	0.4	0.1	0.42	0.84	1.16
5	2.48	9.9	5.7	1.6	0.3	1.42	2.13	3.21
6	3.55	12.5	7.8	2.2	0.6	2.28	3.12	4.42
7	2.67	10.0	5.5	1.8	0.6	1.47	2.43	3.68
8	2.42	8.6	5.2	1.3	0.6	1.31	1.77	3.14
9	1.49	7.7	3.9	0.7	0.2	0.91	1.43	2.17
10	1.28	7.4	3.2	0.7	0.3	0.40	1.00	1.67
11	0.76	6.3	2.1	0.3	0.0	0.20	0.62	1.19
12	0.58	6.1	1.9	0.1	0.0	0.28	0.53	0.65
Summary	17.97	91.8	43.2	9.6	2.7	9.55	15.24	23.66

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www.ncdc.noaa.gov

Station: **BOTTINEAU, ND US**

GHCND:USC00320941  
Elev: 1621 ft. Lat: 48.822° N Lon: 100.452° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.7	5.9	4.1	0.7	0.3	0.0	31.0	28.3	24.3	13.4	5.3	7.3	10.5
2	5.5	4.2	2.7	0.4	0.1	0.0	27.2	25.9	23.1	14.2	2.5	4.1	7.9
3	6.9	3.6	2.6	0.7	0.3	0.0	21.7	17.4	12.8	7.6	3.0	5.0	11.0
4	3.8	1.5	1.2	0.5	0.2	0.0	3.1	1.1	0.6	0.1	0.0	2.2	5.0
5	0.8	0.5	0.4	0.2	-7777	0.0	0.5	0.2	0.1	0.0	0.0	0.0	0.3
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	2.6	1.2	0.9	0.4	0.1	0.0	1.5	0.5	0.2	0.0	0.0	1.0	4.2
11	6.9	4.3	3.3	0.9	0.3	0.0	12.9	7.8	4.1	0.8	3.0	6.8	10.9
12	7.9	5.8	4.3	0.7	0.3	-7777	27.3	21.0	16.7	5.5	3.5	8.0	11.9
Summary	43.2	27.1	19.5	4.5	1.6	0.0	125.2	102.2	81.9	41.6	17.3	34.4	61.7

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**Summary of  
Monthly Normals  
1981-2010**

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOTTINEAU, ND US**

GHCND:USC00320941  
Elev: 1621 ft. Lat: 48.822° N Lon: 100.452° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	7	139	419	672	852	816	474	146	13	-7777
45	0	-7777	2	74	284	522	697	662	337	77	4	0
50	0	-7777	1	33	170	376	542	507	214	33	-7777	0
55	0	0	-7777	12	86	242	389	357	119	11	-7777	0
60	0	0	-7777	3	34	132	242	218	58	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	103	255	404	540	511	289	106	13	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	7	146	565	1237	2089	2905	3379	3525	3538	-7777
45	0	-7777	2	76	360	882	1579	2241	2578	2655	2659	2659
50	0	-7777	1	34	204	580	1122	1629	1843	1876	-7777	1876
55	0	0	-7777	12	98	340	729	1086	1205	1216	-7777	1216
60	0	0	-7777	3	37	169	411	629	687	690	690	690
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	110	365	769	1309	1820	2109	2215	2228	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAND FORKS UNIVERSITY, ND US**

GHCND:USC00323621  
Elev: 830 ft. Lat: 47.922° N Lon: 97.098° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.0	-1.3	7.4	7.1	7.4	7.2	0	0	0	0	0	0	1477	1539	1632	1787	0.0	0.0	-7777	27.0	31.0	16.5
2	22.4	4.6	13.5	7.1	8.3	7.6	0	0	0	0	0	0	1162	1218	1302	1442	0.0	0.0	0.2	20.5	27.5	11.4
3	34.6	17.6	26.1	5.1	5.0	4.9	-7777	-7777	-7777	-7777	0	0	896	958	1051	1206	0.0	0.0	2.7	11.8	28.2	3.4
4	54.5	31.5	43.0	5.2	3.5	4.1	21	14	8	3	1	-7777	381	435	518	663	0.0	0.1	18.9	1.2	16.4	0.0
5	68.2	43.3	55.8	4.4	3.8	3.8	131	100	62	23	6	3	108	139	194	310	0.0	0.4	29.1	0.0	3.7	0.0
6	76.6	53.9	65.3	3.9	3.2	3.3	315	261	187	91	34	21	8	14	30	83	0.0	1.7	30.0	0.0	0.0	0.0
7	81.2	58.4	69.8	3.4	2.7	3.0	459	397	308	171	70	44	-7777	1	4	23	-7777	2.9	31.0	0.0	0.0	0.0
8	80.4	56.2	68.3	3.5	2.9	3.0	414	354	268	144	57	35	2	4	11	41	0.1	2.9	31.0	0.0	0.0	0.0
9	69.7	46.3	58.0	3.4	2.5	2.7	154	119	77	30	9	5	64	89	137	240	-7777	0.4	29.4	0.0	1.2	0.0
10	54.1	34.0	44.1	3.8	2.9	2.9	19	12	6	1	-7777	-7777	358	414	501	650	0.0	-7777	19.9	0.9	12.6	0.0
11	34.9	19.1	27.0	6.4	5.8	5.9	-7777	-7777	-7777	-7777	0	0	840	900	990	1140	0.0	0.0	3.9	12.5	26.9	2.0
12	20.1	4.3	12.2	7.2	7.4	7.1	0	0	0	0	0	0	1327	1389	1482	1637	0.0	0.0	0.1	25.1	30.9	11.7
Summary	51.1	30.7	40.9	5.0	4.6	4.6	1513	1257	916	463	177	108	6623	7100	7852	9222	0.1	8.4	196.2	99.0	178.4	45.0

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAND FORKS UNIVERSITY, ND US**

GHCND:USC00323621

Elev: 830 ft. Lat: 47.922° N Lon: 97.098° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.71	6.3	1.9	0.2	0.1	0.26	0.53	0.84
2	0.59	6.2	2.1	0.1	0.0	0.30	0.45	0.78
3	1.02	6.4	3.1	0.6	0.0	0.42	0.63	1.67
4	0.98	6.4	2.8	0.5	0.1	0.41	0.81	1.37
5	2.75	9.2	5.4	1.8	0.6	1.33	2.38	4.02
6	3.74	11.0	6.5	2.4	0.7	1.93	3.68	5.11
7	3.17	9.8	6.0	2.0	0.8	1.63	2.59	4.00
8	3.14	8.9	5.4	2.0	0.8	2.34	2.83	4.26
9	2.05	8.2	4.6	1.2	0.4	1.02	1.88	2.64
10	1.92	8.0	3.9	1.1	0.5	0.61	1.89	2.76
11	0.90	5.5	2.4	0.2	-7777	0.34	0.60	1.36
12	0.65	6.6	2.1	0.1	0.0	0.35	0.60	0.90
Summary	21.62	92.5	46.2	12.2	4.0	10.94	18.87	29.71

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Station: **GRAND FORKS UNIVERSITY, ND US**

GHCND:USC00323621  
Elev: 830 ft. Lat: 47.922° N Lon: 97.098° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.4	7.2	2.9	1.1	0.5	0.1	28.6	24.1	17.4	7.2	3.0	6.7	12.8
2	6.9	5.9	2.3	0.6	0.2	-7777	22.1	18.4	12.5	5.1	3.4	6.0	9.8
3	6.4	4.1	1.9	0.7	0.4	-7777	14.7	9.4	6.9	1.5	1.5	6.0	9.1
4	1.0	1.1	0.5	0.1	0.0	0.0	1.0	0.5	0.1	0.0	0.0	0.0	1.1
5	0.1	0.1	0.0	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.0	1.0	0.4	0.1	-7777	-7777	0.6	0.2	0.1	0.1	0.0	0.1	1.2
11	6.1	3.7	1.9	0.6	0.1	-7777	7.6	3.7	1.3	0.5	2.0	3.9	8.5
12	10.9	7.8	3.2	1.0	0.4	-7777	25.1	15.5	7.1	2.0	4.2	7.2	12.6
Summary	42.8	30.9	13.1	4.2	1.6	0.1	99.7	71.8	45.4	16.4	14.1	29.9	55.1

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Station: **GRAND FORKS UNIVERSITY, ND US**

GHCND:USC00323621  
Elev: 830 ft. Lat: 47.922° N Lon: 97.098° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	171	493	757	924	877	541	192	17	-7777
45	0	-7777	3	96	353	608	769	722	397	105	6	-7777
50	0	0	1	48	229	459	614	567	264	49	1	0
55	0	0	-7777	21	131	315	459	414	154	19	-7777	0
60	0	0	-7777	8	62	187	308	268	77	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	118	303	470	602	564	319	112	11	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	182	675	1432	2356	3233	3774	3966	3983	-7777
45	0	-7777	3	99	452	1060	1829	2551	2948	3053	3059	-7777
50	0	0	1	49	278	737	1351	1918	2182	2231	2232	2232
55	0	0	-7777	21	152	467	926	1340	1494	1513	-7777	1513
60	0	0	-7777	8	70	257	565	833	910	916	-7777	916
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	127	430	900	1502	2066	2385	2497	2508	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WATFORD CITY, ND US**

GHCND:USC00329233  
Elev: 2169 ft. Lat: 47.804° N Lon: 103.289° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.2	2.0	12.6	7.4	8.9	8.1	0	0	0	0	0	0	1314	1376	1469	1624	0.0	0.0	0.4	20.4	30.8	13.4
2	29.0	6.5	17.7	7.8	8.0	7.8	0	0	0	0	0	0	1043	1099	1183	1323	0.0	0.0	1.7	15.6	27.7	8.4
3	40.4	17.0	28.7	6.5	5.3	5.7	-7777	-7777	-7777	-7777	0	0	815	877	970	1125	0.0	0.0	8.7	8.5	28.6	3.3
4	56.3	28.7	42.5	4.4	3.0	3.5	13	8	4	1	-7777	0	388	443	529	676	0.0	0.1	20.7	1.3	19.0	0.1
5	67.3	39.4	53.3	3.7	2.5	2.8	84	60	34	9	2	1	135	173	240	370	0.0	0.4	29.1	0.0	5.4	0.0
6	75.8	49.7	62.8	4.2	3.6	3.7	251	203	141	63	22	14	18	31	58	130	0.2	2.2	29.9	0.0	0.3	0.0
7	83.8	55.0	69.4	4.4	2.8	3.5	448	388	301	172	80	54	2	3	9	36	0.7	7.9	31.0	0.0	0.0	0.0
8	83.4	52.3	67.9	4.2	3.3	3.5	404	346	263	145	64	44	6	10	20	57	0.8	8.3	30.9	0.0	0.1	0.0
9	71.6	41.5	56.5	4.7	2.8	3.4	137	106	67	26	7	4	90	119	171	279	0.1	1.7	29.1	0.0	3.2	0.0
10	56.8	29.8	43.3	4.1	2.8	3.0	21	14	7	1	-7777	0	384	439	524	674	0.0	0.2	20.7	0.9	18.0	0.1
11	38.6	17.1	27.8	7.4	5.4	6.2	-7777	-7777	-7777	0	0	0	815	875	964	1114	0.0	0.0	6.8	9.4	28.1	3.0
12	25.8	5.6	15.7	7.8	7.2	7.4	0	0	0	0	0	0	1218	1280	1373	1528	0.0	0.0	0.8	19.4	30.9	9.9
Summary	54.3	28.7	41.5	5.6	4.6	4.9	1358	1125	817	417	175	117	6228	6725	7510	8936	1.8	20.8	209.8	75.5	192.1	38.2

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WATFORD CITY, ND US**

GHCND:USC00329233

Elev: 2169 ft. Lat: 47.804° N Lon: 103.289° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.56	7.4	1.8	0.1	0.0	0.26	0.41	0.78
2	0.35	5.6	1.1	0.2	0.0	0.13	0.26	0.47
3	0.62	7.3	1.7	0.1	0.1	0.26	0.46	0.77
4	0.85	7.5	2.9	0.3	0.0	0.33	0.88	1.10
5	2.20	11.9	6.3	1.3	0.3	1.62	2.07	2.65
6	3.00	12.9	7.1	2.3	0.3	1.93	2.56	4.07
7	2.59	10.0	5.4	1.8	0.9	1.55	2.32	3.27
8	1.42	8.9	3.7	0.7	0.2	0.90	1.40	2.07
9	1.00	7.3	3.2	0.2	0.0	0.55	0.78	1.51
10	1.03	6.8	2.9	0.6	0.2	0.48	0.83	1.50
11	0.58	6.1	2.1	0.1	0.1	0.17	0.41	0.87
12	0.47	7.6	1.7	0.1	0.0	0.30	0.46	0.63
Summary	14.67	99.3	39.9	7.8	2.1	8.48	12.84	19.69

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**Summary of  
Monthly Normals  
1981-2010**

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WATFORD CITY, ND US**

GHCND:USC00329233  
Elev: 2169 ft. Lat: 47.804° N Lon: 103.289° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.3	8.6	3.9	0.6	0.2	0.0	27.5	18.5	14.7	8.2	5.6	7.7	15.5
2	8.3	6.3	2.3	0.5	0.3	0.0	19.8	14.2	10.0	5.5	2.9	7.0	11.6
3	7.0	5.4	2.9	0.6	0.1	0.0	14.4	9.6	6.9	2.2	2.6	3.4	9.1
4	3.7	2.3	1.3	0.5	0.3	0.0	2.3	1.3	0.5	0.0	0.2	1.0	4.8
5	1.4	0.7	0.4	0.2	0.1	0.0	0.4	0.2	0.1	0.0	0.0	0.0	1.8
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	3.2	1.5	1.1	0.4	0.1	0.0	2.0	0.9	0.6	0.0	0.0	1.6	6.5
11	7.1	4.9	2.6	0.8	0.3	0.0	10.3	5.4	3.5	0.4	0.5	4.3	15.2
12	10.9	8.1	3.8	1.1	0.6	0.0	20.0	13.0	8.0	2.6	7.0	9.2	14.4
Summary	51.9	37.8	18.3	4.7	2.0	0.0	96.7	63.1	44.3	18.9	18.8	34.2	78.9

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WATFORD CITY, ND US**

GHCND:USC00329233

Elev: 2169 ft. Lat: 47.804° N Lon: 103.289° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	31	163	422	683	911	863	500	188	26	-7777
45	0	1	10	88	286	533	756	708	361	106	10	-7777
50	0	-7777	3	39	170	387	601	555	236	51	3	0
55	0	0	-7777	13	84	251	448	404	137	21	-7777	0
60	0	0	-7777	4	34	141	301	263	67	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	33	136	275	414	572	539	324	148	26	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	34	197	619	1302	2213	3076	3576	3764	3790	-7777
45	0	1	11	99	385	918	1674	2382	2743	2849	2859	-7777
50	0	-7777	3	42	212	599	1200	1755	1991	2042	2045	2045
55	0	0	-7777	13	97	348	796	1200	1337	1358	-7777	1358
60	0	0	-7777	4	38	179	480	743	810	817	-7777	817
Growing Degree Units for Corn (Monthly)												
50/86	1	5	38	174	449	863	1435	1974	2298	2446	2472	2473

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAGUE, ND US**

GHCND:USC00323826

Elev: 1896 ft. Lat: 46.025° N Lon: 99.991° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.34	5.7	1.0	-7777	0.0	0.20	0.27	0.48
2	0.38	5.4	1.4	-7777	0.0	0.19	0.30	0.47
3	0.84	6.5	2.3	0.4	0.1	0.37	0.74	1.28
4	1.41	7.2	3.8	0.8	0.1	0.60	1.28	1.83
5	2.64	10.1	6.3	1.6	0.4	1.17	2.45	3.95
6	3.38	10.7	6.8	2.2	0.8	1.93	3.33	4.10
7	2.91	8.5	5.8	1.6	0.6	1.55	2.31	3.75
8	2.04	6.8	3.9	1.3	0.5	1.39	1.86	2.41
9	1.58	6.6	3.7	0.9	0.3	0.74	1.12	2.28
10	1.70	6.9	3.7	1.0	0.4	0.53	1.19	2.37
11	0.56	5.3	2.2	0.2	0.0	0.13	0.42	0.83
12	0.39	5.9	1.2	0.1	0.0	0.19	0.27	0.53
Summary	18.17	85.6	42.1	10.1	3.2	8.99	15.54	24.28

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAGUE, ND US**

GHCND:USC00323826

Elev: 1896 ft. Lat: 46.025° N Lon: 99.991° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.1	5.3	2.1	0.6	0.1	-7777	23.7	16.1	10.1	4.3	1.9	6.1	8.9
2	5.7	4.8	2.1	0.6	0.1	-7777	18.7	12.2	8.4	4.0	2.5	4.3	7.2
3	6.8	4.7	2.5	0.7	0.3	-7777	13.3	8.1	4.7	2.4	2.4	4.5	11.0
4	3.8	2.1	1.3	0.4	0.2	0.1	1.8	0.9	0.6	0.1	0.2	2.6	5.7
5	0.2	0.1	-7777	-7777	-7777	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	-7777	-7777	-7777	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	0.9	0.8	0.3	0.2	-7777	0.0	0.3	0.1	0.0	0.0	0.0	0.0	1.7
11	6.3	3.7	2.0	0.8	0.3	-7777	9.0	4.2	2.7	1.1	1.0	3.5	7.2
12	5.7	5.3	2.1	0.6	0.1	-7777	17.4	10.2	7.2	3.0	2.5	4.9	8.7
Summary	35.6	26.8	12.4	3.9	1.1	0.1	84.2	51.8	33.7	14.9	10.5	25.9	50.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **DUNN CENTER 1 E, ND US**

GHCND:USC00322365  
Elev: 2205 ft. Lat: 47.347° N Lon: 102.587° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.0	1.2	14.1	7.6	8.5	7.9	0	0	0	0	0	0	1268	1330	1423	1578	0.0	0.0	0.7	17.3	30.8	13.7
2	31.5	6.3	18.9	7.4	8.4	7.8	0	0	0	0	0	0	1011	1067	1151	1291	0.0	0.0	2.6	13.3	27.7	9.5
3	42.7	15.8	29.3	6.2	6.1	5.8	-7777	-7777	-7777	0	0	0	798	860	953	1108	0.0	0.0	10.2	6.8	29.7	3.7
4	58.1	27.8	43.0	4.5	2.9	3.4	14	9	4	1	-7777	-7777	376	430	516	663	0.0	0.1	22.4	0.6	20.5	0.1
5	68.4	39.4	53.9	4.2	3.0	3.3	91	65	37	12	3	1	125	161	226	356	0.0	0.6	29.4	0.0	6.2	0.0
6	76.8	47.8	62.3	4.4	3.2	3.6	236	189	128	58	21	13	17	30	59	139	0.1	2.9	30.0	0.0	0.3	0.0
7	85.6	53.2	69.4	4.7	2.8	3.5	447	386	298	167	73	48	1	2	7	31	1.3	9.4	31.0	0.0	0.0	0.0
8	85.6	51.6	68.6	3.8	2.6	3.0	426	367	283	159	70	45	5	8	16	48	1.3	10.8	31.0	0.0	0.3	0.0
9	73.3	40.6	57.0	4.7	2.5	3.3	141	109	69	27	8	4	83	110	161	269	0.1	2.9	29.0	0.0	3.9	0.0
10	58.2	29.3	43.8	4.2	2.6	2.9	17	11	5	1	-7777	-7777	366	422	509	660	0.0	0.1	22.7	1.1	18.9	0.1
11	40.5	16.1	28.3	7.2	5.4	6.0	-7777	-7777	0	0	0	0	801	861	951	1101	0.0	0.0	7.5	8.0	28.6	2.9
12	28.7	3.2	16.0	7.3	7.7	7.1	0	0	0	0	0	0	1210	1272	1365	1520	0.0	0.0	1.2	16.1	31.0	12.1
Summary	56.4	27.7	42.0	5.5	4.6	4.8	1372	1136	824	425	175	111	6061	6553	7337	8764	2.8	26.8	217.7	63.2	197.9	42.1

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Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DUNN CENTER 1 E, ND US**

GHCND:USC00322365

Elev: 2205 ft. Lat: 47.347° N Lon: 102.587° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.38	5.1	1.4	0.1	0.0	0.14	0.26	0.57
2	0.31	4.6	1.1	0.2	-7777	0.15	0.24	0.36
3	0.54	5.7	2.5	0.1	0.0	0.26	0.53	0.75
4	1.21	6.4	3.0	0.8	0.3	0.70	0.99	1.54
5	2.34	8.7	5.1	1.3	0.4	1.58	2.05	2.70
6	3.22	10.4	7.0	2.6	1.0	2.22	3.07	4.26
7	2.47	8.0	5.0	2.0	0.7	1.25	2.21	3.61
8	1.43	6.8	3.5	0.9	0.3	0.63	1.37	2.17
9	1.31	5.7	3.5	0.8	0.3	0.69	0.96	1.81
10	1.38	5.3	2.9	0.9	0.2	0.54	0.96	1.88
11	0.67	4.9	2.3	0.3	0.0	0.21	0.42	1.00
12	0.33	5.1	1.5	0.1	0.0	0.18	0.32	0.49
Summary	15.59	76.7	38.8	10.1	3.2	8.55	13.38	21.14

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DUNN CENTER 1 E, ND US**

GHCND:USC00322365  
Elev: 2205 ft. Lat: 47.347° N Lon: 102.587° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.0	4.6	2.4	0.7	0.1	0.0	@	@	@	@	1.8	4.1	8.9
2	5.4	3.8	1.9	0.4	0.1	-7777	@	@	@	@	1.5	5.0	7.0
3	6.8	4.2	3.0	0.9	0.2	0.0	@	@	@	@	2.6	4.1	10.9
4	4.6	1.8	1.2	0.5	0.4	-7777	@	@	@	@	0.8	3.0	6.6
5	0.5	0.4	0.3	0.2	0.2	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.1	0.9	0.6	0.2	0.1	0.0	@	@	@	@	0.0	0.5	2.0
11	6.7	3.6	2.2	0.7	0.3	0.0	@	@	@	@	1.4	5.7	9.8
12	5.4	5.0	2.8	0.7	0.2	0.0	@	@	@	@	4.5	6.0	6.9
Summary	38.6	24.4	14.4	4.3	1.6	0.0	9999	9999	9999	9999	12.6	28.4	52.1

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **DUNN CENTER 1 E, ND US**

GHCND:USC00322365  
Elev: 2205 ft. Lat: 47.347° N Lon: 102.587° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	27	165	438	669	911	886	513	193	22	1
45	-7777	-7777	9	87	301	520	756	731	373	107	7	-7777
50	0	-7777	2	39	181	373	601	577	245	48	1	0
55	0	0	-7777	14	91	236	447	426	141	17	-7777	0
60	0	0	-7777	4	37	128	298	283	69	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	2	5	41	152	293	416	573	556	346	163	30	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	31	196	634	1303	2214	3100	3613	3806	3828	3829
45	-7777	-7777	9	96	397	917	1673	2404	2777	2884	2891	-7777
50	0	-7777	2	41	222	595	1196	1773	2018	2066	2067	2067
55	0	0	-7777	14	105	341	788	1214	1355	1372	-7777	1372
60	0	0	-7777	4	41	169	467	750	819	824	824	824
Growing Degree Units for Corn (Monthly)												
50/86	2	7	48	200	493	909	1482	2038	2384	2547	2577	2579

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: LISBON, ND US

GHCND:USC00325220

Elev: 1106 ft. Lat: 46.439° N Lon: 97.686° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.4	1.5	11.0	7.6	7.9	7.6	0	0	0	0	0	0	1365	1427	1520	1675	0.0	0.0	0.1	23.5	30.9	14.6
2	26.2	6.6	16.4	6.9	8.0	7.4	-7777	0	0	0	0	0	1081	1137	1221	1361	0.0	0.0	1.0	17.1	27.1	10.1
3	38.3	19.0	28.7	5.8	4.6	4.9	-7777	-7777	-7777	0	0	0	817	879	972	1127	0.0	0.0	5.2	9.1	27.9	2.8
4	56.9	31.6	44.3	5.2	2.9	3.6	22	15	7	2	-7777	-7777	344	397	480	624	0.0	0.1	20.7	0.9	15.7	0.0
5	69.2	44.5	56.8	3.6	2.9	2.7	141	106	65	23	6	3	83	111	163	276	0.0	0.7	29.4	0.0	2.1	0.0
6	78.2	54.9	66.6	3.8	3.0	3.1	352	297	220	115	47	30	6	10	23	68	0.1	2.9	30.0	0.0	0.0	0.0
7	83.6	59.8	71.7	3.8	3.6	2.9	518	456	365	221	106	72	-7777	1	2	14	0.3	6.3	31.0	0.0	0.0	0.0
8	82.5	57.3	69.9	3.5	2.7	3.0	463	402	314	182	83	55	1	3	7	30	0.6	5.1	31.0	0.0	0.0	0.0
9	72.3	46.3	59.3	3.5	2.7	2.8	185	146	98	43	16	9	56	77	119	214	0.1	1.6	29.5	0.0	1.7	0.0
10	57.7	33.6	45.7	4.2	3.5	3.0	25	16	8	2	-7777	0	314	368	453	602	0.0	0.1	23.0	0.5	13.7	0.0
11	39.3	20.6	29.9	6.8	5.2	5.7	1	-7777	-7777	-7777	0	0	752	812	902	1051	0.0	0.0	6.3	9.0	25.6	1.5
12	24.5	7.1	15.8	7.4	7.6	7.3	0	0	0	0	0	0	1215	1277	1370	1525	0.0	0.0	0.3	20.8	30.7	9.6
Summary	54.1	31.9	43.0	5.2	4.6	4.5	1707	1438	1077	588	258	169	6034	6499	7232	8567	1.1	16.8	207.5	80.9	175.4	38.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LISBON, ND US

GHCND:USC00325220

Elev: 1106 ft. Lat: 46.439° N Lon: 97.686° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.64	4.4	1.9	0.2	0.0	0.11	0.55	0.92
2	0.50	3.2	1.7	0.1	0.0	0.22	0.42	0.73
3	1.09	4.7	3.1	0.6	0.2	0.50	0.89	1.49
4	1.60	5.9	3.7	1.0	0.2	0.71	1.24	2.20
5	2.95	9.2	5.9	2.1	0.5	1.97	2.84	3.80
6	3.16	10.1	6.4	2.0	0.9	1.60	3.16	4.01
7	3.14	8.9	5.6	1.8	0.7	1.66	2.60	3.91
8	2.11	7.0	4.1	1.4	0.5	1.43	1.94	2.81
9	2.55	7.4	4.0	1.3	0.5	1.40	2.22	3.18
10	2.12	6.3	3.8	1.4	0.5	0.94	1.49	3.16
11	0.74	4.7	2.5	0.3	-7777	0.24	0.57	0.82
12	0.53	4.0	1.9	0.2	0.0	0.19	0.44	0.69
Summary	21.13	75.8	44.6	12.4	4.0	10.97	18.36	27.72

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Station: LISBON, ND US

GHCND:USC00325220

Elev: 1106 ft. Lat: 46.439° N Lon: 97.686° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.6	4.8	3.0	1.2	0.4	0.0	@	@	@	@	4.9	9.3	13.5
2	5.3	2.9	1.9	0.8	0.2	0.0	@	@	@	@	2.0	3.8	7.0
3	8.2	3.2	2.3	1.3	0.6	0.1	@	@	@	@	3.5	8.0	10.5
4	3.2	0.9	0.8	0.3	0.2	-7777	@	@	@	@	0.0	0.0	4.5
5	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.4	0.3	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
11	8.8	3.7	2.5	1.5	0.4	-7777	@	@	@	@	1.2	6.4	15.6
12	7.2	4.7	3.3	0.8	0.3	-7777	@	@	@	@	2.7	4.0	6.5
Summary	42.7	20.5	14.0	6.0	2.1	0.1	9999	9999	9999	9999	14.3	31.5	57.6

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Station: LISBON, ND US

GHCND:USC00325220  
Elev: 1106 ft. Lat: 46.439° N Lon: 97.686° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	19	191	524	796	983	927	580	225	32	-7777
45	0	-7777	5	107	378	646	828	772	436	128	12	-7777
50	0	-7777	1	52	248	497	673	617	300	62	3	0
55	0	-7777	-7777	22	141	352	518	463	185	25	1	0
60	0	0	-7777	7	65	220	365	314	98	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	142	319	505	648	600	360	150	25	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	21	212	736	1532	2515	3442	4022	4247	4279	-7777
45	0	-7777	5	112	490	1136	1964	2736	3172	3300	3312	-7777
50	0	-7777	1	53	301	798	1471	2088	2388	2450	2453	2453
55	0	-7777	-7777	22	163	515	1033	1496	1681	1706	1707	1707
60	0	0	-7777	7	72	292	657	971	1069	1077	-7777	1077
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	164	483	988	1636	2236	2596	2746	2771	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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## Summary of Monthly Normals 1981-2010

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www.ncdc.noaa.gov

Station: **UNDERWOOD, ND US**

GHCND:USC00328872

Elev: 2044 ft. Lat: 47.455° N Lon: 101.146° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.4	0.6	10.0	7.7	8.2	7.9	0	0	0	0	0	0	1395	1457	1550	1705	0.0	0.0	-7777	23.8	30.9	14.4
2	24.5	5.0	14.8	7.4	7.5	7.3	0	0	0	0	0	0	1127	1183	1267	1407	0.0	0.0	0.7	18.4	27.7	10.5
3	37.0	16.8	26.9	6.3	5.3	5.6	1	-7777	-7777	0	0	0	871	933	1026	1181	0.0	0.0	5.3	10.3	29.4	3.3
4	54.6	30.0	42.3	5.1	3.1	3.9	17	11	6	1	-7777	-7777	398	452	537	683	0.0	-7777	19.3	1.4	17.7	-7777
5	66.4	42.4	54.4	3.8	3.4	3.4	104	76	43	14	3	2	123	157	217	342	0.0	0.1	28.4	0.0	3.4	0.0
6	75.4	52.4	63.9	4.4	2.9	3.5	280	229	160	75	28	18	13	22	43	108	0.1	1.5	29.9	0.0	0.0	0.0
7	82.1	57.7	69.9	3.9	2.1	2.8	462	402	312	177	76	50	1	2	5	25	0.3	5.4	31.0	0.0	0.0	0.0
8	81.9	55.3	68.6	3.9	2.4	3.0	424	364	280	157	67	43	2	5	14	45	0.2	6.1	31.0	0.0	0.0	0.0
9	70.7	45.3	58.0	4.3	2.2	3.1	162	127	83	34	10	5	72	97	143	244	0.0	1.1	29.0	0.0	1.4	0.0
10	55.4	31.8	43.6	4.0	2.4	2.8	21	13	6	1	-7777	-7777	374	429	514	665	0.0	0.1	20.1	1.3	15.8	-7777
11	36.2	17.8	27.0	7.3	5.3	6.1	-7777	-7777	-7777	0	0	0	840	900	990	1140	0.0	0.0	5.0	11.4	27.8	2.2
12	22.6	5.2	13.9	7.2	7.3	7.1	0	0	0	0	0	0	1274	1336	1429	1584	0.0	0.0	0.1	22.0	30.9	10.6
Summary	52.2	30.0	41.1	5.4	4.3	4.7	1471	1222	890	459	184	118	6490	6973	7735	9129	0.6	14.3	199.8	88.6	185.0	41.0

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Station: **UNDERWOOD, ND US**

GHCND:USC00328872  
Elev: 2044 ft. Lat: 47.455° N Lon: 101.146° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	5.6	2.2	0.1	0.0	0.32	0.51	0.87
2	0.46	4.8	1.4	0.1	0.0	0.19	0.31	0.60
3	0.83	6.2	2.3	0.2	0.1	0.43	0.75	1.12
4	1.49	6.7	3.6	1.0	0.1	0.72	1.04	2.11
5	2.53	9.8	5.5	1.9	0.4	1.47	1.93	3.14
6	3.64	11.5	7.0	2.7	0.8	2.79	3.23	4.43
7	2.47	9.0	5.5	1.8	0.3	1.17	2.14	2.69
8	1.63	6.6	3.9	0.9	0.3	0.73	1.40	2.47
9	1.27	7.3	3.6	0.6	0.1	0.70	1.18	1.63
10	1.37	6.3	2.9	0.6	0.2	0.41	0.82	1.72
11	0.80	5.7	2.1	0.4	0.1	0.13	0.61	1.22
12	0.56	6.5	1.9	0.1	0.0	0.24	0.38	0.67
Summary	17.64	86.0	41.9	10.4	2.4	9.30	14.30	22.67

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **UNDERWOOD, ND US**

GHCND:USC00328872  
Elev: 2044 ft. Lat: 47.455° N Lon: 101.146° W

Snow (in.)													
	Totals	Mean Number of Days						Snow Probabilities Probability that snow will be equal to or less than the indicated amount					
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.4	4.7	2.7	1.3	0.5	0.1	@	@	@	@	2.8	5.7	16.1
2	5.4	4.6	1.9	0.7	0.1	0.0	@	@	@	@	2.9	5.0	9.0
3	5.0	3.1	1.3	0.4	0.2	-7777	@	@	@	@	1.6	4.1	7.9
4	2.5	0.8	0.7	0.3	0.1	-7777	@	@	@	@	0.0	0.0	4.9
5	0.7	0.3	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.1	0.9	0.5	0.2	0.1	0.0	@	@	@	@	0.0	0.0	2.0
11	4.1	2.8	1.3	0.6	0.5	0.1	@	@	@	@	0.0	0.6	4.2
12	12.7	6.2	3.3	1.4	0.6	0.1	@	@	@	@	3.8	8.9	23.4
Summary	39.9	23.4	11.9	5.0	2.1	0.3	9999	9999	9999	9999	11.1	24.3	67.5

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **UNDERWOOD, ND US**

GHCND:USC00328872  
Elev: 2044 ft. Lat: 47.455° N Lon: 101.146° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	162	454	717	927	886	542	192	18	-7777
45	0	-7777	5	89	317	567	772	731	401	109	6	0
50	0	-7777	2	43	197	420	617	577	270	53	2	0
55	0	0	1	17	104	280	462	424	162	21	-7777	0
60	0	0	-7777	6	43	160	312	280	83	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	17	120	272	433	594	560	327	132	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	17	179	633	1350	2277	3163	3705	3897	3915	-7777
45	0	-7777	5	94	411	978	1750	2481	2882	2991	2997	2997
50	0	-7777	2	45	242	662	1279	1856	2126	2179	2181	2181
55	0	0	1	18	122	402	864	1288	1450	1471	-7777	1471
60	0	0	-7777	6	49	209	521	801	884	890	-7777	890
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	138	410	843	1437	1997	2324	2456	2473	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **NORTHGATE 5 ESE, ND US**

GHCND:USW00094084  
Elev: 1841 ft. Lat: 48.968° N Lon: 102.170° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.7	-3.6	7.1				0	0	0	0	0	0	1486	1548	1641	1796	0.0	0.0	0.0	27.2	31.0	18.7
2	22.5	0.8	11.7				0	0	0	0	0	0	1214	1270	1354	1493	0.0	0.0	0.0	22.8	28.0	13.3
3	34.8	15.7	25.3				0	0	0	0	0	0	922	984	1077	1232	0.0	0.0	2.8	12.8	29.5	3.3
4	54.0	27.5	40.8				5	2	1	-7777	-7777	-7777	433	490	579	728	0.0	0.0	20.5	0.3	21.8	0.0
5	66.2	39.5	52.9				59	39	17	4	1	-7777	126	167	239	380	0.0	0.3	29.7	0.0	5.0	0.0
6	74.1	49.1	61.6				209	158	91	22	3	1	11	20	43	124	0.0	0.3	30.0	0.0	0.0	0.0
7	79.4	52.7	66.1				343	282	195	77	21	11	1	2	7	44	0.0	1.5	31.0	0.0	0.0	0.0
8	80.4	51.4	65.9				339	280	197	84	23	11	2	5	15	57	0.0	3.0	31.0	0.0	0.0	0.0
9	68.8	40.1	54.5				98	71	42	14	3	1	114	148	209	331	0.0	0.8	28.3	0.0	4.5	0.0
10	54.1	28.6	41.4				6	3	1	-7777	0	0	430	489	579	733	0.0	0.0	18.7	0.9	22.1	0.0
11	35.1	14.8	24.9				0	0	0	0	0	0	901	961	1051	1201	0.0	0.0	4.2	11.6	28.6	4.2
12	20.7	1.4	11.1				0	0	0	0	0	0	1362	1424	1517	1671	0.0	0.0	0.0	27.7	31.0	13.6
Summary	50.6	26.5	38.6	9999	9999	9999	1059	835	544	201	51	24	7002	7508	8311	9790	0.0	5.9	196.2	103.3	201.5	53.1

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NORTHGATE 5 ESE, ND US**

GHCND:USW00094084

Elev: 1841 ft. Lat: 48.968° N Lon: 102.170° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.48	@	@	@	@			
2	0.36	@	@	@	@			
3	0.70	@	@	@	@			
4	0.97	@	@	@	@			
5	2.21	@	@	@	@			
6	2.82	@	@	@	@			
7	3.05	@	@	@	@			
8	1.99	@	@	@	@			
9	1.21	@	@	@	@			
10	1.13	@	@	@	@			
11	0.58	@	@	@	@			
12	0.40	@	@	@	@			
Summary	15.90	9999	9999	9999	9999	9999	9999	9999

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Monthly Normals  
1981-2010**

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Station: **NORTHGATE 5 ESE, ND US**

GHCND:USW00094084  
Elev: 1841 ft. Lat: 48.968° N Lon: 102.170° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	10	112	401	648	807	801	438	125	9	-7777
45	0	0	5	47	261	497	652	646	303	58	2	0
50	0	-7777	1	17	142	348	497	491	188	21	-7777	0
55	0	0	0	5	59	209	343	339	98	6	0	0
60	0	0	0	1	17	91	195	197	42	1	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	12	102	254	386	506	504	288	110	12	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	10	122	523	1171	1978	2779	3217	3342	3351	-7777
45	0	0	5	52	313	810	1462	2108	2411	2469	2471	2471
50	0	-7777	1	18	160	508	1005	1496	1684	1705	-7777	1705
55	0	0	0	5	64	273	616	955	1053	1059	1059	1059
60	0	0	0	1	18	109	304	501	543	544	544	544
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	12	114	368	754	1260	1764	2052	2162	2174	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **AMIDON, ND US**

GHCND:USC00320209

Elev: 2910 ft. Lat: 46.482° N Lon: 103.322° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	29.0	6.4	17.7	7.0	7.8	7.2	0	0	0	0	0	0	1156	1218	1311	1466	0.0	0.0	1.2	15.8	30.6	10.0
2	34.2	10.7	22.5	7.7	7.7	7.6	-7777	-7777	0	0	0	0	911	967	1051	1191	0.0	0.0	3.9	10.8	27.2	7.0
3	43.6	19.8	31.7	6.5	4.9	5.6	2	1	-7777	0	0	0	724	785	877	1032	0.0	0.0	10.6	6.5	27.2	2.5
4	57.2	30.8	44.0	4.4	2.7	3.3	23	15	7	1	-7777	-7777	353	405	487	632	0.0	0.1	21.3	0.9	16.6	-7777
5	67.3	41.3	54.3	4.2	3.0	3.4	103	75	43	14	3	1	124	159	219	346	-7777	0.4	28.6	0.0	4.0	0.0
6	77.0	50.5	63.8	4.6	3.3	3.8	279	229	163	79	31	20	16	27	51	117	0.3	3.0	29.9	0.0	0.1	0.0
7	85.8	56.7	71.2	4.7	2.2	3.3	505	444	354	217	108	75	1	2	6	24	1.5	10.7	31.0	0.0	0.0	0.0
8	85.8	55.0	70.4	4.3	2.8	3.4	480	420	333	202	98	67	3	5	10	35	1.2	11.6	31.0	0.0	-7777	0.0
9	73.7	44.4	59.0	4.6	2.9	3.5	193	155	108	50	18	11	72	94	136	229	0.2	3.0	28.6	-7777	2.2	0.0
10	58.9	32.3	45.6	4.1	2.8	3.2	33	23	12	3	-7777	-7777	325	376	459	604	0.0	0.1	22.7	0.9	14.6	0.1
11	42.6	19.9	31.2	7.6	5.3	6.3	2	1	1	-7777	0	0	715	774	863	1013	0.0	0.0	9.5	7.1	25.8	2.1
12	30.9	8.5	19.7	7.6	7.5	7.4	0	0	0	0	0	0	1094	1156	1249	1404	0.0	0.0	2.3	14.2	30.6	7.8
Summary	57.2	31.4	44.3	5.6	4.4	4.8	1620	1363	1021	566	258	174	5494	5968	6719	8093	3.2	28.9	220.6	56.2	178.9	29.5

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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **AMIDON, ND US**

GHCND:USC00320209

Elev: 2910 ft. Lat: 46.482° N Lon: 103.322° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.35	4.3	1.2	-7777	0.0	0.16	0.27	0.50
2	0.30	2.8	0.8	-7777	0.0	0.10	0.24	0.43
3	0.69	4.8	1.8	0.2	0.1	0.22	0.53	0.75
4	0.90	5.4	2.8	0.3	-7777	0.55	0.89	1.20
5	2.35	8.0	4.6	1.2	0.3	1.01	2.30	3.11
6	2.84	9.8	6.0	2.0	0.5	1.77	2.90	3.48
7	2.28	7.8	5.3	1.4	0.3	1.37	1.99	2.85
8	1.34	5.5	3.4	0.6	0.2	0.68	1.26	1.73
9	1.38	5.0	3.3	0.8	0.2	0.58	1.08	2.06
10	1.14	4.3	2.2	0.6	0.1	0.18	0.67	1.38
11	0.45	3.9	1.8	0.2	-7777	0.08	0.25	0.70
12	0.41	3.4	1.2	0.1	-7777	0.27	0.43	0.51
Summary	14.43	65.0	34.4	7.4	1.7	6.97	12.81	18.70

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Station: **AMIDON, ND US**

GHCND:USC00320209

Elev: 2910 ft. Lat: 46.482° N Lon: 103.322° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.3	2.8	1.7	0.5	0.2	0.0	@	@	@	@	2.1	7.0	9.0
2	5.5	2.0	1.3	0.5	0.2	-7777	@	@	@	@	1.0	4.5	9.4
3	3.9	1.8	1.3	0.4	0.1	0.0	@	@	@	@	0.5	3.5	6.5
4	3.1	0.7	0.6	0.3	0.2	-7777	@	@	@	@	0.0	1.0	5.7
5	0.4	0.2	0.2	0.1	-7777	-7777	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.4	0.5	0.4	0.2	-7777	0.0	@	@	@	@	0.0	0.0	2.5
11	3.4	1.8	1.6	0.5	0.1	0.0	@	@	@	@	0.0	0.3	7.9
12	3.1	2.3	1.4	0.5	0.1	0.0	@	@	@	@	0.3	2.0	5.1
Summary	27.1	12.1	8.5	3.0	0.9	0.0	9999	9999	9999	9999	3.9	18.3	46.1

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **AMIDON, ND US**

GHCND:USC00320209  
Elev: 2910 ft. Lat: 46.482° N Lon: 103.322° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	9	51	194	452	712	968	942	576	240	48	3
45	-7777	2	20	111	313	563	813	787	436	146	22	-7777
50	-7777	1	7	55	193	416	659	633	306	76	9	-7777
55	0	-7777	2	23	103	279	505	480	193	33	2	0
60	0	0	-7777	7	43	163	354	333	108	12	1	0
Growing Degree Units for Corn (Monthly)												
50/86	3	11	50	148	281	435	609	589	362	173	44	5

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	12	63	257	709	1421	2389	3331	3907	4147	4195	4198
45	-7777	2	22	133	446	1009	1822	2609	3045	3191	3213	-7777
50	-7777	1	8	63	256	672	1331	1964	2270	2346	2355	-7777
55	0	-7777	2	25	128	407	912	1392	1585	1618	1620	1620
60	0	0	-7777	7	50	213	567	900	1008	1020	1021	1021
Growing Degree Units for Corn (Monthly)												
50/86	3	14	64	212	493	928	1537	2126	2488	2661	2705	2710

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **JAMESTOWN STATE HOSPITAL, ND US**

GHCND:USC00324418

Elev: 1467 ft. Lat: 46.884° N Lon: 98.685° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.5	0.3	9.4	7.6	8.1	7.7	0	0	0	0	0	0	1413	1475	1568	1723	0.0	0.0	0.1	24.7	30.8	15.3
2	23.7	5.2	14.5	6.8	7.5	7.0	0	0	0	0	0	0	1135	1191	1275	1415	0.0	0.0	0.7	19.0	27.7	11.0
3	36.0	17.6	26.8	5.6	5.0	5.1	-7777	-7777	-7777	0	0	0	874	936	1029	1184	0.0	0.0	4.0	10.7	29.0	3.0
4	54.3	30.0	42.1	5.2	3.0	3.9	16	10	5	1	-7777	-7777	401	456	540	687	0.0	-7777	19.5	1.6	18.2	0.0
5	67.7	42.5	55.1	4.0	3.3	3.3	114	84	49	16	4	2	111	143	201	323	0.0	0.3	29.1	0.0	3.6	0.0
6	76.3	53.0	64.7	3.9	2.9	3.2	298	245	174	81	29	17	9	16	34	91	-7777	1.8	30.0	0.0	-7777	0.0
7	82.2	58.3	70.3	3.8	2.2	2.8	473	411	321	182	76	48	-7777	1	3	19	0.3	4.5	31.0	0.0	0.0	0.0
8	81.1	55.2	68.2	3.7	2.6	3.0	410	351	267	146	60	37	2	5	14	48	0.3	4.2	31.0	0.0	0.0	0.0
9	70.2	44.9	57.5	3.8	2.6	3.0	151	117	76	31	9	4	74	100	149	255	-7777	0.8	29.1	0.0	1.7	0.0
10	55.2	32.8	44.0	4.1	2.8	3.0	19	12	5	1	-7777	-7777	360	415	501	652	0.0	0.0	20.3	1.0	14.7	-7777
11	36.5	18.7	27.6	7.0	5.1	5.8	-7777	-7777	-7777	0	0	0	822	882	972	1122	0.0	0.0	5.0	11.5	27.5	1.9
12	21.8	5.6	13.7	7.3	7.2	7.1	0	0	0	0	0	0	1280	1342	1435	1590	0.0	0.0	0.1	22.5	30.7	10.7
Summary	52.0	30.3	41.2	5.2	4.4	4.6	1481	1230	897	458	178	108	6481	6962	7721	9109	0.6	11.6	199.9	91.0	183.9	41.9

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN STATE HOSPITAL, ND US**

GHCND:USC00324418

Elev: 1467 ft. Lat: 46.884° N Lon: 98.685° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.50	5.7	2.0	0.1	0.0	0.20	0.36	0.76
2	0.39	4.6	1.7	0.1	0.0	0.23	0.35	0.50
3	0.91	5.4	2.5	0.6	-7777	0.30	0.75	1.30
4	1.15	6.6	3.2	0.6	0.2	0.47	0.99	1.37
5	2.67	9.5	5.5	1.7	0.5	0.90	2.20	3.69
6	3.46	11.5	6.8	2.0	0.9	1.93	2.84	5.30
7	3.29	10.3	6.3	2.1	0.8	1.53	2.72	4.10
8	2.13	7.9	4.8	1.3	0.4	1.19	1.89	2.57
9	2.25	7.6	4.4	1.2	0.6	1.22	2.12	2.77
10	1.69	6.5	3.5	1.2	0.4	0.44	1.33	2.29
11	0.73	5.1	2.1	0.3	-7777	0.14	0.62	1.03
12	0.43	5.0	1.5	0.1	-7777	0.16	0.32	0.55
Summary	19.60	85.7	44.3	11.3	3.8	8.71	16.49	26.23

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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**Summary of  
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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN STATE HOSPITAL, ND US**

GHCND:USC00324418

Elev: 1467 ft. Lat: 46.884° N Lon: 98.685° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.3	4.6	3.5	1.3	0.4	0.0	26.4	19.6	14.9	7.1	3.0	12.8	14.1
2	6.4	4.0	3.2	0.9	0.1	-7777	20.4	16.4	12.3	5.7	2.0	5.1	10.5
3	5.6	3.0	2.3	1.0	0.4	0.1	11.6	8.8	6.2	3.1	1.3	3.0	5.3
4	2.2	0.7	0.6	0.3	0.2	0.0	2.0	1.3	0.7	0.3	0.0	0.0	5.0
5	0.3	0.1	0.1	-7777	-7777	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.5	0.4	0.4	0.1	-7777	0.0	0.3	-7777	0.0	0.0	0.0	0.0	0.5
11	6.0	3.0	2.4	1.0	0.3	-7777	8.0	5.2	3.1	1.2	2.0	5.0	9.3
12	7.2	4.4	3.3	0.9	0.3	-7777	17.9	10.0	8.4	6.5	2.2	4.5	10.2
Summary	38.5	20.2	15.8	5.5	1.7	0.1	86.8	61.4	45.7	23.9	10.5	30.4	54.9

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN STATE HOSPITAL, ND US**

GHCND:USC00324418

Elev: 1467 ft. Lat: 46.884° N Lon: 98.685° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	154	473	739	937	872	528	193	21	-7777
45	-7777	-7777	3	83	333	590	783	718	386	107	7	-7777
50	0	0	1	39	210	441	628	563	256	51	1	0
55	0	0	-7777	16	114	298	473	410	151	19	-7777	0
60	0	0	-7777	5	49	174	321	267	76	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	116	290	454	608	556	321	126	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	13	167	640	1379	2316	3188	3716	3909	3930	-7777
45	-7777	-7777	3	86	419	1009	1792	2510	2896	3003	3010	-7777
50	0	0	1	40	250	691	1319	1882	2138	2189	2190	2190
55	0	0	-7777	16	130	428	901	1311	1462	1481	-7777	1481
60	0	0	-7777	5	54	228	549	816	892	897	-7777	897
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	129	419	873	1481	2037	2358	2484	2502	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ZAP, ND US**

GHCND:USC00329650

Elev: 1824 ft. Lat: 47.288° N Lon: 101.940° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	3.5	1.6	0.1	0.0	0.15	0.35	0.63
2	0.47	3.0	1.7	0.1	-7777	0.11	0.34	0.63
3	0.70	3.4	1.7	0.3	0.1	0.18	0.68	1.05
4	1.32	4.3	3.0	0.6	0.1	0.57	1.02	1.68
5	2.20	6.8	4.4	1.4	0.5	1.15	1.86	3.11
6	3.19	8.2	6.2	2.5	0.8	2.31	3.02	3.73
7	2.56	6.2	4.7	1.8	0.4	1.66	2.00	2.80
8	1.73	5.3	3.8	1.0	0.3	0.96	1.43	2.73
9	1.21	3.8	2.7	0.8	0.1	0.56	1.01	1.62
10	1.33	3.9	2.8	0.8	0.3	0.32	0.63	1.59
11	0.65	2.9	1.6	0.4	0.1	0.15	0.50	1.05
12	0.60	3.4	2.0	0.1	0.0	0.23	0.37	0.66
Summary	16.45	54.7	36.2	9.9	2.7	8.35	13.21	21.28

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ZAP, ND US**

GHCND:USC00329650

Elev: 1824 ft. Lat: 47.288° N Lon: 101.940° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.4	3.4	2.6	0.6	0.1	0.0	@	@	@	@	2.0	4.3	7.0
2	5.3	3.2	2.4	0.5	0.1	0.0	@	@	@	@	2.0	5.4	8.0
3	5.1	2.6	2.1	0.9	0.2	0.0	@	@	@	@	3.0	4.0	8.5
4	2.6	1.2	1.1	0.3	0.1	-7777	@	@	@	@	0.0	1.0	4.5
5	0.6	0.2	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.2	0.1	0.1	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.0	0.6	0.6	0.3	0.1	0.1	@	@	@	@	0.0	0.0	2.3
11	4.0	2.2	1.9	0.8	0.3	0.0	@	@	@	@	0.1	1.5	5.5
12	6.1	3.3	2.6	0.5	0.2	0.0	@	@	@	@	3.5	5.0	8.0
Summary	31.3	16.8	13.6	4.0	1.1	0.1	9999	9999	9999	9999	10.6	21.2	43.8

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Data derived from 1981-2010 normals.

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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MEDORA 7 E, ND US**

GHCND:USW00094080  
Elev: 2772 ft. Lat: 46.895° N Lon: 103.377° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.4	7.6	17.5				0	0	0	0	0	0	1163	1225	1318	1473	0.0	0.0	0.7	16.8	30.8	10.6
2	31.1	10.7	20.9				0	0	0	0	0	0	954	1010	1094	1235	0.0	0.0	2.0	15.5	27.7	6.0
3	41.3	21.1	31.2				1	1	-7777	0	0	0	739	800	893	1048	0.0	0.0	7.8	7.8	28.0	1.3
4	55.3	32.0	43.7				12	7	2	-7777	-7777	0	353	407	493	641	0.0	0.0	21.5	1.0	14.5	0.0
5	65.3	42.2	53.8				71	46	23	6	1	-7777	109	147	217	355	0.0	0.0	29.3	0.0	2.0	0.0
6	74.7	51.9	63.3				262	209	138	48	10	4	13	20	39	100	0.0	0.5	29.8	0.0	0.0	0.0
7	82.7	58.5	70.6				483	421	331	192	87	56	-7777	-7777	3	19	0.5	6.0	31.0	0.0	0.0	0.0
8	83.0	56.4	69.7				456	396	308	177	79	50	2	3	8	32	0.0	7.1	31.0	0.0	0.0	0.0
9	70.8	45.8	58.3				168	133	89	41	14	8	69	94	140	242	0.0	1.9	29.4	0.0	1.3	0.0
10	56.2	33.6	44.9				24	14	6	-7777	0	0	337	390	475	624	0.0	0.0	20.8	0.6	12.1	0.0
11	40.4	20.8	30.6				-7777	-7777	0	0	0	0	732	792	882	1032	0.0	0.0	7.3	7.2	26.7	1.3
12	28.4	8.1	18.3				0	0	0	0	0	0	1138	1200	1293	1448	0.0	0.0	1.6	17.0	30.3	8.6
Summary	54.7	32.4	43.6	9999	9999	9999	1477	1227	897	464	191	118	5609	6088	6855	8249	0.5	15.5	212.2	65.9	173.4	27.8

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA 7 E, ND US**

GHCND:USW00094080  
Elev: 2772 ft. Lat: 46.895° N Lon: 103.377° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	@	@	@	@			
2	0.37	@	@	@	@			
3	0.92	@	@	@	@			
4	1.38	@	@	@	@			
5	2.42	@	@	@	@			
6	2.99	@	@	@	@			
7	2.20	@	@	@	@			
8	1.50	@	@	@	@			
9	1.49	@	@	@	@			
10	1.29	@	@	@	@			
11	0.57	@	@	@	@			
12	0.48	@	@	@	@			
Summary	16.04	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA 7 E, ND US**

GHCND:USW00094080  
Elev: 2772 ft. Lat: 46.895° N Lon: 103.377° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	3	37	174	431	699	948	920	551	211	27	1
45	-7777	-7777	15	90	288	550	793	765	409	120	9	-7777
50	0	-7777	5	40	162	402	637	609	279	60	1	-7777
55	0	0	1	12	71	262	483	456	168	24	-7777	0
60	0	0	-7777	2	23	138	331	308	89	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	32	119	247	418	610	583	327	136	23	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	42	216	647	1346	2294	3214	3765	3976	4003	4004
45	-7777	-7777	15	105	393	943	1736	2501	2910	3030	3039	-7777
50	0	-7777	5	45	207	609	1246	1855	2134	2194	2195	-7777
55	0	0	1	13	84	346	829	1285	1453	1477	-7777	1477
60	0	0	-7777	2	25	163	494	802	891	897	897	897
Growing Degree Units for Corn (Monthly)												
50/86	1	4	36	155	402	820	1430	2013	2340	2476	2499	2501

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAFTON, ND US**

GHCND:USC00323594  
Elev: 827 ft. Lat: 48.418° N Lon: 97.425° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	15.7	-0.2	7.7	7.8	8.0	7.8	0	0	0	0	0	0	1464	1526	1619	1775	0.0	0.0	0.0	26.2	30.9	15.9
2	22.1	5.7	13.9	6.8	8.1	7.4	0	0	0	0	0	0	1151	1207	1291	1431	0.0	0.0	0.3	20.3	27.3	10.6
3	34.5	19.1	26.8	5.3	5.3	5.1	-7777	-7777	-7777	-7777	0	0	874	936	1029	1184	0.0	0.0	3.0	11.6	26.1	3.2
4	54.3	33.7	44.0	5.9	3.8	4.7	30	22	12	4	1	1	360	412	492	634	0.0	0.1	18.2	1.4	12.3	0.0
5	69.1	46.2	57.6	3.9	3.4	3.5	169	132	87	36	11	7	87	112	160	264	0.0	1.0	29.4	0.0	2.0	0.0
6	77.7	56.2	66.9	4.3	3.0	3.5	363	307	230	123	53	35	5	9	22	65	-7777	2.4	30.0	0.0	0.0	0.0
7	81.8	60.5	71.2	3.1	2.3	2.5	501	439	347	204	91	60	-7777	-7777	2	14	-7777	3.8	31.0	0.0	0.0	0.0
8	80.8	58.4	69.6	3.6	2.6	3.1	454	394	306	177	78	50	2	4	9	34	0.2	3.5	31.0	0.0	0.0	0.0
9	70.3	48.7	59.5	3.3	2.9	2.9	185	146	98	44	15	9	50	71	113	209	-7777	0.7	29.3	0.0	0.6	0.0
10	53.9	36.0	45.0	3.9	3.3	3.2	23	15	8	2	-7777	-7777	335	389	474	624	0.0	-7777	20.0	1.1	9.9	0.0
11	34.8	20.7	27.7	6.7	6.1	6.2	-7777	-7777	-7777	0	0	0	818	878	967	1117	0.0	0.0	3.8	12.4	24.9	1.6
12	19.9	5.2	12.6	7.4	8.2	7.7	0	0	0	0	0	0	1316	1378	1471	1626	0.0	0.0	0.1	23.8	30.6	12.0
Summary	51.2	32.5	41.9	5.2	4.8	4.8	1725	1455	1088	590	249	162	6462	6922	7649	8977	0.2	11.5	196.1	96.8	164.6	43.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAFTON, ND US**

GHCND:USC00323594

Elev: 827 ft. Lat: 48.418° N Lon: 97.425° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.51	3.9	1.5	0.2	0.1	0.10	0.50	0.74
2	0.65	3.9	1.7	0.3	0.1	0.30	0.44	0.70
3	0.90	4.4	2.2	0.4	0.0	0.46	0.82	1.24
4	1.10	4.3	2.6	0.7	0.1	0.37	0.86	1.50
5	2.66	7.4	5.2	1.9	0.7	1.41	2.38	3.98
6	3.74	8.7	6.2	2.7	0.9	2.39	3.58	5.07
7	3.01	8.1	6.1	2.0	0.8	1.78	2.84	3.55
8	2.65	7.5	5.2	1.9	0.5	1.40	2.05	3.39
9	1.75	6.5	4.2	1.2	0.5	0.69	1.53	2.28
10	1.64	5.9	3.9	1.1	0.3	0.55	1.68	2.50
11	0.89	4.3	2.5	0.4	0.2	0.28	0.58	1.33
12	0.51	3.9	1.5	0.1	-7777	0.28	0.50	0.67
Summary	20.01	68.8	42.8	12.9	4.2	10.01	17.76	26.95

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www.ncdc.noaa.gov

Station: **GRAFTON, ND US**

GHCND:USC00323594  
Elev: 827 ft. Lat: 48.418° N Lon: 97.425° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	14	195	551	808	966	917	586	216	23	-7777
45	0	-7777	3	115	408	658	811	762	440	124	8	-7777
50	0	0	1	62	279	509	656	608	303	59	2	0
55	0	0	-7777	30	169	363	501	454	185	23	-7777	0
60	0	0	-7777	12	87	230	347	306	98	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	120	330	510	640	598	343	114	12	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	210	761	1569	2535	3452	4038	4254	4277	-7777
45	0	-7777	3	118	526	1184	1995	2757	3197	3321	3329	-7777
50	0	0	1	63	342	851	1507	2115	2418	2477	2479	2479
55	0	0	-7777	30	199	562	1063	1517	1702	1725	-7777	1725
60	0	0	-7777	12	99	329	676	982	1080	1088	-7777	1088
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	129	459	969	1609	2207	2550	2664	2676	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: CAVALIER 7 NW, ND US

GHCND:USC00321435  
Elev: 889 ft. Lat: 48.863° N Lon: 97.701° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	14.1	-4.9	4.6	7.3	7.6	7.4	0	0	0	0	0	0	1562	1624	1717	1872	0.0	0.0	0.0	27.2	30.9	18.9
2	19.5	0.0	9.7	6.6	8.0	7.2	0	0	0	0	0	0	1267	1323	1407	1547	0.0	0.0	0.2	22.0	27.8	14.4
3	31.3	13.9	22.6	5.3	5.6	5.4	-7777	-7777	-7777	0	0	0	1004	1066	1159	1314	0.0	0.0	1.8	15.1	29.7	5.0
4	51.4	29.3	40.4	5.9	3.6	4.5	11	7	3	1	-7777	-7777	451	507	593	740	0.0	0.1	16.3	2.6	19.3	0.1
5	65.7	40.6	53.2	4.2	3.4	3.5	90	66	38	13	3	2	148	185	251	381	0.0	0.4	28.3	0.0	5.1	0.0
6	73.8	51.5	62.6	4.2	3.0	3.4	247	198	134	57	17	9	18	29	55	128	0.0	0.9	29.9	0.0	-7777	0.0
7	78.2	55.7	66.9	3.6	1.9	2.6	371	311	225	104	33	19	1	2	9	43	-7777	1.5	31.0	0.0	0.0	0.0
8	77.9	53.1	65.5	3.7	2.3	2.9	330	273	193	87	28	16	5	10	23	72	0.1	1.9	31.0	0.0	0.1	0.0
9	67.8	43.3	55.5	3.3	2.6	2.7	111	83	50	17	4	2	95	127	184	300	-7777	0.2	28.7	0.0	2.0	0.0
10	52.6	31.4	42.0	3.9	3.2	3.1	12	7	3	1	-7777	-7777	415	472	561	714	0.0	0.1	17.5	1.3	15.9	-7777
11	33.9	16.6	25.2	6.8	6.2	6.3	-7777	0	0	0	0	0	892	952	1042	1192	0.0	0.0	3.8	13.6	27.9	3.4
12	18.7	1.4	10.0	7.2	7.8	7.4	0	0	0	0	0	0	1393	1455	1548	1703	0.0	0.0	0.1	25.0	30.9	14.0
Summary	48.7	27.7	38.2	5.2	4.6	4.7	1172	945	646	280	85	48	7251	7752	8549	10006	0.1	5.1	188.6	106.8	189.6	55.8

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: CAVALIER 7 NW, ND US

GHCND:USC00321435  
Elev: 889 ft. Lat: 48.863° N Lon: 97.701° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.34	4.8	1.1	0.0	0.0	0.11	0.27	0.52
2	0.36	4.1	1.0	0.1	0.0	0.10	0.25	0.46
3	0.73	5.2	2.0	0.2	0.1	0.22	0.53	0.99
4	1.07	5.0	2.8	0.6	0.1	0.40	0.90	1.55
5	2.57	9.6	5.4	2.0	0.5	1.58	2.54	3.41
6	3.68	11.8	7.1	2.5	0.8	2.55	3.56	4.28
7	3.19	10.1	5.9	2.0	0.7	1.82	2.54	4.39
8	2.43	8.6	4.4	1.5	0.7	1.37	2.00	3.03
9	1.87	7.8	3.8	1.1	0.3	0.92	1.62	2.44
10	1.68	6.9	3.4	1.1	0.3	0.59	1.51	2.57
11	0.79	4.6	2.1	0.3	0.1	0.28	0.46	0.93
12	0.46	5.2	1.5	0.1	-7777	0.20	0.41	0.54
Summary	19.17	83.7	40.5	11.5	3.6	10.14	16.59	25.11

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-7777 indicates a non-zero growing degree day value that would round to zero

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Monthly Normals  
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National Climatic Data Center  
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151 Patton Avenue  
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Station: CAVALIER 7 NW, ND US

GHCND:USC00321435  
Elev: 889 ft. Lat: 48.863° N Lon: 97.701° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.0	5.1	2.9	0.6	0.1	0.0	30.7	26.8	23.5	14.3	3.5	6.0	10.0
2	5.0	4.1	2.2	0.4	0.1	0.0	26.7	24.4	22.1	16.6	2.5	4.5	6.9
3	5.3	3.8	2.1	0.6	0.1	0.0	24.0	19.6	16.4	10.8	2.3	5.0	8.0
4	2.9	1.5	1.0	0.4	0.1	0.0	4.2	2.7	2.1	1.5	0.0	1.0	4.8
5	0.7	0.3	0.2	0.1	0.1	0.0	0.4	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.1	0.9	0.7	0.3	0.1	0.0	1.6	0.8	0.3	0.0	0.0	0.6	3.5
11	6.7	3.4	2.3	0.9	0.4	0.1	13.2	8.0	6.0	1.6	2.8	6.0	9.5
12	7.6	5.4	3.4	0.9	0.1	0.0	25.9	20.5	17.5	7.0	4.6	6.9	9.5
Summary	37.3	24.5	14.8	4.2	1.1	0.1	126.7	102.9	87.9	51.8	15.7	30.0	52.2

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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: CAVALIER 7 NW, ND US

GHCND:USC00321435  
Elev: 889 ft. Lat: 48.863° N Lon: 97.701° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	131	417	679	835	790	468	151	12	-7777
45	0	-7777	1	70	284	530	680	635	329	78	4	0
50	0	0	-7777	32	172	383	525	481	206	34	-7777	0
55	0	0	-7777	11	90	247	371	330	111	12	-7777	0
60	0	0	-7777	3	38	134	225	193	50	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	95	258	406	524	490	279	97	11	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	137	554	1233	2068	2858	3326	3477	3489	-7777
45	0	-7777	1	71	355	885	1565	2200	2529	2607	2611	2611
50	0	0	-7777	32	204	587	1112	1593	1799	1833	-7777	1833
55	0	0	-7777	11	101	348	719	1049	1160	1172	-7777	1172
60	0	0	-7777	3	41	175	400	593	643	646	646	646
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	100	358	764	1288	1778	2057	2154	2165	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOHALL, ND US**

GHCND:USC00326025

Elev: 1640 ft. Lat: 48.760° N Lon: 101.509° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.7	-1.4	8.1	8.6	8.7	8.6	0	0	0	0	0	0	1452	1514	1607	1762	0.0	0.0	-7777	24.1	30.9	16.1
2	22.5	3.0	12.7	7.5	7.9	7.6	0	0	0	0	0	0	1183	1239	1323	1463	0.0	0.0	0.4	19.3	27.7	12.2
3	34.2	14.5	24.4	6.7	6.5	6.4	-7777	-7777	-7777	0	0	0	950	1012	1105	1260	0.0	0.0	3.8	11.7	30.1	5.2
4	53.8	27.1	40.4	5.2	3.5	4.1	10	6	3	-7777	-7777	0	447	503	589	737	0.0	-7777	18.3	1.6	21.8	0.1
5	66.1	38.5	52.3	3.5	3.1	3.1	75	53	29	9	2	1	159	199	268	402	0.0	0.4	28.6	-7777	6.8	0.0
6	74.9	49.0	61.9	4.5	3.0	3.6	230	184	122	53	19	12	22	35	64	145	0.2	2.0	29.8	0.0	0.1	0.0
7	80.1	53.3	66.7	3.6	2.1	2.6	364	304	219	103	34	20	1	4	12	50	0.2	3.2	31.0	0.0	0.0	0.0
8	80.6	51.0	65.8	4.1	2.4	3.0	341	284	206	100	34	20	6	12	27	76	0.3	4.9	30.9	0.0	0.1	0.0
9	69.2	40.9	55.1	4.5	2.7	3.3	110	83	51	17	4	2	108	141	199	316	-7777	1.2	28.5	-7777	3.6	0.0
10	54.3	29.3	41.8	4.1	2.9	2.9	11	6	2	1	-7777	-7777	420	477	567	720	0.0	0.1	18.8	1.3	18.9	0.1
11	35.4	16.4	25.9	7.4	6.2	6.6	-7777	-7777	-7777	0	0	0	873	933	1023	1173	0.0	0.0	5.0	12.2	28.1	3.6
12	20.9	2.9	11.9	7.9	7.7	7.7	0	0	0	0	0	0	1336	1398	1491	1646	0.0	0.0	0.2	23.0	30.7	12.4
Summary	50.8	27.0	38.9	5.6	4.7	5.0	1141	920	632	283	93	55	6957	7467	8275	9750	0.7	11.8	195.3	93.2	198.8	49.7

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOHALL, ND US**

GHCND:USC00326025

Elev: 1640 ft. Lat: 48.760° N Lon: 101.509° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.51	4.6	1.9	-7777	0.0	0.26	0.44	0.72
2	0.45	3.0	1.2	0.0	0.0	0.16	0.31	0.66
3	0.74	4.1	2.5	0.3	-7777	0.35	0.70	0.94
4	1.11	5.2	2.9	0.7	0.1	0.47	1.03	1.35
5	2.20	7.8	5.2	1.3	0.4	1.56	2.04	2.63
6	3.18	10.5	7.1	1.9	0.3	2.12	3.22	3.63
7	2.59	8.5	5.6	1.9	0.8	1.43	2.19	3.26
8	2.19	7.6	4.6	1.1	0.4	1.15	1.82	2.67
9	1.61	6.3	3.5	0.7	0.2	0.90	1.53	2.24
10	1.48	4.9	3.1	0.8	0.2	0.42	1.06	1.65
11	0.63	3.3	1.8	0.2	-7777	0.22	0.61	0.93
12	0.48	3.9	1.5	0.1	0.0	0.25	0.45	0.69
Summary	17.17	69.7	40.9	9.0	2.4	9.29	15.40	21.37

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOHALL, ND US**

GHCND:USC00326025  
Elev: 1640 ft. Lat: 48.760° N Lon: 101.509° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.6	4.1	3.2	0.9	0.1	-7777	@	@	@	@	5.8	7.0	8.5
2	6.0	2.6	2.1	0.3	0.1	0.0	@	@	@	@	2.0	5.5	7.9
3	6.1	2.6	2.3	0.9	0.4	0.0	@	@	@	@	1.0	7.6	10.0
4	3.5	1.1	1.0	0.6	0.4	0.0	@	@	@	@	0.0	1.8	6.0
5	0.2	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.9	0.4	0.4	0.2	0.1	-7777	@	@	@	@	0.0	0.0	1.0
11	4.6	2.5	2.2	0.7	0.3	0.1	@	@	@	@	0.0	3.0	7.9
12	6.5	3.5	2.8	0.6	0.2	0.0	@	@	@	@	3.0	8.0	10.6
Summary	37.4	16.9	14.1	4.3	1.6	0.1	9999	9999	9999	9999	11.8	32.9	51.9

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MOHALL, ND US**

GHCND:USC00326025  
Elev: 1640 ft. Lat: 48.760° N Lon: 101.509° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	11	129	394	659	828	799	457	153	17	-7777
45	-7777	-7777	3	66	263	509	673	645	321	80	6	0
50	0	-7777	1	29	154	364	518	491	201	33	2	0
55	0	0	-7777	10	75	230	364	341	110	11	-7777	0
60	0	0	-7777	3	29	122	219	206	51	2	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	112	259	397	517	498	292	120	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	141	535	1194	2022	2821	3278	3431	3448	-7777
45	-7777	-7777	3	69	332	841	1514	2159	2480	2560	2566	2566
50	0	-7777	1	30	184	548	1066	1557	1758	1791	1793	1793
55	0	0	-7777	10	85	315	679	1020	1130	1141	-7777	1141
60	0	0	-7777	3	32	154	373	579	630	632	-7777	632
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	125	384	781	1298	1796	2088	2208	2226	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MINNEWAUKAN, ND US**

GHCND:USC00325848

Elev: 1470 ft. Lat: 48.078° N Lon: 99.266° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.2	-2.7	6.8	7.5	8.6	8.0	0	0	0	0	0	0	1495	1557	1651	1806	0.0	0.0	0.0	26.0	30.9	17.6
2	21.2	1.8	11.5	6.9	8.0	7.4	0	0	0	0	0	0	1218	1274	1358	1498	0.0	0.0	0.3	21.4	27.2	12.5
3	32.9	14.1	23.5	5.7	5.2	5.3	-7777	-7777	0	0	0	0	976	1038	1131	1286	0.0	0.0	2.2	13.2	29.5	5.0
4	51.7	27.3	39.5	4.6	3.4	3.8	5	3	1	-7777	0	0	470	528	616	765	0.0	0.0	16.4	1.9	21.7	0.2
5	65.2	40.5	52.8	3.5	3.3	3.1	78	53	27	6	1	-7777	144	182	248	383	0.0	0.1	28.9	0.0	5.4	0.0
6	74.3	51.8	63.0	4.1	2.8	3.3	255	204	138	58	16	8	14	23	46	116	0.0	0.9	29.9	0.0	0.0	0.0
7	79.2	56.3	67.7	3.3	2.6	2.7	396	336	249	124	41	23	1	2	9	39	0.1	1.6	31.0	0.0	0.0	0.0
8	79.5	53.2	66.4	3.9	2.5	3.0	356	298	216	103	35	20	4	8	20	62	0.0	2.8	31.0	0.0	0.0	0.0
9	68.9	42.8	55.8	3.7	2.5	2.9	116	87	53	18	4	1	91	122	177	293	0.0	0.8	29.2	0.0	2.0	0.0
10	53.7	30.3	42.0	4.0	3.3	3.0	12	7	3	-7777	-7777	0	416	473	561	713	0.0	0.0	18.3	1.3	18.5	0.0
11	34.6	16.9	25.8	7.5	6.1	6.6	-7777	0	0	0	0	0	877	937	1027	1177	0.0	0.0	4.3	13.2	28.7	2.7
12	20.5	3.3	11.9	7.0	7.2	7.0	0	0	0	0	0	0	1336	1398	1491	1646	0.0	0.0	0.0	24.3	31.0	12.5
Summary	49.8	28.0	38.9	5.1	4.6	4.7	1218	988	687	309	97	52	7042	7542	8335	9784	0.1	6.2	191.5	101.3	194.9	50.5

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINNEWAUKAN, ND US**

GHCND:USC00325848

Elev: 1470 ft. Lat: 48.078° N Lon: 99.266° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	3.1	1.7	0.1	0.0	0.17	0.35	0.70
2	0.43	3.6	1.4	0.1	0.0	0.20	0.34	0.48
3	0.84	4.2	2.5	0.5	0.0	0.50	0.80	1.15
4	1.25	4.8	2.9	0.7	0.3	0.50	0.95	1.31
5	2.86	9.2	6.3	1.6	0.4	1.98	2.74	3.66
6	3.42	10.4	6.9	2.2	1.0	2.67	3.28	4.07
7	2.83	8.8	6.4	1.9	0.7	1.64	2.46	3.44
8	2.00	7.7	4.9	1.3	0.4	0.99	1.87	2.82
9	1.81	5.9	3.4	1.1	0.4	0.78	1.53	2.70
10	1.51	5.5	3.2	0.8	0.5	0.37	1.49	2.56
11	0.78	3.9	2.5	0.5	0.2	0.09	0.55	1.05
12	0.64	4.6	1.8	0.1	0.0	0.48	0.56	0.72
Summary	18.80	71.7	43.9	10.9	3.9	10.37	16.92	24.66

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
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[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MINNEWAUKAN, ND US**

GHCND:USC00325848

Elev: 1470 ft. Lat: 48.078° N Lon: 99.266° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	7	109	407	691	860	816	478	153	14	-7777
45	0	-7777	2	52	273	542	705	662	338	81	4	0
50	0	0	-7777	20	161	394	550	507	213	35	1	0
55	0	0	-7777	5	78	255	396	356	116	12	-7777	0
60	0	0	0	1	27	138	249	216	53	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	7	90	246	413	547	513	291	111	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	7	116	523	1214	2074	2890	3368	3521	3535	-7777
45	0	-7777	2	54	327	869	1574	2236	2574	2655	2659	2659
50	0	0	-7777	20	181	575	1125	1632	1845	1880	1881	1881
55	0	0	-7777	5	83	338	734	1090	1206	1218	-7777	1218
60	0	0	0	1	28	166	415	631	684	687	687	687
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	7	97	343	756	1303	1816	2107	2218	2233	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOWMAN, ND US**

GHCND:USC00320995  
Elev: 2979 ft. Lat: 46.182° N Lon: 103.406° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.5	6.9	17.2	6.7	7.2	6.8	0	0	0	0	0	0	1172	1234	1327	1482	0.0	0.0	1.0	16.8	30.7	10.0
2	31.6	10.6	21.1	7.9	7.2	7.4	-7777	0	0	0	0	0	949	1005	1089	1229	0.0	0.0	3.2	12.8	27.4	6.5
3	41.1	19.1	30.1	6.1	4.9	5.3	-7777	-7777	-7777	0	0	0	772	834	927	1082	0.0	0.0	8.7	8.1	28.4	2.6
4	54.4	29.5	41.9	4.5	2.9	3.5	13	8	4	1	-7777	-7777	405	460	545	692	0.0	0.1	19.2	1.6	18.1	0.1
5	65.0	40.6	52.8	4.0	2.5	3.0	81	57	31	8	1	-7777	149	187	254	387	0.0	0.1	28.0	0.1	4.2	0.0
6	74.4	50.1	62.3	4.1	3.0	3.4	240	192	130	55	18	11	22	35	63	138	0.1	1.5	29.8	0.0	0.1	0.0
7	83.1	56.2	69.6	4.7	2.5	3.5	455	395	308	177	80	53	2	3	9	33	0.8	6.8	31.0	0.0	0.0	0.0
8	82.9	54.2	68.5	3.9	2.9	3.2	424	365	280	158	67	42	5	7	16	48	0.2	6.8	30.9	0.0	-7777	0.0
9	71.3	42.9	57.1	4.7	2.7	3.4	152	119	79	32	9	5	89	116	166	269	0.0	1.9	28.4	0.0	2.8	0.0
10	56.6	30.7	43.7	3.9	2.5	2.8	18	11	5	1	-7777	-7777	369	425	511	663	0.0	0.1	21.0	1.3	16.2	0.1
11	40.6	18.6	29.6	7.5	5.1	6.1	1	-7777	-7777	0	0	0	763	822	912	1062	0.0	0.0	7.8	8.1	27.5	2.1
12	29.1	8.3	18.7	7.9	6.4	7.0	0	0	0	0	0	0	1125	1187	1280	1435	0.0	0.0	1.5	15.9	30.8	7.8
Summary	54.8	30.6	42.7	5.5	4.2	4.6	1384	1147	837	432	175	111	5822	6315	7099	8520	1.1	17.3	210.5	64.7	186.2	29.2

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOWMAN, ND US**

GHCND:USC00320995  
Elev: 2979 ft. Lat: 46.182° N Lon: 103.406° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.50	7.4	1.7	0.1	0.1	0.24	0.37	0.74
2	0.50	6.5	1.6	0.1	0.0	0.20	0.41	0.57
3	0.88	7.7	2.5	0.3	0.1	0.37	0.67	1.27
4	1.23	9.1	3.2	0.6	0.1	0.51	1.02	1.67
5	2.47	11.2	5.8	1.5	0.4	1.00	2.22	3.47
6	3.08	12.3	6.5	2.0	0.5	2.47	2.93	3.96
7	2.16	9.7	5.1	1.3	0.2	1.10	1.69	3.05
8	1.07	7.2	3.4	0.5	-7777	0.53	1.00	1.52
9	1.29	7.3	3.2	0.7	0.1	0.58	0.97	1.52
10	1.38	6.8	3.1	0.9	0.2	0.43	0.90	1.51
11	0.55	6.2	1.9	0.1	0.1	0.12	0.51	0.83
12	0.48	8.0	1.7	0.0	0.0	0.19	0.45	0.71
Summary	15.59	99.4	39.7	8.1	1.8	7.74	13.14	20.82

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Federal Building  
151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **BOWMAN, ND US**

GHCND:USC00320995  
Elev: 2979 ft. Lat: 46.182° N Lon: 103.406° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.8	6.7	4.9	0.9	0.1	0.0	25.7	17.4	12.3	5.5	4.4	8.0	13.6
2	7.9	5.7	4.3	0.8	0.1	0.0	20.1	13.9	10.5	4.9	4.3	7.2	9.3
3	9.7	5.2	4.2	0.9	0.4	0.1	16.8	11.4	8.4	4.0	3.9	7.0	13.5
4	7.7	2.9	2.5	0.8	0.4	0.1	5.9	3.4	2.4	1.2	2.1	5.0	13.0
5	1.7	0.5	0.4	0.2	0.1	-7777	0.8	0.4	0.3	-7777	0.0	0.0	2.0
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.5	0.2	0.1	0.1	-7777	0.0	0.1	0.1	-7777	0.0	0.0	0.0	0.0
10	2.9	1.4	1.1	0.4	0.2	-7777	2.0	0.7	0.4	0.2	0.0	2.0	3.9
11	7.5	4.6	3.9	0.9	0.2	0.0	12.2	6.6	3.2	0.5	2.0	5.0	9.3
12	8.2	6.6	4.7	0.5	0.1	0.0	20.9	11.7	8.4	1.9	3.0	6.1	14.9
Summary	54.9	33.8	26.1	5.5	1.6	0.2	104.5	65.6	45.9	18.2	19.7	40.3	79.5

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BOWMAN, ND US**

GHCND:USC00320995  
Elev: 2979 ft. Lat: 46.182° N Lon: 103.406° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	6	34	154	407	668	919	884	519	193	34	1
45	-7777	1	11	82	273	518	764	730	381	108	13	-7777
50	0	-7777	3	36	160	373	609	576	255	49	4	-7777
55	0	-7777	-7777	13	81	240	455	424	152	18	1	0
60	0	0	-7777	4	31	130	308	280	79	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	2	8	36	118	246	399	580	556	327	146	35	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	8	42	196	603	1271	2190	3074	3593	3786	3820	3821
45	-7777	1	12	94	367	885	1649	2379	2760	2868	2881	-7777
50	0	-7777	3	39	199	572	1181	1757	2012	2061	2065	-7777
55	0	-7777	-7777	13	94	334	789	1213	1365	1383	1384	1384
60	0	0	-7777	4	35	165	473	753	832	837	-7777	837
Growing Degree Units for Corn (Monthly)												
50/86	2	10	46	164	410	809	1389	1945	2272	2418	2453	2456

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WAHPETON 3 N, ND US**

GHCND:USC00329100

Elev: 955 ft. Lat: 46.323° N Lon: 96.611° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.7	1.8	10.7	6.9	7.3	7.0	0	0	0	0	0	0	1371	1433	1526	1681	0.0	0.0	0.3	24.4	30.6	14.4
2	25.2	7.1	16.1	6.9	8.1	7.4	0	0	0	0	0	0	1088	1144	1228	1368	0.0	0.0	0.5	17.9	27.6	9.5
3	37.4	20.7	29.1	5.4	5.0	5.0	-7777	-7777	-7777	-7777	0	0	805	867	960	1115	0.0	0.0	4.0	8.9	26.7	2.3
4	56.8	33.6	45.2	4.9	2.8	3.6	28	20	11	3	1	-7777	322	374	455	597	0.0	0.1	20.9	0.8	12.9	0.0
5	71.0	46.1	58.5	3.4	3.3	3.1	173	135	87	35	9	5	63	87	132	235	0.0	0.5	30.2	0.0	1.7	0.0
6	78.8	55.7	67.2	4.0	2.9	3.2	371	314	234	123	51	33	4	7	17	56	0.0	3.0	30.0	0.0	0.0	0.0
7	83.8	60.0	71.9	3.5	2.5	2.8	524	462	370	224	105	71	-7777	-7777	1	10	0.4	5.7	31.0	0.0	0.0	0.0
8	82.6	57.8	70.2	3.4	2.4	2.7	472	411	322	187	84	55	1	2	6	26	0.2	4.8	31.0	0.0	0.0	0.0
9	72.4	48.8	60.6	3.7	2.5	2.9	208	166	113	50	17	10	40	59	95	183	0.0	1.0	29.5	0.0	0.7	0.0
10	57.3	36.5	46.9	4.3	2.8	3.0	32	22	11	3	1	-7777	283	335	417	564	0.0	0.1	23.6	0.6	9.6	0.0
11	38.5	22.0	30.2	6.8	5.3	5.9	1	-7777	-7777	-7777	0	0	743	803	893	1042	0.0	0.0	6.0	9.6	24.6	1.3
12	23.8	7.4	15.6	6.9	7.3	7.0	0	0	0	0	0	0	1221	1283	1376	1531	0.0	0.0	0.3	21.4	30.7	10.1
Summary	53.9	33.1	43.5	5.0	4.4	4.5	1809	1530	1148	625	268	174	5941	6394	7106	8408	0.6	15.2	207.3	83.6	165.1	37.6

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WAHPETON 3 N, ND US**

GHCND:USC00329100

Elev: 955 ft. Lat: 46.323° N Lon: 96.611° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.57	6.3	1.7	0.1	0.1	0.23	0.41	0.72
2	0.35	4.3	1.3	0.1	0.0	0.14	0.25	0.54
3	1.07	7.0	3.1	0.5	0.0	0.71	0.98	1.25
4	1.75	7.5	4.1	1.1	0.3	0.88	1.43	2.46
5	3.17	10.2	6.3	1.8	0.6	2.00	2.97	4.00
6	3.28	11.1	6.9	2.4	0.7	2.13	3.13	4.19
7	3.19	10.3	5.9	2.4	0.9	1.72	2.87	4.23
8	2.45	8.8	5.1	1.6	0.4	1.39	2.30	3.07
9	2.91	8.9	5.1	2.1	0.6	1.69	2.51	3.45
10	2.39	7.8	4.1	1.8	0.6	0.61	2.24	3.43
11	0.66	6.6	2.2	0.3	0.0	0.11	0.58	0.93
12	0.52	5.1	1.2	0.1	0.0	0.22	0.37	0.64
Summary	22.31	93.9	47.0	14.3	4.2	11.83	20.04	28.91

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www.ncdc.noaa.gov

Station: **WAHPETON 3 N, ND US**

GHCND:USC00329100  
Elev: 955 ft. Lat: 46.323° N Lon: 96.611° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.6	5.0	2.8	0.8	0.2	0.1	24.6	18.4	13.4	7.6	2.9	4.7	10.7
2	3.5	2.8	1.8	0.3	0.0	0.0	20.0	15.7	13.3	5.0	1.8	3.2	4.2
3	6.0	3.6	2.7	0.7	0.1	0.0	16.3	10.6	6.3	3.0	2.5	3.8	8.0
4	1.6	1.1	0.8	0.2	0.0	0.0	2.3	0.5	0.1	0.0	0.0	0.3	3.5
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.3	0.3	0.3	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
11	5.9	4.0	2.4	0.5	0.2	0.0	10.4	4.2	2.6	0.9	2.3	4.1	8.1
12	3.3	3.9	2.1	0.1	0.0	0.0	18.7	10.7	7.0	2.7	1.8	3.4	4.5
Summary	27.2	20.8	12.9	2.6	0.5	0.1	92.5	60.1	42.7	19.2	11.3	19.5	39.0

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WAHPETON 3 N, ND US**

GHCND:USC00329100  
Elev: 955 ft. Lat: 46.323° N Lon: 96.611° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	209	576	817	988	936	618	252	31	-7777
45	0	-7777	5	120	428	667	834	781	471	147	11	-7777
50	0	-7777	2	61	290	517	679	626	331	74	2	-7777
55	0	0	-7777	28	173	371	524	472	208	32	1	0
60	0	0	-7777	11	87	234	370	322	113	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	139	353	518	652	610	373	145	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	20	229	805	1622	2610	3546	4164	4416	4447	-7777
45	0	-7777	5	125	553	1220	2054	2835	3306	3453	3464	-7777
50	0	-7777	2	63	353	870	1549	2175	2506	2580	2582	-7777
55	0	0	-7777	28	201	572	1096	1568	1776	1808	1809	1809
60	0	0	-7777	11	98	332	702	1024	1137	1148	-7777	1148
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	153	506	1024	1676	2286	2659	2804	2822	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ADAMS 7 SSW, ND US**

GHCND:USC00320022

Elev: 1555 ft. Lat: 48.331° N Lon: 98.119° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.44	6.5	1.5	0.1	0.0	0.24	0.51	0.61
2	0.45	5.3	1.6	-7777	0.0	0.20	0.41	0.56
3	0.73	5.8	2.2	0.2	-7777	0.36	0.65	0.89
4	1.08	4.9	2.8	0.6	0.1	0.34	0.82	1.49
5	2.54	9.0	5.8	1.4	0.5	1.39	2.34	3.80
6	3.72	11.3	7.6	2.2	0.8	2.69	3.70	4.44
7	3.48	9.1	6.5	2.1	1.0	1.68	2.83	4.62
8	2.72	8.7	5.3	1.7	0.6	1.63	2.50	3.36
9	1.78	7.8	4.0	0.9	0.3	0.87	1.44	2.55
10	1.48	7.1	3.5	0.8	0.3	0.61	1.30	2.29
11	0.74	5.6	2.2	0.2	0.1	0.21	0.56	1.12
12	0.52	5.8	1.8	0.1	0.0	0.33	0.47	0.65
Summary	19.68	86.9	44.8	10.3	3.7	10.55	17.53	26.38

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Federal Building  
151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **ADAMS 7 SSW, ND US**

GHCND:USC00320022

Elev: 1555 ft. Lat: 48.331° N Lon: 98.119° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.6	3.8	3.1	0.6	0.1	0.0	29.1	24.8	18.3	10.2	2.5	5.0	8.5
2	4.4	3.0	2.6	0.3	-7777	0.0	21.7	17.2	13.7	5.5	1.8	4.9	6.0
3	4.6	2.5	2.0	0.3	0.1	0.0	18.1	13.6	10.1	3.7	1.6	4.7	6.8
4	2.2	1.2	1.0	0.3	-7777	0.0	5.3	2.9	1.7	0.5	0.0	2.0	3.0
5	0.4	0.2	0.2	0.1	0.0	0.0	0.6	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	1.6	0.8	0.7	0.2	0.1	0.0	0.9	0.2	0.1	0.0	0.0	1.0	3.0
11	5.9	3.4	2.9	0.8	0.1	-7777	10.9	7.4	4.7	0.9	2.5	5.5	8.5
12	7.2	3.8	3.2	0.8	0.1	0.0	25.4	20.1	14.4	6.3	4.5	6.0	10.0
Summary	31.9	18.7	15.7	3.4	0.5	0.0	112.0	86.3	63.0	27.1	12.9	29.1	45.8

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BEACH, ND US**

GHCND:USC00320590  
Elev: 2799 ft. Lat: 46.928° N Lon: 104.016° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.8	7.9	17.8	7.0	7.8	7.2	0	0	0	0	0	0	1152	1214	1307	1462	0.0	0.0	0.9	16.4	30.3	9.3
2	32.0	12.3	22.2	7.9	7.8	7.7	0	0	0	0	0	0	920	976	1060	1200	0.0	0.0	2.8	11.5	26.4	5.9
3	43.0	20.9	31.9	6.6	5.0	5.6	1	-7777	-7777	-7777	0	0	716	777	870	1025	0.0	0.0	10.5	6.9	26.6	2.2
4	57.0	30.4	43.7	4.1	2.6	3.1	16	10	4	1	-7777	0	355	409	494	640	0.0	-7777	21.7	1.0	17.2	0.1
5	67.0	41.1	54.1	3.6	2.7	2.9	92	66	37	10	2	1	122	158	221	350	0.0	0.2	29.3	-7777	4.2	0.0
6	76.1	50.0	63.0	4.6	3.2	3.6	256	207	142	64	23	15	14	25	50	122	0.2	2.2	29.9	0.0	0.2	0.0
7	84.1	55.8	69.9	4.8	2.7	3.5	464	404	315	182	82	54	1	2	7	29	0.8	7.8	31.0	0.0	0.0	0.0
8	83.6	54.0	68.8	5.2	3.4	4.1	432	374	290	167	76	50	5	8	17	50	0.4	8.1	31.0	0.0	-7777	0.0
9	72.5	44.0	58.3	4.8	2.4	3.4	167	131	88	37	11	6	69	94	141	240	-7777	2.0	29.2	0.0	1.9	0.0
10	56.6	32.0	44.3	4.0	2.6	3.1	22	14	6	1	-7777	-7777	354	408	493	643	0.0	0.1	21.3	0.9	14.3	0.1
11	40.5	20.2	30.3	7.6	5.0	6.1	-7777	-7777	0	0	0	0	740	800	889	1039	0.0	0.0	7.1	7.7	26.6	1.7
12	29.2	9.3	19.3	7.6	6.8	7.1	0	0	0	0	0	0	1108	1170	1263	1418	0.0	0.0	1.8	15.8	30.3	7.5
Summary	55.8	31.5	43.6	5.6	4.3	4.8	1450	1206	882	462	194	126	5556	6041	6812	8218	1.4	20.4	216.5	60.2	178.0	26.8

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BEACH, ND US**

GHCND:USC00320590

Elev: 2799 ft. Lat: 46.928° N Lon: 104.016° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	3.4	1.8	0.1	0.0	0.18	0.34	0.64
2	0.40	2.9	1.6	0.2	-7777	0.10	0.27	0.51
3	0.63	3.9	2.6	0.3	0.1	0.22	0.49	0.81
4	1.60	5.4	3.9	1.0	0.3	0.67	1.41	2.06
5	2.19	7.8	5.6	1.3	0.4	1.28	2.08	2.97
6	2.64	8.7	5.7	1.6	0.7	1.69	2.59	3.25
7	2.11	6.7	4.8	1.2	0.4	1.31	1.53	2.40
8	1.48	4.9	3.3	0.9	0.2	0.82	1.42	2.04
9	1.47	5.3	3.4	1.0	0.4	0.84	0.99	2.19
10	1.31	4.0	2.9	0.9	0.3	0.35	0.85	1.94
11	0.51	2.7	1.8	0.3	-7777	0.18	0.36	0.62
12	0.46	3.6	1.5	-7777	0.0	0.20	0.41	0.63
Summary	15.23	59.3	38.9	8.8	2.8	7.84	12.74	20.06

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
 National Oceanic & Atmospheric Administration  
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**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **BEACH, ND US**

GHCND:USC00320590  
 Elev: 2799 ft. Lat: 46.928° N Lon: 104.016° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.0	3.1	2.1	0.5	0.2	0.0	@	@	@	@	2.0	4.0	6.9
2	5.5	3.3	2.2	0.5	0.3	-7777	@	@	@	@	2.0	3.0	7.3
3	5.2	2.8	2.0	0.5	0.2	-7777	@	@	@	@	0.9	4.0	7.1
4	4.1	1.6	1.1	0.7	0.3	0.1	@	@	@	@	0.0	3.0	6.5
5	1.9	0.6	0.5	0.2	0.1	-7777	@	@	@	@	0.0	0.0	2.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	0.2	0.1	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.5	0.7	0.6	0.2	0.1	-7777	@	@	@	@	0.0	0.5	4.0
11	3.3	2.1	1.7	0.7	0.2	-7777	@	@	@	@	0.0	2.0	5.0
12	5.2	3.4	2.3	0.4	0.1	0.0	@	@	@	@	3.0	5.0	7.0
Summary	32.8	17.8	12.6	3.7	1.5	0.1	9999	9999	9999	9999	7.9	21.5	45.8

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 -7777 indicates a non-zero growing degree day value that would round to zero  
 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **BEACH, ND US**

GHCND:USC00320590  
Elev: 2799 ft. Lat: 46.928° N Lon: 104.016° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	7	47	182	442	692	928	892	550	208	33	3
45	-7777	1	16	97	302	542	773	738	407	118	14	-7777
50	0	-7777	4	44	181	395	618	584	276	56	3	-7777
55	0	0	1	16	92	256	464	432	167	22	-7777	0
60	0	0	-7777	4	37	142	315	290	88	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	2	7	44	142	276	421	589	565	346	144	29	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	10	57	239	681	1373	2301	3193	3743	3951	3984	3987
45	-7777	1	17	114	416	958	1731	2469	2876	2994	3008	-7777
50	0	-7777	4	48	229	624	1242	1826	2102	2158	2161	-7777
55	0	0	1	17	109	365	829	1261	1428	1450	-7777	1450
60	0	0	-7777	4	41	183	498	788	876	882	882	882
Growing Degree Units for Corn (Monthly)												
50/86	2	9	53	195	471	892	1481	2046	2392	2536	2565	2568

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN MUNICIPAL AIRPORT, ND US**

GHCND:USW00014919

Elev: 1493 ft. Lat: 46.926° N Lon: 98.669° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	0.3	10.1	7.4	7.8	7.4	0	0	0	0	0	0	1392	1454	1547	1702	0.0	0.0	0.2	23.6	30.8	15.3
2	24.8	5.4	15.1	7.1	7.6	7.2	0	0	0	0	0	0	1117	1173	1257	1397	0.0	0.0	0.8	18.4	27.7	10.8
3	37.1	18.0	27.6	5.6	4.7	4.9	1	-7777	-7777	0	0	0	851	913	1006	1161	0.0	0.0	4.3	9.9	28.9	2.8
4	55.0	30.2	42.6	5.3	2.9	3.9	19	13	6	2	-7777	-7777	391	445	528	674	0.0	0.1	19.6	1.4	17.5	-7777
5	67.9	42.5	55.2	3.8	3.3	3.2	116	87	52	18	5	2	110	143	200	322	0.0	0.5	29.3	-7777	3.9	0.0
6	76.3	52.6	64.4	4.1	3.2	3.3	293	241	171	80	29	18	10	18	37	97	0.1	1.9	29.9	0.0	0.0	0.0
7	82.4	57.3	69.9	4.0	2.2	2.8	460	399	309	172	72	46	-7777	1	4	22	0.4	5.2	31.0	0.0	0.0	0.0
8	81.4	55.0	68.2	3.6	2.6	2.9	411	351	266	143	59	37	2	4	12	44	0.4	4.7	31.0	0.0	-7777	0.0
9	70.4	44.8	57.6	3.6	2.5	2.8	150	116	75	30	9	5	72	98	147	252	0.1	0.9	29.2	0.0	1.7	0.0
10	55.7	32.5	44.1	3.9	3.0	2.9	20	13	6	1	-7777	-7777	358	413	499	649	0.0	0.1	21.1	0.9	14.7	-7777
11	37.2	18.3	27.8	6.7	5.3	5.8	-7777	-7777	-7777	0	0	0	818	877	967	1117	0.0	0.0	5.4	10.7	27.6	1.9
12	23.1	5.2	14.1	7.1	7.4	7.1	0	0	0	0	0	0	1266	1328	1421	1576	0.0	0.0	0.2	21.8	30.9	11.2
Summary	52.6	30.2	41.4	5.2	4.4	4.5	1470	1220	885	446	174	108	6387	6867	7625	9013	1.0	13.4	202.0	86.7	183.7	42.0

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN MUNICIPAL AIRPORT, ND US**

GHCND:USW00014919

Elev: 1493 ft. Lat: 46.926° N Lon: 98.669° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	5.7	1.5	0.1	0.0	0.17	0.30	0.71
2	0.40	5.1	1.2	0.1	0.0	0.04	0.37	0.44
3	0.84	6.3	2.3	0.3	-7777	0.38	0.81	1.28
4	1.20	6.8	3.0	0.7	0.1	0.46	0.96	1.77
5	2.66	10.4	5.5	1.6	0.6	0.86	2.15	4.17
6	3.19	11.7	6.8	1.9	0.5	1.74	2.76	4.39
7	3.35	10.5	5.9	2.2	0.9	1.39	2.63	4.25
8	2.10	8.4	4.1	1.2	0.4	1.16	1.56	3.14
9	2.00	8.2	4.1	1.4	0.4	1.05	2.28	2.61
10	1.55	7.0	3.4	1.0	0.2	0.38	1.14	2.15
11	0.63	5.7	1.8	0.2	-7777	0.10	0.60	1.10
12	0.40	5.9	1.2	0.1	0.0	0.16	0.31	0.64
Summary	18.77	91.7	40.8	10.8	3.1	7.89	15.87	26.65

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN MUNICIPAL AIRPORT, ND US**

GHCND:USW00014919

Elev: 1493 ft. Lat: 46.926° N Lon: 98.669° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	11.7	6.4	3.4	1.2	0.5	0.0	26.3	19.3	14.5	7.7	3.3	7.9	20.9
2	6.1	5.5	2.3	0.5	0.1	0.0	20.9	17.1	12.0	6.7	3.1	5.3	8.4
3	7.2	5.2	2.2	0.7	0.3	0.1	15.2	10.3	6.8	2.1	3.1	3.8	12.6
4	3.6	2.1	0.8	0.4	0.3	0.1	2.6	1.8	1.4	0.5	0.1	2.7	4.4
5	0.3	0.1	-7777	-7777	-7777	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.5	0.9	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.7
11	7.6	5.2	2.5	1.1	0.5	0.0	12.5	6.7	3.6	1.2	3.4	6.2	9.1
12	7.5	6.1	2.3	0.6	0.2	0.1	22.0	11.1	7.8	4.2	2.4	6.0	10.1
Summary	44.5	31.6	13.6	4.5	1.9	0.3	99.9	66.3	46.1	22.4	15.4	32.0	66.2

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN MUNICIPAL AIRPORT, ND US**

GHCND:USW00014919

Elev: 1493 ft. Lat: 46.926° N Lon: 98.669° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	164	475	734	925	874	529	194	21	-7777
45	-7777	-7777	4	90	335	584	770	719	387	107	7	-7777
50	0	0	1	43	212	435	615	564	257	52	1	0
55	0	0	1	19	116	293	460	411	150	20	-7777	0
60	0	0	-7777	6	52	171	309	266	75	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	15	125	292	450	595	555	322	131	20	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	180	655	1389	2314	3188	3717	3911	3932	-7777
45	-7777	-7777	4	94	429	1013	1783	2502	2889	2996	3003	-7777
50	0	0	1	44	256	691	1306	1870	2127	2179	2180	2180
55	0	0	1	20	136	429	889	1300	1450	1470	-7777	1470
60	0	0	-7777	6	58	229	538	804	879	885	-7777	885
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	17	142	434	884	1479	2034	2356	2487	2507	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **TAYLOR 7 NNW, ND US**

GHCND:USC00328660  
Elev: 2221 ft. Lat: 46.999° N Lon: 102.476° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.3	4.5	15.4				0	0	0	0	0	0	1227	1290	1383	1538	0.0	0.0	1.2	17.4	30.8	12.2
2	30.9	9.0	20.0				0	0	0	0	0	0	981	1037	1121	1261	0.0	0.0	2.3	14.6	27.6	7.8
3	41.6	19.2	30.4				-7777	-7777	-7777	-7777	0	0	763	824	917	1072	0.0	0.0	8.6	7.1	26.8	2.7
4	56.9	29.6	43.3				14	8	3	-7777	-7777	0	366	421	506	653	0.0	0.0	21.4	0.7	18.0	0.1
5	67.9	41.6	54.8				97	67	35	10	2	1	105	137	198	328	0.0	0.2	29.4	0.0	4.1	0.0
6	76.2	50.4	63.3				259	206	136	54	16	9	10	17	36	105	0.0	1.0	30.0	0.0	0.3	0.0
7	84.7	55.0	69.9				461	400	310	178	83	56	1	2	5	28	0.9	8.8	31.0	0.0	0.0	0.0
8	85.1	53.9	69.5				450	390	303	176	83	56	1	3	9	37	1.0	8.7	31.0	0.0	0.0	0.0
9	72.9	43.4	58.2				157	121	78	32	10	5	62	86	133	238	0.0	2.0	29.4	0.0	2.3	0.0
10	57.2	31.6	44.4				23	14	5	-7777	-7777	0	352	404	489	639	0.0	0.1	21.2	0.8	14.9	0.0
11	40.5	18.7	29.6				-7777	-7777	-7777	0	0	0	762	822	912	1062	0.0	0.0	7.7	7.7	27.1	2.1
12	28.2	6.7	17.5				0	0	0	0	0	0	1163	1225	1319	1474	0.0	0.0	0.9	16.9	30.7	9.7
Summary	55.7	30.3	43.0	9999	9999	9999	1461	1206	870	450	194	127	5793	6268	7028	8435	1.9	20.8	214.1	65.2	182.6	34.6

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TAYLOR 7 NNW, ND US**

GHCND:USC00328660

Elev: 2221 ft. Lat: 46.999° N Lon: 102.476° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	@	@	@	@			
2	0.36	@	@	@	@			
3	0.80	@	@	@	@			
4	1.43	@	@	@	@			
5	2.29	@	@	@	@			
6	3.17	@	@	@	@			
7	2.44	@	@	@	@			
8	1.59	@	@	@	@			
9	1.40	@	@	@	@			
10	1.29	@	@	@	@			
11	0.61	@	@	@	@			
12	0.41	@	@	@	@			
Summary	16.15	9999	9999	9999	9999	9999	9999	9999

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: TAYLOR 7 NNW, ND US

GHCND:USC00328660

Elev: 2221 ft. Lat: 46.999° N Lon: 102.476° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	42	175	461	699	925	913	546	207	28	1
45	-7777	2	17	93	319	549	770	759	403	118	11	-7777
50	0	1	4	40	194	402	615	603	270	59	2	0
55	0	0	-7777	14	97	259	461	450	157	23	-7777	0
60	0	0	-7777	3	35	136	310	303	78	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	7	39	140	289	434	587	581	350	152	28	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	49	224	685	1384	2309	3222	3768	3975	4003	4004
45	-7777	2	19	112	431	980	1750	2509	2912	3030	3041	-7777
50	0	1	5	45	239	641	1256	1859	2129	2188	2190	2190
55	0	0	-7777	14	111	370	831	1281	1438	1461	-7777	1461
60	0	0	-7777	3	38	174	484	787	865	870	-7777	870
Growing Degree Units for Corn (Monthly)												
50/86	3	10	49	189	478	912	1499	2080	2430	2582	2610	2612

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FARGO HECTOR INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014914  
Elev: 899 ft. Lat: 46.925° N Lon: 96.811° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.4	0.1	9.3	6.8	7.5	7.1	0	0	0	0	0	0	1418	1480	1573	1728	0.0	0.0	0.1	25.3	30.9	15.5
2	23.7	5.6	14.6	6.9	8.1	7.4	0	0	0	0	0	0	1130	1186	1270	1410	0.0	0.0	0.3	19.0	27.4	10.5
3	36.3	19.4	27.8	5.3	5.0	5.0	-7777	-7777	-7777	-7777	0	0	842	904	997	1152	0.0	0.0	4.0	10.0	26.7	2.9
4	55.8	32.7	44.2	5.2	3.1	3.8	27	19	11	3	1	-7777	350	402	483	626	0.0	0.1	20.0	0.9	15.1	0.0
5	69.3	44.9	57.1	3.4	3.6	3.3	148	114	72	28	8	5	83	111	162	273	0.0	0.7	29.7	0.0	2.5	0.0
6	77.4	54.9	66.2	3.7	3.3	3.3	341	286	210	107	43	28	6	12	26	73	-7777	2.2	30.0	0.0	0.0	0.0
7	82.5	59.5	71.0	3.5	2.4	2.8	496	434	343	202	89	59	-7777	1	3	16	0.2	3.8	31.0	0.0	0.0	0.0
8	81.2	57.3	69.3	3.3	2.5	2.9	442	382	295	165	73	47	1	3	8	34	0.2	4.0	31.0	0.0	0.0	0.0
9	70.8	47.4	59.1	3.3	2.7	2.8	180	142	96	43	15	9	57	79	123	220	0.0	0.8	29.6	0.0	1.0	0.0
10	56.0	35.1	45.5	3.6	3.2	2.9	28	20	11	3	-7777	-7777	321	375	459	606	0.0	0.1	21.8	0.6	11.9	0.0
11	37.3	20.3	28.8	6.5	5.6	5.8	1	-7777	-7777	-7777	0	0	786	846	936	1086	0.0	0.0	5.2	10.3	25.9	1.8
12	22.3	5.9	14.1	7.1	7.5	7.2	0	0	0	0	0	0	1268	1330	1423	1578	0.0	0.0	0.2	22.3	30.8	11.1
Summary	52.6	31.9	42.2	4.9	4.5	4.5	1663	1397	1038	551	229	148	6262	6729	7463	8802	0.4	11.7	202.9	88.4	172.2	41.8

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FARGO HECTOR INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014914  
Elev: 899 ft. Lat: 46.925° N Lon: 96.811° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.70	8.3	2.0	0.1	0.0	0.26	0.62	0.89
2	0.61	7.2	2.1	0.1	0.0	0.22	0.60	0.86
3	1.30	8.3	3.4	0.7	-7777	0.83	1.09	1.58
4	1.36	7.4	3.7	0.6	0.2	0.60	1.04	1.78
5	2.81	11.0	5.9	1.7	0.7	1.89	2.57	3.46
6	3.90	11.7	6.9	2.4	0.9	1.51	3.46	5.78
7	2.79	9.5	5.4	1.7	0.7	1.20	2.54	4.16
8	2.56	9.1	4.6	1.2	0.5	1.76	2.20	2.85
9	2.57	8.7	5.0	1.8	0.7	1.45	2.08	3.39
10	2.15	8.3	4.4	1.3	0.4	0.71	1.69	2.90
11	1.00	7.1	2.8	0.5	-7777	0.40	0.94	1.19
12	0.83	9.2	2.4	0.3	0.0	0.37	0.80	1.11
Summary	22.58	105.8	48.6	12.4	4.1	11.20	19.63	29.95

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FARGO HECTOR INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014914  
Elev: 899 ft. Lat: 46.925° N Lon: 96.811° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	11.2	8.9	2.7	0.9	0.4	0.2	25.6	19.6	17.1	8.0	3.8	10.5	16.9
2	7.0	6.7	2.4	0.5	0.2	0.0	21.8	18.9	16.7	9.6	3.1	7.7	10.3
3	9.1	5.3	2.4	1.1	0.5	0.1	16.8	13.8	11.0	4.8	5.2	7.7	12.1
4	3.0	1.8	0.9	0.5	0.1	0.0	1.4	0.6	0.4	0.0	0.0	0.7	4.2
5	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.7	0.8	0.3	-7777	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.2
11	7.9	5.4	2.2	0.9	0.4	-7777	10.9	6.1	3.3	1.7	1.4	5.3	11.6
12	11.2	9.5	3.3	1.0	0.4	0.0	22.7	15.1	10.5	5.1	5.4	10.2	13.9
Summary	50.1	38.4	14.2	4.9	2.0	0.3	99.4	74.1	59.0	29.2	18.9	42.1	70.2

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FARGO HECTOR INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014914  
Elev: 899 ft. Lat: 46.925° N Lon: 96.811° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	18	195	531	784	961	906	574	224	27	-7777
45	0	-7777	6	114	386	635	806	752	428	129	11	-7777
50	0	-7777	2	59	255	485	651	597	294	64	3	0
55	0	0	-7777	27	148	341	496	442	180	28	1	0
60	0	0	-7777	11	72	210	343	295	96	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	132	322	492	633	587	344	132	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	214	745	1529	2490	3396	3970	4194	4221	-7777
45	0	-7777	6	120	506	1141	1947	2699	3127	3256	3267	-7777
50	0	-7777	2	61	316	801	1452	2049	2343	2407	2410	2410
55	0	0	-7777	27	175	516	1012	1454	1634	1662	1663	1663
60	0	0	-7777	11	83	293	636	931	1027	1038	-7777	1038
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	146	468	960	1593	2180	2524	2656	2673	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WATFORD CITY 14 S, ND US**

GHCND:USC00329246  
Elev: 2028 ft. Lat: 47.600° N Lon: 103.260° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.3	3.2	14.3	7.2	8.8	7.9	0	0	0	0	0	0	1263	1325	1418	1573	0.0	0.0	0.6	18.7	30.5	12.3
2	31.4	9.0	20.2	7.4	7.9	7.5	-7777	0	0	0	0	0	974	1030	1114	1254	0.0	0.0	3.2	13.4	27.0	7.6
3	43.2	20.3	31.8	6.2	5.4	5.6	1	-7777	-7777	-7777	0	0	721	783	876	1031	0.0	0.0	11.0	6.9	27.0	2.3
4	58.2	31.9	45.1	4.6	2.7	3.5	26	18	10	3	-7777	-7777	325	377	458	601	0.0	0.1	22.2	0.8	14.8	0.1
5	68.6	42.9	55.8	4.2	3.0	3.2	123	92	55	19	5	2	100	131	187	305	0.0	0.4	29.2	0.0	4.1	0.0
6	77.6	52.0	64.8	4.3	3.7	3.8	304	251	180	89	37	25	10	17	36	95	0.4	2.9	30.0	0.0	0.3	0.0
7	85.9	57.5	71.7	4.5	2.9	3.5	518	456	366	226	117	84	-7777	1	3	19	1.4	9.7	31.0	0.0	0.0	0.0
8	85.5	55.8	70.6	4.2	2.8	3.3	487	427	340	209	106	76	2	4	10	34	1.2	10.7	31.0	0.0	0.1	0.0
9	74.2	44.5	59.3	4.8	2.6	3.4	190	152	104	48	18	11	59	81	124	218	0.2	3.0	29.2	0.0	2.2	0.0
10	59.1	32.3	45.7	4.3	2.5	2.9	28	18	9	2	-7777	-7777	316	368	452	600	0.0	0.1	23.1	0.9	14.8	-7777
11	40.9	18.9	29.9	7.1	5.3	5.9	1	-7777	-7777	0	0	0	754	813	903	1053	0.0	0.0	8.5	7.9	26.8	2.1
12	27.5	5.8	16.7	7.2	6.6	6.8	0	0	0	0	0	0	1189	1251	1344	1499	0.0	0.0	1.1	17.5	30.7	9.7
Summary	56.4	31.2	43.8	5.5	4.5	4.8	1678	1414	1064	596	283	198	5713	6181	6925	8282	3.2	26.9	220.1	66.1	178.3	34.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WATFORD CITY 14 S, ND US**

GHCND:USC00329246  
Elev: 2028 ft. Lat: 47.600° N Lon: 103.260° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.39	5.1	1.4	0.0	0.0	0.18	0.36	0.48
2	0.28	4.3	0.9	0.1	0.0	0.11	0.18	0.34
3	0.63	5.5	2.0	0.2	-7777	0.29	0.63	0.97
4	1.19	6.3	3.2	0.6	0.1	0.33	1.04	1.90
5	2.27	10.5	5.2	1.3	0.2	1.31	2.01	2.68
6	2.99	12.2	6.9	1.8	0.7	1.94	2.87	3.38
7	2.29	8.6	4.7	1.5	0.5	1.16	2.04	2.56
8	1.83	7.6	4.0	0.9	0.2	1.19	1.66	2.35
9	1.44	7.4	3.5	0.7	0.3	0.68	1.12	1.72
10	1.41	6.1	3.1	0.9	0.3	0.53	0.82	2.23
11	0.54	4.6	1.4	0.1	-7777	0.15	0.39	0.80
12	0.49	5.0	1.5	-7777	0.0	0.33	0.43	0.72
Summary	15.75	83.2	37.8	8.1	2.3	8.20	13.55	20.13

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WATFORD CITY 14 S, ND US**

GHCND:USC00329246  
Elev: 2028 ft. Lat: 47.600° N Lon: 103.260° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds					Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.	
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.6	4.3	2.7	0.7	0.1	0.0	20.2	14.3	9.2	4.0	2.8	4.4	5.5
2	4.7	3.8	2.2	0.5	0.1	0.0	15.2	10.8	8.3	4.2	1.3	3.8	6.8
3	4.5	2.8	2.0	0.4	0.1	0.0	7.0	3.4	2.1	0.2	2.0	3.0	7.0
4	2.7	1.0	0.8	0.3	0.2	0.1	1.3	0.6	0.3	0.2	0.0	1.0	4.3
5	1.0	0.3	0.3	0.2	0.1	0.0	0.1	0.1	-7777	0.0	0.0	0.0	0.5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	-7777	-7777	0.0	0.0	0.0	0.0	0.0
10	1.6	0.7	0.6	0.2	0.1	0.0	0.8	0.3	0.2	-7777	0.0	0.0	2.0
11	3.6	2.1	1.2	0.4	0.1	-7777	5.9	3.3	1.6	0.0	0.1	2.2	4.3
12	7.4	4.4	2.7	0.8	0.2	0.0	16.0	11.2	6.8	1.4	5.4	6.8	8.5
Summary	31.1	19.4	12.5	3.5	1.0	0.1	66.5	44.0	28.5	10.0	11.6	21.2	38.9

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WATFORD CITY 14 S, ND US**

GHCND:USC00329246  
Elev: 2028 ft. Lat: 47.600° N Lon: 103.260° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	43	213	493	744	983	950	582	235	33	1
45	-7777	1	15	124	350	594	828	795	440	138	13	-7777
50	0	-7777	4	63	225	446	673	640	305	69	4	0
55	0	-7777	1	26	123	304	518	487	190	28	1	0
60	0	0	-7777	10	55	180	366	340	104	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	7	44	156	305	464	629	605	373	174	33	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	6	49	262	755	1499	2482	3432	4014	4249	4282	4283
45	-7777	1	16	140	490	1084	1912	2707	3147	3285	3298	-7777
50	0	-7777	4	67	292	738	1411	2051	2356	2425	2429	2429
55	0	-7777	1	27	150	454	972	1459	1649	1677	1678	1678
60	0	0	-7777	10	65	245	611	951	1055	1064	-7777	1064
Growing Degree Units for Corn (Monthly)												
50/86	1	8	52	208	513	977	1606	2211	2584	2758	2791	2793

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ELLENDALE, ND US**

GHCND:USC00322605

Elev: 1457 ft. Lat: 46.011° N Lon: 98.526° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.2	1.9	11.5	7.2	7.2	7.1	0	0	0	0	0	0	1347	1409	1502	1657	0.0	0.0	0.3	22.9	30.9	13.7
2	25.9	6.5	16.2	7.4	7.9	7.5	0	0	0	0	0	0	1086	1142	1226	1366	0.0	0.0	1.2	17.7	27.5	9.7
3	38.3	19.9	29.1	5.8	4.8	5.0	-7777	-7777	-7777	0	0	0	803	865	958	1113	0.0	0.0	5.8	9.2	27.3	2.3
4	56.5	32.4	44.4	5.4	3.1	3.7	22	15	7	2	-7777	-7777	339	391	474	618	0.0	0.1	21.5	1.1	14.7	0.0
5	69.4	44.9	57.1	3.3	3.6	3.1	147	112	69	25	7	3	80	107	158	269	0.0	0.6	29.6	0.0	2.1	0.0
6	77.7	54.6	66.2	3.7	3.3	3.3	340	284	207	104	40	25	5	9	22	70	-7777	2.1	29.9	0.0	0.0	0.0
7	83.7	59.3	71.5	3.8	2.3	2.9	512	450	359	217	102	69	-7777	1	3	16	0.4	5.8	31.0	0.0	0.0	0.0
8	82.3	57.6	70.0	3.5	2.9	3.1	465	405	318	186	84	55	2	4	10	33	0.2	4.8	31.0	0.0	0.0	0.0
9	72.3	47.7	60.0	3.8	2.5	2.7	198	158	107	48	16	9	48	68	108	198	-7777	1.1	29.6	0.0	0.9	0.0
10	57.6	34.4	46.0	3.7	2.7	2.6	31	21	11	3	-7777	-7777	310	362	445	592	0.0	-7777	22.7	0.7	12.3	0.0
11	37.7	19.1	28.4	7.1	4.9	5.7	-7777	-7777	-7777	-7777	0	0	798	858	948	1098	0.0	0.0	5.5	10.7	27.0	1.6
12	23.9	5.8	14.9	7.6	7.1	7.2	0	0	0	0	0	0	1244	1306	1399	1554	0.0	0.0	0.6	20.9	30.8	9.9
Summary	53.9	32.0	42.9	5.2	4.4	4.5	1715	1445	1078	585	249	161	6062	6522	7253	8584	0.6	14.5	208.7	83.2	173.5	37.2

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ELLENDALE, ND US**

GHCND:USC00322605

Elev: 1457 ft. Lat: 46.011° N Lon: 98.526° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	4.1	2.2	0.1	-7777	0.30	0.52	0.72
2	0.61	3.9	2.2	0.2	0.0	0.21	0.42	0.97
3	1.30	5.1	3.4	0.8	0.2	0.80	1.17	1.76
4	1.74	5.0	3.7	1.4	0.5	0.69	1.32	2.24
5	3.33	7.4	5.8	2.2	0.9	1.94	2.83	4.40
6	3.54	9.5	6.8	2.5	0.8	2.07	3.03	4.76
7	3.07	7.8	5.9	1.6	0.7	1.85	2.82	4.16
8	2.65	6.4	4.4	1.9	0.6	1.66	2.57	3.43
9	2.45	5.6	3.8	1.6	0.6	1.28	1.73	3.16
10	2.06	5.6	3.4	1.4	0.6	0.63	1.45	3.04
11	0.80	4.1	2.6	0.5	-7777	0.17	0.59	1.11
12	0.54	2.8	1.6	0.1	0.0	0.08	0.30	0.87
Summary	22.64	67.3	45.8	14.3	4.9	11.68	18.75	30.62

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **ELLEDALE, ND US**

GHCND:USC00322605  
 Elev: 1457 ft. Lat: 46.011° N Lon: 98.526° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.7	4.4	3.1	1.2	0.3	-7777	@	@	@	@	2.5	6.9	15.6
2	6.2	3.7	2.4	0.8	0.1	0.0	@	@	@	@	2.9	5.5	9.5
3	7.2	3.2	2.6	0.9	0.3	0.0	@	@	@	@	2.0	6.3	10.9
4	4.3	1.1	0.9	0.4	0.2	0.1	@	@	@	@	0.0	1.0	6.7
5	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.8	0.3	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.5
11	9.1	3.2	2.5	1.0	0.7	0.1	@	@	@	@	0.0	6.1	12.0
12	5.4	3.8	2.1	0.5	0.1	0.0	@	@	@	@	1.4	4.1	7.0
Summary	41.7	19.7	13.8	4.9	1.7	0.2	9999	9999	9999	9999	8.8	29.9	62.2

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 Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ELLEDALE, ND US**

GHCND:USC00322605

Elev: 1457 ft. Lat: 46.011° N Lon: 98.526° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	1	21	196	534	784	976	928	601	237	25	-7777
45	-7777	-7777	6	108	389	634	821	773	455	139	9	-7777
50	0	-7777	1	52	257	486	666	618	317	71	2	0
55	0	0	-7777	22	147	340	512	465	198	31	-7777	0
60	0	0	-7777	7	69	207	359	318	107	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	2	20	139	326	493	639	604	366	153	22	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	23	219	753	1537	2513	3441	4042	4279	4304	-7777
45	-7777	-7777	6	114	503	1137	1958	2731	3186	3325	3334	-7777
50	0	-7777	1	53	310	796	1462	2080	2397	2468	2470	2470
55	0	0	-7777	22	169	509	1021	1486	1684	1715	-7777	1715
60	0	0	-7777	7	76	283	642	960	1067	1078	-7777	1078
Growing Degree Units for Corn (Monthly)												
50/86	1	3	23	162	488	981	1620	2224	2590	2743	2765	2766

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HARVEY, ND US**

GHCND:USC00324013

Elev: 1611 ft. Lat: 47.808° N Lon: 99.876° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.4	-1.6	7.9	8.3	8.9	8.5	0	0	0	0	0	0	1460	1522	1615	1770	0.0	0.0	-7777	25.6	31.0	15.9
2	22.9	3.1	13.0	7.3	7.7	7.4	0	0	0	0	0	0	1176	1232	1316	1456	0.0	0.0	0.5	19.3	27.7	11.7
3	35.1	16.0	25.5	6.0	5.4	5.5	-7777	-7777	-7777	0	0	0	913	975	1068	1223	0.0	0.0	3.9	11.6	29.6	4.0
4	54.3	30.1	42.2	5.1	3.4	4.0	17	11	5	1	-7777	-7777	401	455	539	685	0.0	-7777	19.5	1.6	17.2	0.1
5	67.0	42.4	54.7	3.6	3.6	3.3	107	78	44	14	4	2	116	149	209	333	0.0	0.2	29.1	0.1	3.9	0.0
6	75.3	52.3	63.8	4.2	3.1	3.5	276	224	156	71	24	15	12	20	42	107	0.1	1.5	29.8	0.0	0.0	0.0
7	81.4	57.0	69.2	3.7	2.3	2.8	440	379	290	156	61	39	-7777	1	5	26	0.2	3.6	31.0	0.0	0.0	0.0
8	80.5	54.1	67.3	4.2	3.1	3.5	385	327	244	128	50	31	4	8	18	57	0.2	3.8	31.0	0.0	0.0	0.0
9	70.0	44.1	57.1	3.7	2.6	2.9	139	106	67	26	7	4	77	104	156	265	0.0	0.7	29.1	0.0	2.1	0.0
10	54.9	30.9	42.9	4.1	2.8	3.0	16	10	4	1	-7777	-7777	391	447	534	686	0.0	0.0	19.9	1.6	16.9	0.1
11	35.2	15.7	25.5	7.4	6.1	6.4	-7777	-7777	-7777	0	0	0	887	947	1036	1186	0.0	0.0	5.0	12.4	28.2	3.6
12	21.0	3.0	12.0	7.2	7.7	7.3	0	0	0	0	0	0	1333	1395	1488	1643	0.0	0.0	0.1	23.4	30.9	12.6
Summary	51.2	28.9	40.1	5.4	4.7	4.8	1380	1135	810	397	146	91	6770	7255	8026	9437	0.5	9.8	198.9	95.6	187.5	48.0

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HARVEY, ND US**

GHCND:USC00324013

Elev: 1611 ft. Lat: 47.808° N Lon: 99.876° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.29	2.3	1.0	-7777	0.0	0.11	0.20	0.38
2	0.51	2.3	1.1	0.2	0.2	0.10	0.27	0.35
3	0.83	2.7	1.7	0.5	0.1	0.30	0.60	1.05
4	0.94	3.2	2.4	0.4	0.1	0.17	0.56	1.27
5	2.35	6.8	5.1	1.6	0.4	1.31	2.30	3.11
6	3.41	8.1	6.0	2.0	0.6	1.80	2.95	4.48
7	2.65	6.4	5.3	1.9	0.5	1.66	2.10	3.41
8	2.49	5.4	4.1	1.6	0.5	1.14	2.02	3.08
9	1.64	5.1	3.7	1.0	0.4	0.95	1.59	2.18
10	1.47	3.7	2.8	0.8	0.3	0.40	0.82	2.63
11	0.68	2.0	1.2	0.3	-7777	0.18	0.50	1.23
12	0.51	2.0	1.0	0.3	0.1	0.16	0.36	0.65
Summary	17.77	50.0	35.4	10.6	3.2	8.28	14.27	23.82

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HARVEY, ND US**

GHCND:USC00324013

Elev: 1611 ft. Lat: 47.808° N Lon: 99.876° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.2	2.6	1.5	0.7	0.3	-7777	@	@	@	@	1.2	4.0	7.4
2	4.2	2.0	1.1	0.5	0.2	0.0	@	@	@	@	0.5	3.1	6.0
3	5.0	1.7	1.4	0.6	0.4	0.0	@	@	@	@	0.8	4.5	8.2
4	1.3	0.7	0.6	0.3	0.1	0.0	@	@	@	@	0.0	0.0	1.0
5	0.7	0.1	0.1	0.1	0.1	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.6	0.6	0.6	0.3	0.1	-7777	@	@	@	@	0.0	0.0	4.0
11	3.5	1.7	1.6	0.7	0.3	0.0	@	@	@	@	0.0	2.5	6.0
12	4.0	1.8	1.3	0.4	0.2	0.0	@	@	@	@	1.5	3.5	5.0
Summary	26.6	11.3	8.2	3.6	1.7	0.0	9999	9999	9999	9999	4.0	17.6	37.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: HARVEY, ND US

GHCND:USC00324013  
Elev: 1611 ft. Lat: 47.808° N Lon: 99.876° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	11	160	462	714	905	846	514	177	15	-7777
45	0	-7777	3	87	324	564	750	691	372	97	5	-7777
50	0	-7777	1	42	202	416	595	537	243	45	1	0
55	0	0	-7777	17	107	276	440	385	139	16	-7777	0
60	0	0	-7777	5	44	156	290	244	67	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	116	280	433	581	536	315	127	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	172	634	1348	2253	3099	3613	3790	3805	-7777
45	0	-7777	3	90	414	978	1728	2419	2791	2888	2893	-7777
50	0	-7777	1	43	245	661	1256	1793	2036	2081	2082	2082
55	0	0	-7777	17	124	400	840	1225	1364	1380	-7777	1380
60	0	0	-7777	5	49	205	495	739	806	810	-7777	810
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	128	408	841	1422	1958	2273	2400	2417	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: TUTTLE 12 NNE, ND US

GHCND:USC00328853

Elev: 2100 ft. Lat: 47.301° N Lon: 99.919° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.4	-2.3	7.5	6.9	8.1	7.3	0	0	0	0	0	0	1471	1533	1626	1781	0.0	0.0	0.0	26.1	31.0	16.2
2	21.3	4.2	12.8	7.0	8.4	7.6	0	0	0	0	0	0	1183	1239	1323	1463	0.0	0.0	0.0	21.7	27.6	11.0
3	33.4	15.7	24.5	5.5	5.7	5.5	-7777	-7777	0	0	0	0	944	1006	1099	1254	0.0	0.0	2.9	13.6	29.2	3.5
4	51.7	29.3	40.5	5.9	3.1	4.2	6	3	1	-7777	0	0	442	499	586	735	0.0	0.0	17.0	1.9	18.0	0.0
5	64.4	40.7	52.6	3.3	3.2	3.0	67	45	21	5	1	-7777	143	183	252	391	0.0	0.0	28.3	0.0	4.2	0.0
6	73.7	51.5	62.6	5.0	3.3	3.9	247	197	132	53	13	7	19	30	54	125	0.0	0.4	29.9	0.0	0.8	0.0
7	78.7	56.7	67.7	3.2	2.3	2.5	395	335	249	124	42	24	1	3	11	41	0.1	2.4	31.0	0.0	0.0	0.0
8	78.6	54.5	66.6	3.6	2.4	2.9	360	301	219	106	36	21	3	6	17	58	0.0	2.3	31.0	0.0	0.0	0.0
9	67.7	43.5	55.6	4.2	2.8	3.2	116	86	53	19	3	1	98	128	185	301	0.0	0.4	28.9	0.0	2.6	0.0
10	53.5	30.9	42.2	3.7	2.7	2.7	11	6	2	-7777	-7777	-7777	408	465	554	707	0.0	0.0	18.9	1.8	17.3	0.0
11	35.8	17.6	26.7	7.0	5.4	6.0	-7777	0	0	0	0	0	849	909	999	1149	0.0	0.0	5.3	11.9	28.7	2.4
12	21.4	4.5	13.0	6.6	6.9	6.7	0	0	0	0	0	0	1303	1365	1458	1613	0.0	0.0	0.0	23.3	30.9	11.8
Summary	49.8	28.9	39.4	5.2	4.5	4.6	1202	973	677	307	95	53	6864	7366	8164	9618	0.1	5.5	193.2	100.3	190.3	44.9

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TUTTLE 12 NNE, ND US**

GHCND:USC00328853

Elev: 2100 ft. Lat: 47.301° N Lon: 99.919° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.31	@	@	@	@			
2	0.19	@	@	@	@			
3	0.62	@	@	@	@			
4	0.89	@	@	@	@			
5	2.50	@	@	@	@			
6	3.55	@	@	@	@			
7	2.82	@	@	@	@			
8	2.15	@	@	@	@			
9	1.85	@	@	@	@			
10	1.31	@	@	@	@			
11	0.58	@	@	@	@			
12	0.37	@	@	@	@			
Summary	17.14	9999	9999	9999	9999	9999	9999	9999

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www.ncdc.noaa.gov

Station: TUTTLE 12 NNE, ND US

GHCND:USC00328853

Elev: 2100 ft. Lat: 47.301° N Lon: 99.919° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	10	131	399	678	859	823	471	157	18	-7777
45	0	-7777	3	68	266	529	704	667	333	80	5	0
50	0	-7777	1	25	151	381	548	513	211	34	1	0
55	0	0	-7777	6	67	247	395	360	116	11	-7777	0
60	0	0	0	1	21	132	249	219	53	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	93	235	409	543	513	279	110	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	10	141	540	1218	2077	2900	3371	3528	3546	-7777
45	0	-7777	3	71	337	866	1570	2237	2570	2650	2655	2655
50	0	-7777	1	26	177	558	1106	1619	1830	1864	1865	1865
55	0	0	-7777	6	73	320	715	1075	1191	1202	-7777	1202
60	0	0	0	1	22	154	403	622	675	677	677	677
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	101	336	745	1288	1801	2080	2190	2206	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
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Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GRAND FORKS INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014916  
Elev: 843 ft. Lat: 47.943° N Lon: 97.184° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.5	-3.1	6.7	6.8	8.0	7.3	0	0	0	0	0	0	1497	1559	1652	1807	0.0	0.0	-7777	26.7	30.9	17.5
2	21.9	2.1	12.0	6.9	8.4	7.5	0	0	0	0	0	0	1204	1260	1344	1484	0.0	0.0	0.2	20.7	27.7	13.1
3	34.2	16.1	25.2	5.0	5.3	4.9	-7777	-7777	-7777	0	0	0	925	987	1080	1235	0.0	0.0	2.6	11.7	28.7	4.2
4	53.9	30.0	42.0	5.0	3.3	3.9	14	10	5	1	-7777	-7777	406	461	547	693	0.0	0.1	18.2	1.3	18.7	0.0
5	68.0	41.5	54.8	3.7	3.6	3.3	109	81	48	16	4	2	117	150	211	334	0.0	0.5	29.1	0.0	4.3	0.0
6	76.1	52.0	64.0	3.7	3.2	3.2	283	231	161	75	26	15	11	19	39	103	0.0	1.8	30.0	0.0	0.1	0.0
7	81.0	56.3	68.6	3.1	2.5	2.5	423	362	273	141	51	30	-7777	1	5	28	-7777	2.8	31.0	0.0	0.0	0.0
8	80.2	54.0	67.1	3.4	2.7	2.9	377	319	236	119	43	26	3	6	16	54	0.1	3.0	31.0	0.0	0.1	0.0
9	69.6	44.2	56.9	3.4	2.8	2.8	135	104	66	26	8	4	78	107	159	269	-7777	0.7	29.3	0.0	2.0	0.0
10	54.3	31.9	43.1	3.7	3.5	3.0	16	10	5	1	-7777	-7777	385	441	529	680	0.0	-7777	20.3	0.8	15.9	0.0
11	35.1	17.0	26.1	6.5	6.1	6.1	-7777	-7777	-7777	-7777	0	0	868	928	1018	1168	0.0	0.0	4.0	12.1	28.0	2.8
12	20.3	2.6	11.5	6.8	7.5	7.1	0	0	0	0	0	0	1350	1412	1505	1660	0.0	0.0	0.2	24.0	30.9	13.6
Summary	50.9	28.7	39.8	4.8	4.7	4.5	1357	1117	794	379	132	77	6844	7331	8105	9515	0.1	8.9	195.9	97.3	187.3	51.2

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www.ncdc.noaa.gov

Station: **GRAND FORKS INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014916  
Elev: 843 ft. Lat: 47.943° N Lon: 97.184° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	8.1	1.7	0.0	0.0	0.23	0.49	0.69
2	0.52	6.6	1.5	0.1	0.0	0.27	0.42	0.60
3	0.96	7.5	2.9	0.4	0.0	0.40	0.84	1.36
4	1.01	7.0	3.0	0.4	-7777	0.47	0.89	1.30
5	2.68	10.6	5.6	1.8	0.5	1.61	2.27	3.76
6	3.48	11.6	6.2	2.2	0.9	1.74	3.38	4.52
7	3.15	10.5	5.6	1.8	0.7	1.50	2.59	4.22
8	2.88	9.1	5.3	2.0	0.4	1.78	2.74	3.59
9	2.05	8.3	4.4	1.2	0.5	1.10	1.80	2.45
10	1.97	8.5	3.9	1.1	0.5	0.35	2.13	2.61
11	0.95	6.9	2.7	0.3	0.1	0.42	0.64	1.46
12	0.61	8.5	1.9	0.1	0.0	0.36	0.52	0.73
Summary	20.81	103.2	44.7	11.4	3.6	10.23	18.71	27.29

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAND FORKS INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014916  
Elev: 843 ft. Lat: 47.943° N Lon: 97.184° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.7	10.1	3.0	1.0	0.4	0.1	28.7	23.3	18.4	8.3	4.1	7.2	19.4
2	6.6	7.1	2.1	0.5	0.1	0.0	23.7	20.3	15.9	7.0	3.1	5.6	9.8
3	7.2	5.5	2.3	0.6	0.3	0.0	17.6	13.6	9.6	3.0	2.7	7.5	10.7
4	2.6	1.9	0.7	0.3	0.1	0.0	2.4	0.9	0.4	0.1	0.0	1.0	4.4
5	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.5	1.3	0.4	0.1	0.1	-7777	0.8	0.3	0.1	0.1	0.0	0.4	1.5
11	7.7	5.6	2.4	0.7	0.2	0.1	10.3	5.1	2.6	0.9	1.5	6.3	10.9
12	10.7	9.8	3.4	0.9	0.3	0.0	24.5	15.9	10.7	4.0	5.5	8.3	14.5
Summary	47.1	41.5	14.3	4.1	1.5	0.2	108.0	79.4	57.7	23.4	16.9	36.3	71.2

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRAND FORKS INTERNATIONAL AIRPORT, ND US**

GHCND:USW00014916  
Elev: 843 ft. Lat: 47.943° N Lon: 97.184° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	148	461	722	888	839	508	170	14	-7777
45	0	-7777	2	79	322	572	733	685	366	90	4	-7777
50	0	0	1	36	201	423	578	530	238	41	1	0
55	0	0	-7777	14	109	283	423	377	135	16	-7777	0
60	0	0	-7777	5	48	161	273	236	66	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	7	111	293	445	572	535	310	112	12	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	156	617	1339	2227	3066	3574	3744	3758	-7777
45	0	-7777	2	81	403	975	1708	2393	2759	2849	2853	-7777
50	0	0	1	37	238	661	1239	1769	2007	2048	2049	2049
55	0	0	-7777	14	123	406	829	1206	1341	1357	-7777	1357
60	0	0	-7777	5	53	214	487	723	789	794	-7777	794
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	119	412	857	1429	1964	2274	2386	2398	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MC LEOD 3 E, ND US**

GHCND:USC00325754

Elev: 1076 ft. Lat: 46.391° N Lon: 97.239° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.0	-0.3	10.3	7.1	7.7	7.3	0	0	0	0	0	0	1384	1446	1539	1694	0.0	0.0	0.2	23.2	31.0	15.5
2	26.6	5.0	15.8	6.9	8.7	7.7	-7777	0	0	0	0	0	1097	1153	1237	1377	0.0	0.0	0.9	16.9	27.5	11.1
3	39.0	18.4	28.7	5.6	4.9	5.0	-7777	-7777	-7777	0	0	0	815	877	970	1125	0.0	0.0	5.3	7.7	27.6	2.7
4	57.8	32.0	44.9	5.0	3.4	3.7	26	18	9	3	1	-7777	329	381	463	606	0.0	0.1	21.9	0.7	15.4	0.0
5	71.0	44.7	57.8	3.9	3.6	3.4	161	124	79	30	9	4	73	98	146	252	0.0	0.8	30.1	0.0	2.3	0.0
6	78.9	54.6	66.7	4.1	3.1	3.3	356	300	222	115	46	29	4	8	20	63	-7777	2.8	30.0	0.0	-7777	0.0
7	83.8	59.3	71.6	3.5	2.4	2.7	513	451	360	216	99	66	-7777	1	2	13	0.3	5.5	31.0	0.0	0.0	0.0
8	82.9	56.8	69.8	3.6	2.6	2.9	461	400	313	181	81	53	1	2	8	30	0.4	5.1	31.0	0.0	0.0	0.0
9	73.0	47.0	60.0	3.5	2.5	2.7	197	157	106	47	15	9	47	67	106	197	-7777	1.3	29.7	0.0	1.2	0.0
10	58.3	34.5	46.4	4.0	2.8	2.9	31	21	11	3	-7777	-7777	298	350	433	580	0.0	0.1	23.7	0.4	12.4	0.0
11	39.4	20.1	29.8	6.5	5.5	5.8	-7777	-7777	-7777	-7777	0	0	758	818	908	1057	0.0	0.0	6.9	9.1	26.4	1.8
12	24.5	5.2	14.9	7.2	7.9	7.4	0	0	0	0	0	0	1244	1306	1399	1554	0.0	0.0	0.5	21.0	30.8	11.0
Summary	54.7	31.4	43.1	5.1	4.6	4.6	1745	1471	1100	595	251	161	6050	6507	7231	8548	0.7	15.7	211.2	79.0	174.6	42.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC LEOD 3 E, ND US**

GHCND:USC00325754

Elev: 1076 ft. Lat: 46.391° N Lon: 97.239° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	3.6	1.9	0.1	-7777	0.20	0.42	0.85
2	0.56	3.4	1.9	0.1	0.0	0.16	0.39	0.87
3	1.07	3.8	2.6	0.6	0.1	0.59	0.88	1.48
4	1.55	4.4	3.2	1.0	0.3	0.60	1.06	1.91
5	2.81	6.8	5.3	2.1	0.7	1.88	2.53	3.39
6	3.86	8.8	6.5	2.7	0.9	2.03	3.43	4.89
7	3.51	7.8	5.8	2.4	1.0	1.70	3.52	5.01
8	2.14	5.8	4.2	1.5	0.4	1.13	1.81	2.92
9	2.39	5.7	4.2	1.8	0.5	1.18	1.84	3.21
10	2.33	5.2	3.7	1.5	0.7	0.57	2.10	2.80
11	0.85	3.2	2.1	0.6	0.1	0.36	0.71	1.11
12	0.75	3.4	2.2	0.3	0.1	0.27	0.61	1.02
Summary	22.43	61.9	43.6	14.7	4.8	10.67	19.30	29.46

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Station: **MC LEOD 3 E, ND US**

GHCND:USC00325754

Elev: 1076 ft. Lat: 46.391° N Lon: 97.239° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	21	208	554	802	978	925	600	242	30	-7777
45	0	-7777	7	120	408	652	823	770	454	140	11	-7777
50	0	-7777	2	60	273	503	668	615	316	72	2	0
55	0	-7777	-7777	26	161	356	513	461	197	31	-7777	0
60	0	0	-7777	9	79	222	360	313	106	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	151	346	509	646	601	372	157	25	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	22	230	784	1586	2564	3489	4089	4331	4361	-7777
45	0	-7777	7	127	535	1187	2010	2780	3234	3374	3385	-7777
50	0	-7777	2	62	335	838	1506	2121	2437	2509	2511	2511
55	0	-7777	-7777	26	187	543	1056	1517	1714	1745	-7777	1745
60	0	0	-7777	9	88	310	670	983	1089	1100	-7777	1100
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	173	519	1028	1674	2275	2647	2804	2829	2830

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PEMBINA, ND US**

GHCND:USW00014924  
Elev: 791 ft. Lat: 48.971° N Lon: 97.242° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	12.6	-5.7	3.5	6.9	7.8	7.2	0	0	0	0	0	0	1598	1660	1753	1908	0.0	0.0	0.0	28.3	31.0	19.5
2	18.3	-0.8	8.7	6.6	8.3	7.3	0	0	0	0	0	0	1295	1351	1435	1575	0.0	0.0	0.1	22.7	27.8	15.2
3	31.1	13.5	22.3	5.0	5.9	5.3	-7777	-7777	-7777	0	0	0	1014	1076	1169	1324	0.0	0.0	1.6	15.1	29.0	5.7
4	50.9	29.3	40.1	6.0	4.0	4.7	12	7	4	1	-7777	-7777	459	515	601	748	0.0	0.0	15.5	2.3	18.5	0.1
5	64.9	41.4	53.1	4.7	3.9	3.9	93	68	40	13	3	2	150	187	252	381	0.0	0.3	27.5	0.0	5.1	0.0
6	73.8	51.9	62.8	4.1	3.4	3.5	256	207	142	63	20	12	20	31	57	128	0.0	1.2	29.9	0.0	0.2	0.0
7	78.4	56.0	67.2	3.4	2.4	2.6	379	319	233	111	37	22	1	3	10	43	0.0	1.5	31.0	0.0	0.0	0.0
8	77.8	53.1	65.4	4.0	2.9	3.2	330	273	194	90	29	17	6	12	25	76	0.1	2.0	31.0	0.0	-7777	0.0
9	67.3	43.0	55.2	3.6	3.1	3.0	106	79	47	16	4	2	102	134	193	311	-7777	0.2	28.6	0.0	2.7	0.0
10	51.8	30.9	41.4	3.6	3.8	3.2	11	7	3	-7777	-7777	-7777	434	492	581	733	0.0	-7777	16.7	1.3	17.0	-7777
11	32.5	16.6	24.6	6.8	6.5	6.4	-7777	0	0	0	0	0	913	973	1063	1213	0.0	0.0	2.7	14.6	28.0	3.3
12	17.5	1.0	9.3	7.0	7.7	7.2	0	0	0	0	0	0	1418	1480	1573	1728	0.0	0.0	-7777	26.6	30.9	14.2
Summary	48.1	27.5	37.8	5.1	5.0	4.8	1187	960	663	294	93	55	7410	7914	8712	10168	0.1	5.2	184.6	110.9	190.2	58.0

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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PEMBINA, ND US**

GHCND:USW00014924  
Elev: 791 ft. Lat: 48.971° N Lon: 97.242° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	6.5	1.5	0.1	0.0	0.18	0.37	0.56
2	0.38	5.7	1.3	0.1	0.0	0.19	0.31	0.47
3	0.79	5.9	2.4	0.3	-7777	0.31	0.63	1.04
4	0.93	4.9	2.4	0.7	-7777	0.35	0.88	1.42
5	2.96	9.6	6.2	1.8	0.5	1.73	2.43	3.54
6	4.06	12.3	7.3	2.8	0.9	2.80	3.91	4.84
7	3.10	9.1	5.8	2.0	0.8	1.92	2.81	4.27
8	2.63	8.5	5.2	1.7	0.7	1.31	2.13	3.22
9	2.15	7.4	4.7	1.3	0.5	1.15	1.84	3.43
10	1.71	7.2	4.1	1.4	0.4	0.57	1.51	2.58
11	0.96	5.8	2.4	0.4	0.1	0.31	0.55	1.47
12	0.52	7.5	2.0	0.1	0.0	0.25	0.53	0.77
Summary	20.65	90.4	45.3	12.7	3.9	11.07	17.90	27.61

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Station: **PEMBINA, ND US**

GHCND:USW00014924  
Elev: 791 ft. Lat: 48.971° N Lon: 97.242° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.4	4.9	3.6	0.5	0.2	0.0	31.0	27.3	21.8	12.9	2.0	5.0	8.0
2	5.3	3.9	2.4	0.4	-7777	0.0	25.0	21.5	19.0	12.2	3.0	4.0	8.0
3	4.5	2.9	2.0	0.5	0.2	-7777	19.6	14.0	11.0	8.3	0.0	3.0	6.7
4	2.3	0.9	0.8	0.3	0.1	-7777	3.8	2.9	2.4	1.2	0.0	0.0	3.1
5	0.2	0.2	0.1	-7777	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.7	0.6	0.5	0.2	0.1	0.0	0.9	0.5	0.4	0.1	0.0	0.0	2.2
11	7.3	3.3	2.7	0.8	0.2	0.1	11.9	7.4	5.1	2.4	0.3	5.2	13.5
12	7.2	6.3	3.7	0.9	0.2	0.0	24.8	19.8	14.5	9.3	2.4	5.9	10.9
Summary	34.9	23.0	15.8	3.6	1.0	0.1	117.1	93.4	74.2	46.4	7.7	23.1	52.4

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PEMBINA, ND US**

GHCND:USW00014924  
Elev: 791 ft. Lat: 48.971° N Lon: 97.242° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	5	129	418	685	843	788	457	139	10	-7777
45	0	-7777	1	68	287	536	688	634	320	70	3	0
50	0	0	-7777	31	176	391	533	480	199	29	-7777	0
55	0	0	-7777	12	93	256	379	330	106	11	-7777	0
60	0	0	-7777	4	40	142	233	194	47	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	4	88	250	413	534	493	274	88	7	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	5	134	552	1237	2080	2868	3325	3464	3474	-7777
45	0	-7777	1	69	356	892	1580	2214	2534	2604	2607	2607
50	0	0	-7777	31	207	598	1131	1611	1810	1839	-7777	1839
55	0	0	-7777	12	105	361	740	1070	1176	1187	-7777	1187
60	0	0	-7777	4	44	186	419	613	660	663	663	663
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	4	92	342	755	1289	1782	2056	2144	2151	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **CARRINGTON, ND US**

GHCND:USC00321360

Elev: 1585 ft. Lat: 47.449° N Lon: 99.129° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.7	-0.6	8.6	7.5	8.1	7.7	0	0	0	0	0	0	1440	1502	1595	1750	0.0	0.0	0.1	24.7	31.0	15.4
2	22.2	4.0	13.1	7.0	7.9	7.4	0	0	0	0	0	0	1173	1229	1313	1453	0.0	0.0	0.3	20.1	27.9	11.5
3	34.2	16.4	25.3	5.6	5.2	5.3	-7777	-7777	-7777	0	0	0	921	983	1076	1231	0.0	0.0	3.3	11.6	29.4	3.6
4	52.3	29.5	40.9	5.2	3.2	4.0	15	10	5	1	-7777	-7777	438	493	578	724	0.0	-7777	17.5	2.1	19.2	0.1
5	65.4	42.3	53.9	3.6	3.2	3.2	95	69	40	12	2	1	131	167	230	358	0.0	-7777	28.6	-7777	3.4	0.0
6	74.0	52.4	63.2	3.5	2.7	2.9	261	211	145	66	22	13	15	25	49	120	-7777	1.4	29.8	0.0	0.0	0.0
7	79.8	57.5	68.6	3.8	2.5	3.0	424	363	275	144	55	33	1	2	7	31	0.3	2.8	31.0	0.0	0.0	0.0
8	78.7	54.5	66.6	3.4	2.9	3.1	365	307	226	113	40	24	6	10	21	64	0.1	2.6	31.0	0.0	0.0	0.0
9	68.2	44.2	56.2	3.6	2.4	2.7	125	96	60	23	7	4	89	120	174	287	0.0	0.7	28.6	0.0	1.5	0.0
10	53.5	31.4	42.4	3.3	3.0	2.7	15	10	4	1	-7777	-7777	404	461	548	700	0.0	-7777	18.7	1.5	16.2	-7777
11	34.8	17.3	26.1	7.0	5.7	6.1	-7777	-7777	-7777	0	0	0	869	928	1018	1168	0.0	0.0	4.3	12.8	27.7	2.3
12	20.5	4.6	12.6	7.3	7.8	7.5	0	0	0	0	0	0	1316	1378	1471	1626	0.0	0.0	0.1	24.3	30.9	11.9
Summary	50.1	29.5	39.8	5.1	4.6	4.6	1300	1066	755	360	126	75	6803	7298	8080	9512	0.4	7.5	193.3	97.1	187.2	44.8

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CARRINGTON, ND US**

GHCND:USC00321360

Elev: 1585 ft. Lat: 47.449° N Lon: 99.129° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.68	6.7	2.5	0.2	0.0	0.33	0.57	1.08
2	0.56	5.4	1.9	0.1	0.0	0.30	0.54	0.65
3	0.96	7.0	3.1	0.3	-7777	0.49	0.84	1.28
4	1.18	6.6	3.0	0.5	0.2	0.56	0.96	1.65
5	2.56	9.1	5.2	1.4	0.3	1.03	2.22	3.27
6	3.55	12.3	7.2	2.1	0.7	2.07	3.13	4.46
7	3.48	11.0	7.0	2.3	1.0	1.94	2.92	5.29
8	2.42	8.2	5.1	1.4	0.4	1.20	2.06	2.95
9	1.68	7.1	3.6	0.9	0.2	0.82	1.43	2.76
10	1.66	6.4	3.2	1.0	0.3	0.59	1.51	2.50
11	0.86	6.0	3.0	0.3	-7777	0.29	0.87	1.24
12	0.56	6.5	1.5	-7777	0.0	0.24	0.41	0.80
Summary	20.15	92.3	46.3	10.5	3.1	9.86	17.46	27.93

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U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **CARRINGTON, ND US**

GHCND:USC00321360

Elev: 1585 ft. Lat: 47.449° N Lon: 99.129° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	11	138	437	696	888	824	488	165	19	-7777
45	-7777	-7777	3	74	301	546	733	670	348	88	7	-7777
50	0	-7777	1	36	184	399	578	515	222	40	1	0
55	0	0	-7777	15	95	261	424	365	125	15	-7777	0
60	0	0	-7777	5	40	145	275	226	60	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	101	255	414	567	515	287	110	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	150	587	1283	2171	2995	3483	3648	3667	-7777
45	-7777	-7777	3	77	378	924	1657	2327	2675	2763	2770	-7777
50	0	-7777	1	37	221	620	1198	1713	1935	1975	1976	1976
55	0	0	-7777	15	110	371	795	1160	1285	1300	-7777	1300
60	0	0	-7777	5	45	190	465	691	751	755	-7777	755
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	112	367	781	1348	1863	2150	2260	2275	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **COOPERSTOWN, ND US**

GHCND:USC00321766

Elev: 1381 ft. Lat: 47.405° N Lon: 98.038° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.7	-3.2	6.7	7.4	7.8	7.5	0	0	0	0	0	0	1496	1558	1651	1806	0.0	0.0	0.1	26.2	31.0	17.2
2	22.3	1.9	12.1	7.0	7.8	7.3	0	0	0	0	0	0	1201	1257	1341	1481	0.0	0.0	0.2	20.5	27.7	12.5
3	34.9	15.3	25.1	5.8	5.0	5.2	-7777	-7777	-7777	0	0	0	927	989	1082	1237	0.0	0.0	3.4	11.2	29.5	4.2
4	54.3	29.2	41.7	5.2	3.3	3.9	15	10	5	1	-7777	-7777	413	468	553	699	0.0	-7777	19.0	1.5	19.1	0.1
5	67.2	41.1	54.2	3.3	3.4	3.0	99	72	42	13	3	1	125	161	223	350	0.0	0.4	28.7	0.0	5.2	0.0
6	75.3	51.2	63.3	3.7	3.0	3.1	260	209	143	63	20	12	13	22	45	116	-7777	1.4	30.0	0.0	0.1	0.0
7	79.9	55.7	67.8	4.0	2.2	2.8	397	337	250	124	44	26	1	2	8	37	0.2	2.4	31.0	0.0	0.0	0.0
8	79.3	53.2	66.3	3.9	2.5	3.0	353	295	213	105	37	22	4	8	20	66	0.2	2.7	31.0	0.0	0.1	0.0
9	69.2	43.4	56.3	3.1	2.5	2.4	124	93	57	22	6	3	85	114	168	283	-7777	0.4	29.2	0.0	3.1	0.0
10	54.7	30.8	42.8	4.0	3.1	2.8	14	9	4	1	-7777	-7777	394	450	538	690	0.0	-7777	20.0	1.1	16.8	-7777
11	34.9	16.1	25.5	7.0	5.5	6.0	-7777	-7777	-7777	0	0	0	885	945	1035	1185	0.0	0.0	4.2	13.1	28.3	2.9
12	20.3	2.0	11.2	7.2	7.1	7.0	0	0	0	0	0	0	1359	1421	1514	1669	0.0	0.0	0.1	24.8	31.0	13.7
Summary	50.8	28.1	39.4	5.1	4.4	4.5	1262	1025	714	329	110	64	6903	7395	8178	9619	0.4	7.3	196.9	98.4	191.9	50.6

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COOPERSTOWN, ND US**

GHCND:USC00321766

Elev: 1381 ft. Lat: 47.405° N Lon: 98.038° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	4.5	1.8	0.1	0.0	0.15	0.47	0.89
2	0.52	3.8	1.8	0.2	0.0	0.14	0.37	0.66
3	1.03	5.3	3.3	0.4	-7777	0.41	1.00	1.36
4	1.23	5.3	2.9	0.6	0.2	0.61	0.96	1.80
5	2.92	9.7	6.2	1.8	0.6	1.18	2.64	4.01
6	3.43	10.4	6.8	2.4	0.7	1.88	3.35	4.80
7	3.58	9.8	6.7	2.3	0.8	1.90	3.01	5.49
8	2.83	8.4	5.2	1.8	0.9	1.67	2.81	3.67
9	2.12	7.6	4.8	1.5	0.4	1.15	1.97	2.81
10	1.87	6.5	3.9	1.3	0.5	0.32	1.77	2.53
11	0.88	4.0	2.0	0.4	0.1	0.14	0.77	1.48
12	0.64	4.9	1.9	0.1	-7777	0.28	0.64	0.91
Summary	21.58	80.2	47.3	12.9	4.2	9.83	19.76	30.41

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COOPERSTOWN, ND US**

GHCND:USC00321766

Elev: 1381 ft. Lat: 47.405° N Lon: 98.038° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.2	5.2	3.2	1.0	0.4	-7777	28.3	20.5	15.2	9.8	2.5	7.1	13.0
2	6.2	4.0	2.2	0.6	0.1	0.0	23.8	15.9	12.4	5.6	2.0	5.5	9.0
3	6.4	3.3	2.4	0.8	0.3	0.0	15.7	11.9	7.8	2.6	1.0	6.2	9.8
4	2.5	1.0	0.6	0.3	0.2	-7777	1.6	1.1	0.9	0.3	0.0	0.5	3.5
5	0.1	0.1	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	1.1	0.7	0.5	0.1	-7777	0.0	0.6	0.0	0.0	0.0	0.0	0.0	1.6
11	6.6	3.4	2.7	0.9	0.3	-7777	9.8	5.5	3.7	1.1	1.3	5.5	10.3
12	8.9	5.5	3.4	1.1	0.4	0.0	22.0	15.0	10.8	4.4	2.0	10.9	13.0
Summary	40.0	23.2	15.0	4.8	1.7	0.0	101.8	69.9	50.8	23.8	8.8	35.7	60.2

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: COOPERSTOWN, ND US

GHCND:USC00321766  
Elev: 1381 ft. Lat: 47.405° N Lon: 98.038° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	147	444	697	862	814	491	167	14	-7777
45	0	-7777	3	79	306	548	707	659	349	88	4	-7777
50	0	0	1	37	187	399	552	504	223	40	1	0
55	0	0	-7777	15	99	260	397	353	124	14	-7777	0
60	0	0	-7777	5	42	143	250	213	57	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	10	117	280	427	549	514	303	121	14	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	156	600	1297	2159	2973	3464	3631	3645	-7777
45	0	-7777	3	82	388	936	1643	2302	2651	2739	2743	-7777
50	0	0	1	38	225	624	1176	1680	1903	1943	1944	1944
55	0	0	-7777	15	114	374	771	1124	1248	1262	-7777	1262
60	0	0	-7777	5	47	190	440	653	710	714	-7777	714
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	10	127	407	834	1383	1897	2200	2321	2335	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ASHLEY, ND US**

GHCND:USC00320382

Elev: 2014 ft. Lat: 46.040° N Lon: 99.374° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.2	1.6	11.9	6.8	7.1	6.8	0	0	0	0	0	0	1336	1398	1491	1646	0.0	0.0	0.3	22.3	31.0	13.4
2	27.1	6.7	16.9	7.3	8.0	7.5	0	0	0	0	0	0	1067	1123	1207	1347	0.0	0.0	1.5	16.8	27.5	9.2
3	38.5	18.2	28.4	6.0	4.7	5.1	-7777	-7777	-7777	0	0	0	826	888	981	1136	0.0	0.0	5.7	8.8	28.5	2.6
4	55.2	30.1	42.7	5.1	2.8	3.6	20	13	6	1	-7777	-7777	391	444	527	672	0.0	0.0	19.5	1.4	17.5	0.0
5	67.1	42.7	54.9	3.8	3.0	3.0	110	81	47	14	3	1	113	146	205	328	0.0	0.3	28.7	0.0	3.8	0.0
6	75.9	52.7	64.3	3.9	3.1	3.3	291	238	168	79	29	18	12	20	39	100	0.2	1.6	30.0	0.0	0.0	0.0
7	83.1	58.1	70.6	4.4	2.9	3.4	484	423	333	197	92	62	1	2	5	24	0.6	5.9	31.0	0.0	0.0	0.0
8	81.6	55.5	68.5	3.5	3.0	3.0	423	364	279	156	67	43	3	6	15	46	0.3	5.0	31.0	0.0	0.0	0.0
9	71.3	45.2	58.2	3.7	3.2	3.1	166	130	87	39	13	7	68	93	140	241	-7777	1.2	29.2	0.0	1.9	0.0
10	57.0	32.2	44.6	4.1	3.4	3.1	24	16	7	1	-7777	-7777	347	400	485	634	0.0	-7777	21.8	0.9	14.7	-7777
11	39.2	18.7	29.0	7.2	5.0	5.8	-7777	-7777	-7777	0	0	0	782	842	931	1081	0.0	0.0	6.7	8.9	27.6	1.8
12	25.3	6.4	15.9	7.5	7.3	7.2	0	0	0	0	0	0	1213	1275	1368	1523	0.0	0.0	0.5	20.1	30.9	9.4
Summary	53.6	30.7	42.2	5.3	4.5	4.6	1518	1265	927	487	204	131	6159	6637	7394	8778	1.1	14.0	205.9	79.2	183.4	36.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ASHLEY, ND US**

GHCND:USC00320382

Elev: 2014 ft. Lat: 46.040° N Lon: 99.374° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	5.6	1.4	-7777	0.0	0.17	0.29	0.47
2	0.41	5.7	1.4	-7777	0.0	0.15	0.29	0.54
3	0.90	7.0	2.4	0.5	0.1	0.35	0.87	1.49
4	1.37	7.8	3.9	0.6	0.1	0.86	1.24	1.72
5	2.93	11.3	6.2	1.8	0.6	1.54	2.81	3.80
6	3.51	12.3	7.0	2.2	0.8	1.81	3.22	4.61
7	3.07	10.5	6.0	2.0	0.7	1.90	2.64	4.25
8	2.62	9.4	4.6	1.6	0.8	1.55	2.50	3.31
9	1.89	9.4	4.1	1.2	0.3	1.08	1.56	2.55
10	1.62	8.5	3.9	0.8	0.3	0.70	1.11	2.48
11	0.56	6.0	1.7	0.1	0.0	0.19	0.52	0.85
12	0.33	5.7	0.8	0.1	0.0	0.10	0.21	0.45
Summary	19.57	99.2	43.4	10.9	3.7	10.40	17.26	26.52

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www.ncdc.noaa.gov

Station: **ASHLEY, ND US**

GHCND:USC00320382

Elev: 2014 ft. Lat: 46.040° N Lon: 99.374° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.2	4.7	2.2	0.5	0.2	-7777	22.4	17.5	12.5	9.0	1.8	5.0	8.9
2	5.0	4.3	2.0	0.5	0.1	0.0	20.7	16.1	10.7	7.9	2.1	4.5	7.7
3	5.0	4.6	2.3	0.6	0.2	0.0	15.8	11.6	8.6	5.3	1.0	3.6	5.9
4	3.1	1.6	1.1	0.2	0.1	-7777	2.8	1.6	1.1	0.4	0.0	1.3	3.4
5	-7777	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.7	0.6	0.3	0.1	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.5
11	4.4	3.2	2.0	0.6	0.2	0.0	9.9	5.5	3.4	1.2	0.0	3.0	8.3
12	5.1	4.7	2.0	0.4	0.1	0.1	18.6	12.9	7.7	4.3	2.2	3.8	5.0
Summary	29.5	23.9	11.9	2.9	0.9	0.1	90.7	65.3	44.0	28.1	7.1	21.2	39.7

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U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ASHLEY, ND US**

GHCND:USC00320382

Elev: 2014 ft. Lat: 46.040° N Lon: 99.374° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	20	170	467	729	948	885	550	214	28	-7777
45	-7777	-7777	6	96	329	579	793	730	408	124	10	-7777
50	0	-7777	2	47	206	432	638	575	276	61	2	0
55	0	0	-7777	20	110	291	484	423	166	24	-7777	0
60	0	0	-7777	6	47	168	333	279	87	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	21	128	281	447	613	566	339	149	28	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	22	192	659	1388	2336	3221	3771	3985	4013	-7777
45	-7777	-7777	6	102	431	1010	1803	2533	2941	3065	3075	-7777
50	0	-7777	2	49	255	687	1325	1900	2176	2237	2239	2239
55	0	0	-7777	20	130	421	905	1328	1494	1518	-7777	1518
60	0	0	-7777	6	53	221	554	833	920	927	-7777	927
Growing Degree Units for Corn (Monthly)												
50/86	1	4	25	153	434	881	1494	2060	2399	2548	2576	2577

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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Derived from 1981-2010 serially complete daily data

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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILTON, ND US**

GHCND:USC00329455

Elev: 2188 ft. Lat: 47.160° N Lon: 100.789° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.6	1.6	10.6	8.1	8.7	8.3	0	0	0	0	0	0	1376	1438	1531	1686	0.0	0.0	0.1	23.7	30.9	13.7
2	24.3	6.0	15.1	7.2	8.2	7.5	0	0	0	0	0	0	1116	1172	1256	1396	0.0	0.0	0.8	18.1	27.6	10.2
3	36.2	18.0	27.1	6.3	4.8	5.4	-7777	-7777	-7777	0	0	0	865	927	1020	1175	0.0	0.0	5.0	11.4	28.5	2.8
4	53.4	30.8	42.1	5.0	3.3	3.9	17	11	5	1	-7777	-7777	404	458	542	688	0.0	-7777	18.9	1.9	16.4	-7777
5	65.3	42.8	54.0	3.3	2.6	2.7	96	69	39	11	2	1	126	161	223	350	0.0	-7777	28.0	-7777	3.2	0.0
6	73.4	52.5	62.9	4.2	3.1	3.3	254	205	140	61	20	12	16	27	52	122	0.1	1.1	29.8	0.0	-7777	0.0
7	80.0	57.3	68.6	4.0	2.1	2.7	424	363	275	144	57	35	1	2	7	31	0.1	3.7	31.0	0.0	0.0	0.0
8	80.0	54.9	67.5	4.3	2.9	3.3	390	332	250	133	51	31	5	9	20	58	0.2	4.0	30.9	0.0	0.0	0.0
9	69.1	45.3	57.2	4.0	3.3	3.4	149	116	75	30	9	4	83	110	159	265	0.0	1.0	28.9	0.0	1.5	0.0
10	54.7	32.1	43.4	4.5	2.6	3.3	21	13	6	1	-7777	-7777	380	435	521	671	0.0	-7777	19.9	1.4	14.6	-7777
11	36.6	18.2	27.4	7.7	6.0	6.6	-7777	-7777	-7777	0	0	0	828	888	978	1128	0.0	0.0	5.8	11.2	27.3	2.5
12	22.8	5.9	14.4	7.6	7.4	7.5	0	0	0	0	0	0	1260	1322	1415	1570	0.0	0.0	0.3	21.9	30.9	10.2
Summary	51.3	30.4	40.9	5.5	4.6	4.8	1351	1109	790	381	139	83	6460	6949	7724	9140	0.4	9.8	199.4	89.6	180.9	39.4

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILTON, ND US**

GHCND:USC00329455  
Elev: 2188 ft. Lat: 47.160° N Lon: 100.789° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	4.1	1.8	-7777	0.0	0.24	0.46	0.71
2	0.44	3.6	1.7	0.0	0.0	0.20	0.42	0.56
3	0.74	4.0	2.4	0.3	-7777	0.20	0.66	1.09
4	1.44	5.0	3.2	0.7	0.1	0.61	1.03	2.17
5	2.61	7.8	5.6	1.7	0.6	1.55	2.29	3.51
6	3.55	9.8	6.7	2.5	1.0	2.14	3.45	4.73
7	3.00	8.5	6.1	2.3	0.8	2.14	2.67	3.56
8	2.25	7.2	4.5	1.3	0.3	1.19	2.04	2.57
9	1.69	6.0	3.8	0.9	0.3	0.88	1.58	2.10
10	1.51	5.2	3.4	0.8	0.2	0.30	0.99	1.82
11	0.66	3.9	2.1	0.3	0.1	0.23	0.63	0.96
12	0.68	5.1	2.3	0.3	-7777	0.28	0.45	0.81
Summary	19.10	70.2	43.6	11.1	3.4	9.96	16.67	24.59

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Station: **WILTON, ND US**

GHCND:USC00329455

Elev: 2188 ft. Lat: 47.160° N Lon: 100.789° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	3.9	2.4	1.1	0.5	0.1	@	@	@	@	2.2	4.2	12.2
2	5.2	3.7	2.4	0.5	0.1	0.0	@	@	@	@	2.2	4.5	6.3
3	6.7	3.1	2.3	0.7	0.1	0.0	@	@	@	@	1.8	5.2	11.7
4	3.2	1.2	0.9	0.4	0.2	0.0	@	@	@	@	0.0	1.0	6.0
5	0.9	0.4	0.3	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.5
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	-7777	-7777	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.4	0.9	0.6	0.3	0.2	0.0	@	@	@	@	0.0	0.0	4.5
11	3.4	2.7	1.7	0.6	0.5	0.1	@	@	@	@	0.0	2.1	5.9
12	10.1	4.5	2.6	1.0	0.5	0.1	@	@	@	@	3.0	7.0	12.0
Summary	39.6	20.4	13.2	4.7	2.1	0.3	9999	9999	9999	9999	9.2	24.0	59.1

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Station: **WILTON, ND US**

GHCND:USC00329455  
Elev: 2188 ft. Lat: 47.160° N Lon: 100.789° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	16	159	444	689	888	850	520	189	23	-7777
45	-7777	-7777	5	87	307	539	733	696	380	105	9	-7777
50	0	0	1	42	187	392	578	542	252	51	2	0
55	0	0	-7777	17	96	254	424	390	149	21	-7777	0
60	0	0	-7777	5	39	140	275	250	75	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	109	256	407	565	534	307	125	19	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	18	177	621	1310	2198	3048	3568	3757	3780	-7777
45	-7777	-7777	5	92	399	938	1671	2367	2747	2852	2861	-7777
50	0	0	1	43	230	622	1200	1742	1994	2045	2047	2047
55	0	0	-7777	17	113	367	791	1181	1330	1351	-7777	1351
60	0	0	-7777	5	44	184	459	709	784	790	-7777	790
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	16	125	381	788	1353	1887	2194	2319	2338	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA, ND US**

GHCND:USC00325813  
Elev: 2267 ft. Lat: 46.916° N Lon: 103.526° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	28.5	3.4	15.9	6.6	7.9	7.1	0	0	0	0	0	0	1210	1272	1365	1520	0.0	0.0	1.3	16.1	30.7	12.2
2	34.1	8.4	21.3	7.6	7.9	7.6	-7777	0	0	0	0	0	945	1001	1085	1225	0.0	0.0	4.5	11.4	27.5	7.9
3	44.5	19.2	31.8	6.5	4.9	5.5	1	-7777	-7777	-7777	0	0	718	780	873	1028	0.0	0.0	11.9	6.4	28.2	2.5
4	57.7	30.1	43.9	4.5	2.5	3.1	19	12	6	1	-7777	-7777	352	405	489	634	0.0	0.1	22.2	1.0	17.0	0.1
5	68.3	40.9	54.6	4.6	2.8	3.4	102	74	43	14	3	1	115	149	210	337	0.0	0.4	29.5	0.0	4.4	0.0
6	77.9	50.2	64.0	4.8	3.7	4.0	284	233	164	79	31	20	13	22	42	107	0.4	3.0	29.9	0.0	0.4	0.0
7	86.5	56.2	71.4	4.8	2.4	3.4	507	446	355	217	110	78	1	1	3	20	1.8	11.4	31.0	0.0	0.0	0.0
8	86.2	54.0	70.1	4.3	2.9	3.4	470	410	323	194	94	65	2	4	10	36	0.9	11.4	31.0	0.0	0.1	0.0
9	74.1	42.0	58.1	4.8	2.7	3.4	164	129	84	36	12	7	73	97	143	244	-7777	3.0	29.0	0.0	3.4	0.0
10	59.1	30.7	44.9	4.3	2.4	2.9	22	14	6	1	-7777	-7777	335	389	474	624	0.0	0.1	23.2	0.9	16.9	0.1
11	42.2	17.8	30.0	6.6	4.7	5.4	-7777	-7777	-7777	0	0	0	750	810	900	1050	0.0	0.0	9.0	6.6	27.8	2.3
12	29.5	5.5	17.5	7.4	6.7	6.9	0	0	0	0	0	0	1162	1224	1317	1472	0.0	0.0	1.6	15.5	30.7	10.4
Summary	57.4	29.9	43.6	5.6	4.3	4.7	1569	1318	981	542	250	171	5676	6154	6911	8297	3.1	29.4	224.1	57.9	187.1	35.5

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA, ND US**

GHCND:USC00325813

Elev: 2267 ft. Lat: 46.916° N Lon: 103.526° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.30	4.8	1.1	0.1	0.0	0.13	0.27	0.42
2	0.36	3.8	1.1	0.1	0.0	0.07	0.32	0.54
3	0.77	5.5	2.0	0.2	-7777	0.25	0.54	1.04
4	1.34	6.4	3.7	0.6	0.1	0.59	1.08	2.09
5	2.49	9.4	4.9	1.4	0.5	1.79	2.36	3.07
6	2.86	10.4	6.2	1.7	0.5	1.49	2.60	3.81
7	2.19	9.0	5.0	1.3	0.5	0.98	1.53	2.76
8	1.30	5.8	2.8	0.7	0.2	0.49	1.34	1.83
9	1.30	5.7	3.2	0.6	0.3	0.56	0.90	1.78
10	1.14	6.1	2.6	0.5	0.2	0.33	0.69	1.81
11	0.57	4.6	1.8	0.2	0.1	0.11	0.35	0.76
12	0.35	4.8	1.4	0.0	0.0	0.15	0.27	0.58
Summary	14.97	76.3	35.8	7.4	2.4	6.94	12.25	20.49

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Monthly Normals  
1981-2010**

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA, ND US**

GHCND:USC00325813  
Elev: 2267 ft. Lat: 46.916° N Lon: 103.526° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.2	3.9	2.1	0.5	0.1	0.0	20.3	13.4	7.9	1.9	1.7	3.1	5.6
2	5.4	3.3	2.2	0.6	0.1	0.0	14.5	8.4	5.7	1.6	1.0	6.4	7.4
3	4.5	2.5	1.8	0.7	0.1	-7777	8.6	5.9	3.4	1.5	0.6	2.9	6.5
4	3.1	1.0	0.8	0.5	0.3	0.1	1.9	1.5	1.0	0.3	0.0	1.5	6.0
5	0.6	0.2	0.1	0.1	-7777	0.0	0.1	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
10	1.5	0.7	0.5	0.1	0.1	0.0	0.9	0.4	0.1	0.0	0.0	0.2	2.0
11	3.1	2.5	1.7	0.6	0.1	0.0	6.6	2.9	1.2	0.1	0.0	1.5	6.0
12	6.0	4.3	2.3	0.5	0.2	0.0	15.7	8.9	5.8	1.0	3.4	5.4	8.3
Summary	29.7	18.5	11.6	3.7	1.0	0.1	68.7	41.6	25.1	6.4	6.7	21.0	41.8

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Data derived from 1981-2010 normals.



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National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDORA, ND US**

GHCND:USC00325813  
Elev: 2267 ft. Lat: 46.916° N Lon: 103.526° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	6	42	186	458	721	971	932	545	216	31	1
45	-7777	1	15	103	317	572	817	778	404	124	12	-7777
50	0	-7777	4	49	195	425	662	623	274	59	3	-7777
55	0	-7777	1	19	102	284	507	470	164	22	-7777	0
60	0	0	-7777	6	43	164	355	323	84	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	12	52	149	294	449	615	590	362	175	37	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	7	49	235	693	1414	2385	3317	3862	4078	4109	4110
45	-7777	1	16	119	436	1008	1825	2603	3007	3131	3143	-7777
50	0	-7777	4	53	248	673	1335	1958	2232	2291	2294	-7777
55	0	-7777	1	20	122	406	913	1383	1547	1569	-7777	1569
60	0	0	-7777	6	49	213	568	891	975	981	-7777	981
Growing Degree Units for Corn (Monthly)												
50/86	3	15	67	216	510	959	1574	2164	2526	2701	2738	2740

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HURRICANE LAKE, ND US**

GHCND:USC00324372

Elev: 1562 ft. Lat: 48.460° N Lon: 99.532° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.52	@	@	@	@			
2	0.44	@	@	@	@			
3	0.77	@	@	@	@			
4	1.03	@	@	@	@			
5	2.91	@	@	@	@			
6	3.55	@	@	@	@			
7	3.02	@	@	@	@			
8	2.31	@	@	@	@			
9	1.72	@	@	@	@			
10	1.43	@	@	@	@			
11	0.88	@	@	@	@			
12	0.62	@	@	@	@			
Summary	19.20	9999	9999	9999	9999	9999	9999	9999

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LANGDON EXPERIMENT FARM, ND US**

GHCND:USC00324958

Elev: 1614 ft. Lat: 48.762° N Lon: 98.345° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	12.8	-6.1	3.3	7.1	7.6	7.3	0	0	0	0	0	0	1601	1663	1756	1911	0.0	0.0	0.0	28.2	31.0	19.7
2	18.1	-1.5	8.3	6.8	8.2	7.4	0	0	0	0	0	0	1307	1363	1447	1587	0.0	0.0	-7777	22.8	27.9	15.0
3	29.9	11.8	20.9	5.2	5.3	5.2	-7777	-7777	0	0	0	0	1059	1121	1214	1369	0.0	0.0	1.3	15.8	30.5	6.5
4	49.6	27.7	38.6	5.8	3.8	4.6	8	5	2	-7777	0	0	499	556	643	791	0.0	0.0	15.0	2.9	20.8	0.1
5	63.6	39.4	51.5	4.0	3.5	3.5	72	52	29	8	2	1	181	222	292	427	0.0	0.1	27.1	-7777	6.9	0.0
6	72.1	50.0	61.1	4.2	3.2	3.5	209	164	107	44	12	7	28	43	76	162	0.0	0.7	29.7	0.0	0.1	0.0
7	76.9	54.6	65.7	3.6	2.2	2.7	336	277	195	86	26	14	3	6	17	63	0.0	1.0	31.0	0.0	0.0	0.0
8	76.6	52.5	64.6	4.0	2.5	3.1	305	249	174	77	25	14	9	15	33	91	-7777	1.6	31.0	0.0	0.1	0.0
9	66.5	42.1	54.3	3.6	2.8	3.0	97	72	44	15	4	2	118	153	215	336	-7777	0.3	28.4	0.0	3.0	0.0
10	51.0	29.1	40.1	3.8	3.5	3.1	9	5	2	-7777	-7777	0	473	531	621	774	0.0	-7777	16.0	2.2	19.3	-7777
11	31.9	14.5	23.2	6.9	6.2	6.4	-7777	-7777	0	0	0	0	954	1014	1104	1254	0.0	0.0	2.9	15.3	28.8	4.1
12	17.0	-0.4	8.3	7.3	7.7	7.4	0	0	0	0	0	0	1447	1510	1603	1758	0.0	0.0	0.0	26.9	31.0	15.0
Summary	47.2	26.1	36.7	5.2	4.7	4.8	1036	824	553	230	69	38	7679	8197	9021	10523	0.0	3.7	182.4	114.1	199.4	60.4

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LANGDON EXPERIMENT FARM, ND US**

GHCND:USC00324958

Elev: 1614 ft. Lat: 48.762° N Lon: 98.345° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	7.0	1.2	0.1	0.0	0.20	0.35	0.74
2	0.39	5.3	1.2	0.1	0.0	0.19	0.35	0.51
3	0.65	6.1	1.9	0.1	-7777	0.29	0.55	0.93
4	1.02	5.5	2.9	0.6	-7777	0.38	0.78	1.56
5	2.69	9.9	5.4	1.7	0.6	1.73	2.42	3.57
6	3.88	12.7	8.0	2.3	0.9	2.74	3.74	4.81
7	3.22	10.8	6.5	2.3	0.6	1.98	2.49	4.34
8	2.57	9.0	5.2	1.3	0.6	1.18	2.00	3.52
9	1.81	8.4	4.1	1.1	0.4	0.94	1.52	2.44
10	1.49	8.0	3.4	0.9	0.3	0.39	1.35	2.06
11	0.72	6.2	2.1	0.2	0.1	0.32	0.54	0.89
12	0.52	7.1	2.0	-7777	0.0	0.33	0.46	0.69
Summary	19.42	96.0	43.9	10.7	3.5	10.67	16.55	26.06

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LANGDON EXPERIMENT FARM, ND US**

GHCND:USC00324958

Elev: 1614 ft. Lat: 48.762° N Lon: 98.345° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.9	7.0	2.8	0.8	0.3	-7777	30.2	26.9	24.9	19.4	4.6	6.0	11.0
2	5.9	4.9	2.5	0.6	0.1	0.0	27.2	25.1	23.9	18.8	2.8	5.3	7.8
3	6.0	4.5	2.3	0.5	0.2	0.0	25.4	22.4	20.8	16.4	2.8	6.5	9.7
4	3.5	1.8	1.1	0.4	0.2	-7777	6.0	3.8	3.2	1.6	0.0	1.0	5.0
5	0.8	0.3	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.5	1.3	1.0	0.2	0.1	-7777	2.0	0.9	0.6	-7777	0.0	1.2	4.0
11	7.6	4.6	2.9	0.8	0.3	0.0	15.5	10.3	6.9	2.3	2.3	7.1	12.0
12	8.9	7.1	3.4	0.8	0.2	0.0	28.6	23.7	19.6	8.7	4.6	8.3	12.2
Summary	43.1	31.5	16.2	4.2	1.5	0.0	135.0	113.1	99.9	67.2	17.1	35.4	61.7

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: LANGDON EXPERIMENT FARM, ND US

GHCND:USC00324958

Elev: 1614 ft. Lat: 48.762° N Lon: 98.345° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	3	109	373	632	798	761	434	124	10	-7777
45	0	-7777	1	56	249	483	643	606	300	64	3	0
50	0	0	-7777	24	145	339	488	452	184	28	-7777	0
55	0	0	-7777	8	72	209	336	305	97	9	-7777	0
60	0	0	0	2	29	107	195	174	44	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	3	78	228	371	494	467	260	86	9	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	3	112	485	1117	1915	2676	3110	3234	3244	-7777
45	0	-7777	1	57	306	789	1432	2038	2338	2402	2405	2405
50	0	0	-7777	24	169	508	996	1448	1632	1660	-7777	1660
55	0	0	-7777	8	80	289	625	930	1027	1036	-7777	1036
60	0	0	0	2	31	138	333	507	551	553	553	553
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	3	81	309	680	1174	1641	1901	1987	1996	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GRANVILLE, ND US**

GHCND:USC00323686

Elev: 1509 ft. Lat: 48.268° N Lon: 100.844° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.2	1.7	11.5	8.7	8.8	8.7	0	0	0	0	0	0	1350	1412	1505	1660	0.0	0.0	0.2	22.7	30.5	14.5
2	26.7	7.9	17.3	7.6	8.0	7.7	0	0	0	0	0	0	1055	1111	1195	1336	0.0	0.0	0.8	16.6	27.4	9.0
3	37.7	19.2	28.5	6.8	5.6	6.1	-7777	-7777	-7777	0	0	0	823	885	978	1133	0.0	0.0	5.4	9.4	27.7	2.9
4	56.2	31.3	43.8	6.1	3.4	4.5	24	16	8	2	-7777	-7777	362	414	496	640	0.0	0.1	20.5	0.9	15.5	-7777
5	68.3	43.5	55.9	4.0	2.5	3.0	126	95	57	19	5	3	98	129	184	302	0.0	0.3	29.1	0.1	3.1	0.0
6	77.2	53.2	65.2	4.8	3.0	3.7	314	261	188	94	40	27	8	15	33	89	0.3	2.9	30.0	0.0	0.0	0.0
7	82.9	57.6	70.3	4.0	2.6	3.0	473	412	321	184	83	56	-7777	1	4	21	0.4	5.5	31.0	0.0	0.0	0.0
8	83.0	55.4	69.2	4.1	2.7	3.2	444	384	299	171	76	50	4	7	14	41	0.4	6.5	31.0	0.0	-7777	0.0
9	71.1	45.7	58.4	4.7	2.4	3.3	168	132	87	35	10	5	66	90	135	233	-7777	1.1	29.0	0.0	1.5	0.0
10	56.4	33.1	44.8	4.7	2.8	3.4	25	16	7	2	-7777	-7777	343	396	480	629	0.0	0.1	21.6	1.1	13.5	0.1
11	38.1	18.5	28.3	8.1	6.2	6.9	1	-7777	-7777	0	0	0	802	861	951	1101	0.0	0.0	6.2	10.1	26.2	2.3
12	24.0	6.4	15.2	7.7	7.7	7.6	0	0	0	0	0	0	1234	1296	1389	1544	0.0	0.0	0.3	20.1	30.5	10.2
Summary	53.6	31.1	42.4	5.9	4.6	5.1	1575	1316	967	507	214	141	6145	6617	7364	8729	1.1	16.5	205.1	81.0	175.9	39.0

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRANVILLE, ND US**

GHCND:USC00323686

Elev: 1509 ft. Lat: 48.268° N Lon: 100.844° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.30	2.9	1.1	0.0	0.0	0.17	0.22	0.43
2	0.36	2.6	1.2	0.2	0.0	0.08	0.22	0.46
3	0.76	3.0	1.7	0.5	0.2	0.17	0.52	1.19
4	1.19	5.1	2.9	0.8	0.2	0.50	0.78	1.45
5	2.46	6.6	4.4	1.8	0.4	1.42	2.13	3.13
6	3.61	9.1	6.3	2.4	1.0	2.47	3.12	4.92
7	2.83	6.2	4.6	2.0	0.8	1.15	2.54	3.59
8	2.37	5.6	4.0	1.3	0.5	1.38	2.35	2.94
9	1.44	5.3	3.3	0.8	0.2	0.64	1.30	1.95
10	1.32	4.2	2.5	0.8	0.2	0.36	0.72	1.70
11	0.61	3.0	1.7	0.3	-7777	0.18	0.57	0.93
12	0.52	2.7	0.6	0.1	0.0	0.20	0.46	0.69
Summary	17.77	56.3	34.3	11.0	3.5	8.72	14.93	23.38

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Data derived from 1981-2010 normals.



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**Summary of  
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1981-2010**

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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **GRANVILLE, ND US**

GHCND:USC00323686  
Elev: 1509 ft. Lat: 48.268° N Lon: 100.844° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	21	189	499	756	938	905	555	219	31	1
45	-7777	-7777	6	108	357	606	783	750	413	128	13	-7777
50	0	0	1	54	229	457	628	596	280	64	4	0
55	0	0	-7777	24	126	314	473	444	168	25	1	0
60	0	0	-7777	8	57	188	321	299	87	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	2	18	135	301	464	606	578	335	142	25	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	24	213	712	1468	2406	3311	3866	4085	4116	4117
45	-7777	-7777	6	114	471	1077	1860	2610	3023	3151	3164	-7777
50	0	0	1	55	284	741	1369	1965	2245	2309	2313	2313
55	0	0	-7777	24	150	464	937	1381	1549	1574	1575	1575
60	0	0	-7777	8	65	253	574	873	960	967	-7777	967
Growing Degree Units for Corn (Monthly)												
50/86	1	3	21	156	457	921	1527	2105	2440	2582	2607	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WILLISTON SLOULIN FIELD INTERNATIONAL AIRPORT, ND US**

GHCND:USW00094014  
Elev: 1903 ft. Lat: 48.174° N Lon: 103.637° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.9	0.1	11.0	7.6	8.3	7.9	0	0	0	0	0	0	1364	1426	1519	1674	0.0	0.0	0.1	21.6	30.9	14.3
2	27.5	6.3	16.9	7.9	8.8	8.2	0	0	0	0	0	0	1067	1123	1207	1347	0.0	0.0	1.4	15.7	27.5	9.5
3	40.4	18.2	29.3	6.7	5.9	6.1	-7777	-7777	-7777	-7777	0	0	797	859	952	1107	0.0	0.0	8.5	7.9	29.0	3.0
4	57.0	29.7	43.4	4.2	2.9	3.3	14	8	4	1	-7777	0	364	418	504	650	0.0	0.0	21.6	0.9	17.7	0.1
5	67.7	40.5	54.1	3.6	2.9	3.0	93	66	38	12	2	1	121	156	221	349	0.0	0.3	29.4	0.0	5.3	0.0
6	76.8	49.7	63.2	4.4	3.4	3.7	262	212	146	68	26	18	15	25	49	120	0.4	2.9	29.9	0.0	0.4	0.0
7	84.4	55.8	70.1	4.1	2.7	3.3	469	407	318	182	83	56	1	1	5	24	0.9	7.9	31.0	0.0	0.0	0.0
8	83.8	53.9	68.9	4.3	3.1	3.5	432	373	288	166	78	53	3	6	14	47	0.9	8.6	31.0	0.0	0.0	0.0
9	71.3	42.1	56.7	5.2	2.5	3.5	136	105	67	26	8	4	85	114	166	275	0.1	2.0	28.8	0.0	3.0	0.0
10	56.3	29.8	43.0	4.2	2.7	3.1	14	8	3	1	-7777	-7777	385	441	529	681	0.0	0.1	20.8	1.3	17.5	0.1
11	37.9	16.4	27.1	7.4	5.6	6.2	-7777	0	0	0	0	0	835	895	985	1135	0.0	0.0	5.9	9.4	28.1	2.9
12	24.4	3.3	13.9	7.7	7.2	7.3	0	0	0	0	0	0	1275	1337	1430	1585	0.0	0.0	0.3	20.1	31.0	12.2
Summary	54.1	28.8	41.5	5.6	4.7	4.9	1420	1179	864	456	197	132	6312	6801	7581	8994	2.3	21.8	208.7	76.9	190.4	42.1

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLISTON SLOULIN FIELD INTERNATIONAL AIRPORT, ND US**

GHCND:USW00094014  
Elev: 1903 ft. Lat: 48.174° N Lon: 103.637° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	7.5	1.9	0.1	0.0	0.27	0.43	0.90
2	0.39	6.0	1.1	0.1	0.0	0.18	0.26	0.46
3	0.71	7.6	2.1	0.2	0.1	0.40	0.61	0.94
4	1.00	7.7	2.6	0.3	0.1	0.31	0.88	1.53
5	1.92	10.0	5.0	0.8	0.3	1.08	1.74	2.59
6	2.52	11.5	6.0	1.6	0.3	1.77	2.14	3.46
7	2.54	9.0	5.4	1.3	0.4	1.06	2.04	3.67
8	1.45	8.2	3.2	0.7	0.2	0.87	1.16	1.96
9	1.06	7.4	2.9	0.4	0.1	0.51	0.77	1.57
10	0.92	6.3	2.5	0.5	0.1	0.38	0.77	1.27
11	0.65	6.7	1.6	0.1	0.1	0.20	0.49	0.85
12	0.62	8.6	1.5	0.2	0.0	0.31	0.50	0.68
Summary	14.37	96.5	35.8	6.3	1.7	7.34	11.79	19.88

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

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### Summary of Monthly Normals 1981-2010

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **WILLISTON SLOULIN FIELD INTERNATIONAL AIRPORT, ND US**

GHCND:USW00094014  
 Elev: 1903 ft. Lat: 48.174° N Lon: 103.637° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.0	8.7	2.9	0.9	0.4	0.1	25.8	18.9	13.2	6.2	4.0	7.2	15.6
2	5.7	6.4	1.7	0.5	0.1	0.0	18.3	13.2	10.5	3.7	2.6	4.0	6.6
3	6.2	6.0	1.9	0.4	0.2	0.0	11.9	7.7	5.7	2.0	2.5	4.4	9.0
4	3.7	2.4	1.0	0.4	0.1	0.1	1.5	0.7	0.2	0.1	0.2	1.9	4.2
5	1.3	0.8	0.3	0.1	0.1	-7777	0.2	0.2	0.1	-7777	0.0	0.0	0.5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	2.6	1.8	0.7	0.3	0.1	-7777	1.5	0.8	-7777	0.0	0.0	0.4	5.2
11	6.1	5.9	1.6	0.6	0.3	0.0	9.4	5.2	3.2	0.7	1.1	4.2	8.5
12	9.5	9.1	2.7	0.7	0.3	0.1	20.0	13.6	7.2	2.1	5.2	7.5	12.3
Summary	45.3	41.2	12.9	3.9	1.6	0.3	88.7	60.3	40.1	14.8	15.6	29.6	61.9

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WILLISTON SLOULIN FIELD INTERNATIONAL AIRPORT, ND US**

GHCND:USW00094014  
Elev: 1903 ft. Lat: 48.174° N Lon: 103.637° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	25	172	442	697	933	894	505	179	19	-7777
45	0	-7777	8	93	303	548	778	739	365	96	7	0
50	0	-7777	2	42	183	401	623	585	238	42	1	0
55	0	0	-7777	14	93	262	469	432	136	14	-7777	0
60	0	0	-7777	4	38	146	318	288	67	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	3	31	141	284	430	592	561	323	142	22	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	27	199	641	1338	2271	3165	3670	3849	3868	-7777
45	0	-7777	8	101	404	952	1730	2469	2834	2930	2937	2937
50	0	-7777	2	44	227	628	1251	1836	2074	2116	2117	2117
55	0	0	-7777	14	107	369	838	1270	1406	1420	-7777	1420
60	0	0	-7777	4	42	188	506	794	861	864	864	864
Growing Degree Units for Corn (Monthly)												
50/86	-7777	3	34	175	459	889	1481	2042	2365	2507	2529	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORBES 10 NW, ND US**

GHCND:USC00323064

Elev: 2060 ft. Lat: 46.035° N Lon: 98.944° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.47	3.9	1.6	0.1	0.0	0.20	0.38	0.64
2	0.53	3.9	1.5	0.2	-7777	0.22	0.38	0.69
3	1.08	5.0	2.9	0.6	0.1	0.57	0.94	1.48
4	1.56	5.4	3.7	1.0	0.2	0.70	1.36	1.90
5	3.23	7.8	5.8	2.1	0.7	1.57	2.75	4.32
6	3.24	8.5	6.4	2.3	0.5	1.63	3.03	4.65
7	2.96	6.6	5.1	1.8	0.7	1.84	2.76	3.68
8	2.29	5.9	4.2	1.5	0.6	1.11	2.12	3.05
9	2.42	5.7	4.1	1.5	0.7	1.10	1.64	3.21
10	1.77	4.8	3.4	1.2	0.5	0.56	1.12	2.18
11	0.68	4.2	2.0	0.3	-7777	0.20	0.54	1.00
12	0.42	4.3	1.2	0.1	0.0	0.12	0.33	0.50
Summary	20.65	66.0	41.9	12.7	4.0	9.82	17.35	27.30

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Station: **FORBES 10 NW, ND US**

GHCND:USC00323064

Elev: 2060 ft. Lat: 46.035° N Lon: 98.944° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	3.6	3.1	1.0	0.4	-7777	@	@	@	@	2.0	5.5	14.4
2	7.6	3.5	3.1	0.9	0.3	-7777	@	@	@	@	3.0	7.5	10.0
3	9.3	3.7	3.2	1.3	0.5	-7777	@	@	@	@	4.0	7.0	13.5
4	4.9	1.8	1.6	0.5	0.4	-7777	@	@	@	@	0.5	3.5	10.0
5	0.4	0.2	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.1	0.6	0.5	0.2	0.0	0.0	@	@	@	@	0.0	0.0	1.0
11	7.7	2.9	2.6	1.0	0.5	0.1	@	@	@	@	1.5	6.3	10.2
12	7.1	3.7	2.6	0.8	0.2	0.0	@	@	@	@	2.0	6.9	8.5
Summary	45.7	20.0	16.8	5.8	2.3	0.1	9999	9999	9999	9999	13.0	36.7	67.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK 7 N, ND US**

GHCND:USC00320827

Elev: 2051 ft. Lat: 46.937° N Lon: 100.744° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.60	6.1	2.1	0.1	0.0	0.25	0.49	0.86
2	0.47	5.2	1.9	0.1	0.1	0.25	0.35	0.52
3	0.93	5.6	2.7	0.5	0.1	0.33	0.75	1.46
4	1.33	5.8	3.7	0.8	0.2	0.59	1.09	1.69
5	2.56	8.2	5.5	2.0	0.4	1.14	2.15	3.40
6	3.15	10.1	6.6	1.5	0.6	1.94	2.87	4.42
7	3.06	9.3	6.4	2.1	0.9	1.60	2.63	3.80
8	2.11	6.7	4.7	1.5	0.6	0.89	1.76	2.40
9	1.55	6.1	3.6	0.9	0.2	0.78	1.45	1.94
10	1.32	5.3	3.0	0.8	0.2	0.54	1.01	1.78
11	0.83	5.4	2.6	0.5	0.1	0.17	0.61	1.31
12	0.60	6.0	1.8	0.0	0.0	0.27	0.53	0.78
Summary	18.51	79.8	44.6	10.8	3.4	8.75	15.69	24.36

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Monthly Normals  
1981-2010**

National Climatic Data Center  
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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK 7 N, ND US**

GHCND:USC00320827  
Elev: 2051 ft. Lat: 46.937° N Lon: 100.744° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.4	5.8	3.7	1.2	0.2	0.1	25.9	21.8	16.1	6.1	3.7	4.8	15.0
2	7.2	4.5	3.1	0.7	0.1	0.1	21.0	15.2	10.4	5.5	3.2	6.1	10.0
3	9.2	3.9	3.0	1.2	0.4	0.1	14.6	10.4	7.2	2.9	3.0	9.1	14.6
4	5.2	1.5	1.1	0.5	0.3	0.1	2.2	1.5	1.1	0.4	0.0	2.0	9.0
5	0.3	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.9	0.4	0.3	0.1	0.1	0.0	0.6	0.4	0.3	0.1	0.0	0.0	0.6
11	10.3	3.6	2.7	1.2	0.5	0.1	9.6	5.6	3.8	1.7	0.0	6.3	16.5
12	7.7	5.0	3.5	0.8	0.2	0.0	20.0	14.6	11.0	4.1	3.0	6.5	10.9
Summary	50.5	24.9	17.6	5.9	1.9	0.5	94.1	69.6	50.0	20.8	12.9	34.8	76.6

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FESSENDEN, ND US**

GHCND:USC00322949

Elev: 1621 ft. Lat: 47.646° N Lon: 99.622° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.0	1.3	10.2	8.2	9.5	8.8	0	0	0	0	0	0	1390	1452	1545	1700	0.0	0.0	-7777	24.1	30.7	13.7
2	25.0	6.6	15.8	7.6	8.1	7.8	0	0	0	0	0	0	1097	1153	1237	1377	0.0	0.0	0.9	18.0	27.2	10.1
3	36.6	18.7	27.7	5.9	5.1	5.3	-7777	-7777	-7777	0	0	0	848	910	1003	1158	0.0	0.0	4.7	9.7	28.3	2.9
4	55.9	30.9	43.4	5.7	3.3	4.3	23	16	8	2	-7777	-7777	371	424	506	650	0.0	-7777	20.7	1.4	16.6	-7777
5	68.4	43.0	55.7	3.8	3.2	3.2	125	94	56	19	5	2	104	134	190	308	0.0	0.4	29.1	0.0	3.4	0.0
6	76.0	52.5	64.3	4.3	3.0	3.5	288	236	165	76	28	17	10	18	38	99	0.1	1.7	30.0	0.0	0.0	0.0
7	82.0	57.4	69.7	4.4	2.3	3.0	456	394	304	167	69	43	-7777	1	4	22	0.4	4.2	31.0	0.0	0.0	0.0
8	81.4	55.1	68.3	3.8	2.7	3.1	412	352	266	142	56	35	2	4	10	42	0.2	4.1	31.0	0.0	0.0	0.0
9	71.0	45.8	58.4	3.8	2.2	2.8	163	127	82	31	8	5	62	85	130	230	0.0	0.9	29.5	0.0	1.3	0.0
10	56.0	33.1	44.6	4.4	2.8	3.0	24	16	7	1	-7777	-7777	348	402	486	635	0.0	0.0	21.0	1.2	14.1	-7777
11	37.1	19.0	28.0	7.2	5.5	6.1	-7777	-7777	-7777	0	0	0	809	868	958	1108	0.0	0.0	5.9	10.4	26.4	2.0
12	22.1	5.3	13.7	8.0	8.0	7.9	0	0	0	0	0	0	1280	1342	1435	1590	0.0	0.0	0.1	21.9	30.7	11.0
Summary	52.5	30.7	41.6	5.6	4.6	4.9	1491	1235	888	438	166	102	6321	6793	7542	8919	0.7	11.3	203.9	86.7	178.7	39.7

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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National Oceanic & Atmospheric Administration  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FESSENDEN, ND US**

GHCND:USC00322949

Elev: 1621 ft. Lat: 47.646° N Lon: 99.622° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	4.1	1.3	-7777	0.0	0.15	0.31	0.51
2	0.43	3.6	1.4	0.1	0.0	0.19	0.31	0.55
3	0.62	3.3	1.8	0.1	0.0	0.26	0.50	0.89
4	0.90	4.2	2.6	0.4	0.1	0.48	0.76	1.00
5	2.30	7.2	6.0	1.6	0.4	1.44	2.04	2.76
6	3.55	8.3	6.3	2.1	1.0	2.26	3.55	4.64
7	2.88	6.8	5.3	1.8	0.7	1.88	2.50	3.25
8	1.97	6.1	4.9	1.3	0.3	1.00	1.90	2.46
9	1.74	4.7	3.7	1.4	0.2	0.80	1.31	2.51
10	1.04	3.3	2.5	0.8	0.2	0.23	0.74	1.43
11	0.65	2.8	1.6	0.1	0.1	0.26	0.61	1.06
12	0.48	3.6	1.3	-7777	0.0	0.29	0.40	0.58
Summary	16.92	58.0	38.7	9.7	3.0	9.24	14.93	21.64

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FESSENDEN, ND US**

GHCND:USC00322949

Elev: 1621 ft. Lat: 47.646° N Lon: 99.622° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.1	3.3	2.6	1.1	0.4	0.1	@	@	@	@	1.4	5.0	9.9
2	4.8	2.7	2.3	0.6	0.2	0.0	@	@	@	@	1.4	5.0	7.0
3	4.3	1.7	1.6	0.4	0.1	0.0	@	@	@	@	0.0	3.8	8.0
4	1.2	0.4	0.3	0.2	0.1	0.0	@	@	@	@	0.0	0.0	0.0
5	0.1	0.1	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.4	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
11	3.8	1.2	0.9	0.5	0.1	0.0	@	@	@	@	0.0	0.0	8.0
12	8.5	3.0	2.5	0.8	0.3	0.0	@	@	@	@	2.9	5.3	12.9
Summary	30.2	12.5	10.3	3.7	1.2	0.1	9999	9999	9999	9999	5.7	19.1	45.8

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

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Federal Building  
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[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FESSENDEN, ND US**

GHCND:USC00322949

Elev: 1621 ft. Lat: 47.646° N Lon: 99.622° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	14	182	491	728	920	876	554	213	24	-7777
45	0	-7777	4	104	350	578	766	721	410	123	10	0
50	0	0	1	52	225	429	611	566	276	61	2	0
55	0	0	-7777	23	125	288	456	412	163	24	-7777	0
60	0	0	-7777	8	56	165	304	266	82	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	135	303	444	594	559	335	140	20	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	197	688	1416	2336	3212	3766	3979	4003	-7777
45	0	-7777	4	108	458	1036	1802	2523	2933	3056	3066	3066
50	0	0	1	53	278	707	1318	1884	2160	2221	2223	2223
55	0	0	-7777	23	148	436	892	1304	1467	1491	-7777	1491
60	0	0	-7777	8	64	229	533	799	881	888	-7777	888
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	150	453	897	1491	2050	2385	2525	2545	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BUTTE 5 SE, ND US**

GHCND:USC00321225  
Elev: 1719 ft. Lat: 47.795° N Lon: 100.585° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.2	1.0	10.6	8.3	8.6	8.3	0	0	0	0	0	0	1376	1438	1531	1686	0.0	0.0	0.1	22.8	30.7	14.7
2	24.8	5.7	15.3	7.1	7.7	7.3	0	0	0	0	0	0	1113	1169	1253	1393	0.0	0.0	0.7	17.9	27.6	9.9
3	37.1	17.8	27.4	6.2	5.1	5.4	-7777	-7777	-7777	0	0	0	854	916	1009	1164	0.0	0.0	5.5	10.2	28.8	3.2
4	55.8	30.4	43.1	5.2	3.3	4.0	20	13	7	1	-7777	-7777	377	430	514	658	0.0	0.1	20.4	1.3	16.7	0.1
5	67.7	42.6	55.1	4.7	3.2	3.7	117	87	51	17	4	2	113	145	202	322	0.0	0.4	28.9	0.0	3.8	0.0
6	76.1	52.0	64.0	5.1	2.9	3.8	283	231	162	77	29	19	11	19	41	105	0.1	2.1	29.9	0.0	0.1	0.0
7	82.5	56.9	69.7	4.2	2.5	3.1	456	395	306	172	75	49	-7777	1	5	27	0.5	5.0	31.0	0.0	0.0	0.0
8	82.4	55.3	68.8	4.0	3.1	3.4	432	374	289	167	76	51	3	6	15	48	0.5	6.7	31.0	0.0	-7777	0.0
9	70.6	45.4	58.0	5.1	3.1	3.9	164	129	86	37	11	6	74	99	146	247	0.0	1.2	28.6	0.0	1.5	0.0
10	56.4	32.9	44.6	4.3	2.9	3.2	25	16	8	2	-7777	-7777	346	399	484	633	0.0	0.1	21.5	1.3	14.4	-7777
11	36.6	18.2	27.4	8.3	5.7	6.7	-7777	-7777	-7777	0	0	0	828	888	978	1128	0.0	0.0	5.8	11.7	27.4	2.3
12	23.3	5.1	14.2	7.2	7.5	7.2	0	0	0	0	0	0	1265	1327	1420	1575	0.0	0.0	0.2	21.0	30.9	11.2
Summary	52.8	30.3	41.5	5.8	4.6	5.0	1497	1245	909	473	195	127	6360	6837	7598	8986	1.1	15.6	203.6	86.2	181.9	41.4

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Data derived from 1981-2010 normals.

**Summary of  
Monthly Normals  
1981-2010**Station: **BUTTE 5 SE, ND US**

GHCND:USC00321225

Elev: 1719 ft. Lat: 47.795° N Lon: 100.585° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	3.3	1.5	-7777	0.0	0.20	0.43	0.77
2	0.45	2.7	1.5	0.2	-7777	0.16	0.25	0.54
3	0.77	3.8	2.3	0.4	0.2	0.16	0.81	1.11
4	1.25	4.2	2.7	0.7	0.2	0.41	1.02	1.72
5	2.70	6.7	4.9	2.0	0.8	1.47	2.34	3.43
6	3.24	8.8	6.1	2.5	0.8	2.28	2.72	3.93
7	2.94	7.0	5.2	2.0	0.8	2.15	2.56	3.74
8	1.77	5.7	4.2	1.3	0.3	0.99	1.49	2.16
9	1.48	4.9	3.3	0.8	0.1	0.76	1.20	2.20
10	1.50	4.1	2.6	1.1	0.4	0.50	0.96	1.93
11	0.76	2.7	1.7	0.2	0.0	0.13	0.72	1.11
12	0.30	2.7	1.4	0.6	0.4	0.11	0.23	0.39
Summary	17.65	56.6	37.4	11.8	4.0	9.32	14.73	23.03

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BUTTE 5 SE, ND US**

GHCND:USC00321225  
Elev: 1719 ft. Lat: 47.795° N Lon: 100.585° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.7	3.3	2.5	0.9	0.3	0.0	@	@	@	@	1.9	3.5	11.0
2	5.1	2.6	2.1	1.0	0.3	0.0	@	@	@	@	0.5	3.0	9.6
3	4.7	2.0	1.7	0.5	0.2	0.0	@	@	@	@	1.2	3.8	5.6
4	0.9	1.0	0.7	0.5	0.2	0.1	@	@	@	@	0.0	0.2	2.0
5	0.4	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.7	0.6	0.6	0.3	0.2	-7777	@	@	@	@	0.0	0.0	4.0
11	7.2	2.3	1.9	0.9	0.4	-7777	@	@	@	@	0.0	3.9	14.7
12	3.7	2.4	1.9	0.5	0.3	-7777	@	@	@	@	1.1	2.3	5.7
Summary	30.4	14.3	11.5	4.7	1.9	0.1	9999	9999	9999	9999	4.7	16.7	52.6

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BUTTE 5 SE, ND US**

GHCND:USC00321225  
Elev: 1719 ft. Lat: 47.795° N Lon: 100.585° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	18	178	477	721	920	894	543	216	26	-7777
45	0	-7777	6	99	339	572	766	739	401	126	10	-7777
50	0	0	1	48	216	424	611	585	272	63	2	0
55	0	0	-7777	20	117	283	456	432	164	25	-7777	0
60	0	0	-7777	7	51	162	306	289	86	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	132	290	438	590	568	328	144	23	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	197	674	1395	2315	3209	3752	3968	3994	-7777
45	0	-7777	6	105	444	1016	1782	2521	2922	3048	3058	-7777
50	0	0	1	49	265	689	1300	1885	2157	2220	2222	2222
55	0	0	-7777	20	137	420	876	1308	1472	1497	-7777	1497
60	0	0	-7777	7	58	220	526	815	901	909	-7777	909
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	151	441	879	1469	2037	2365	2509	2532	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COLUMBUS, ND US**

GHCND:USC00321699

Elev: 1949 ft. Lat: 48.917° N Lon: 102.833° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.54	5.0	2.1	0.1	0.0	0.24	0.43	0.76
2	0.40	3.6	1.2	0.1	0.0	0.19	0.32	0.45
3	0.66	3.9	2.5	0.2	0.0	0.31	0.62	0.85
4	0.86	4.3	2.5	0.4	0.1	0.29	0.62	1.41
5	2.20	6.5	4.9	1.1	0.2	1.26	1.79	2.88
6	3.15	8.5	6.2	1.6	0.8	2.10	3.08	3.97
7	2.92	7.4	5.4	2.2	0.8	1.22	2.84	4.03
8	1.71	5.5	3.4	1.1	0.4	0.72	1.64	2.30
9	1.39	5.4	3.9	0.6	0.2	0.95	1.38	1.86
10	0.97	4.3	3.1	0.5	0.1	0.31	0.81	1.45
11	0.59	4.4	1.8	0.1	0.0	0.23	0.48	0.80
12	0.54	4.6	1.6	0.1	0.0	0.28	0.48	0.69
Summary	15.93	63.4	38.6	8.1	2.6	8.10	14.49	21.45

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **COLUMBUS, ND US**

GHCND:USC00321699  
Elev: 1949 ft. Lat: 48.917° N Lon: 102.833° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.5	4.6	3.3	0.4	0.2	0.1	@	@	@	@	3.8	5.3	10.8
2	3.4	2.9	1.8	0.2	0.0	0.0	@	@	@	@	1.7	3.2	5.3
3	5.0	2.3	1.9	0.6	0.4	0.0	@	@	@	@	0.0	5.9	7.0
4	3.8	0.9	0.9	0.4	0.2	0.1	@	@	@	@	0.0	1.3	5.2
5	0.7	0.3	0.2	0.1	0.1	0.0	@	@	@	@	0.0	0.0	0.0
6	0.1	0.1	0.1	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.3	0.1	0.1	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.2	0.8	0.7	0.3	0.1	0.0	@	@	@	@	0.0	0.0	6.0
11	5.4	3.0	2.2	0.6	0.2	0.1	@	@	@	@	2.2	4.5	7.0
12	5.8	4.1	2.8	0.4	0.1	0.0	@	@	@	@	2.8	4.3	9.0
Summary	34.2	19.1	14.0	3.1	1.3	0.3	9999	9999	9999	9999	10.5	24.5	50.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: WESTBY, MT US

GHCND:USC00248777

Elev: 2106 ft. Lat: 48.874° N Lon: 104.050° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.2	-2.5	8.4	7.5	8.7	8.0	0	0	0	0	0	0	1446	1508	1601	1756	0.0	0.0	0.1	23.3	31.0	16.0
2	24.7	3.3	14.0	7.6	8.4	7.9	0	0	0	0	0	0	1148	1204	1288	1428	0.0	0.0	0.7	17.8	27.8	11.1
3	37.0	15.0	26.0	6.6	6.0	6.2	-7777	-7777	-7777	0	0	0	899	961	1054	1209	0.0	0.0	5.8	10.8	30.2	4.4
4	54.4	27.8	41.1	4.2	3.1	3.4	10	6	3	-7777	-7777	0	427	483	570	717	0.0	0.0	19.3	1.1	21.0	0.2
5	65.5	39.8	52.7	3.6	3.0	3.0	75	52	28	7	1	1	147	187	256	390	0.0	0.2	28.3	-7777	5.1	0.0
6	73.6	49.4	61.5	4.3	3.2	3.6	216	170	111	44	14	9	21	35	66	150	0.2	1.4	29.8	0.0	0.1	0.0
7	80.2	54.3	67.2	4.2	2.2	3.0	382	323	238	118	45	27	2	5	13	49	0.2	3.9	31.0	0.0	0.0	0.0
8	80.7	51.8	66.3	4.6	2.7	3.4	357	301	223	116	47	30	9	14	29	78	0.4	5.5	30.9	0.0	-7777	0.0
9	68.8	39.9	54.3	4.9	2.6	3.3	102	77	46	16	4	2	122	156	216	336	0.0	0.7	28.4	0.0	4.4	0.0
10	54.0	28.1	41.0	4.2	2.5	2.9	10	5	2	-7777	-7777	0	442	500	589	743	0.0	-7777	19.0	1.4	21.0	0.1
11	35.4	14.6	25.0	7.4	5.9	6.4	-7777	0	0	0	0	0	900	960	1050	1200	0.0	0.0	4.3	11.9	28.9	3.6
12	22.1	1.5	11.8	7.8	7.1	7.4	0	0	0	0	0	0	1339	1401	1494	1649	0.0	0.0	0.2	22.0	31.0	13.0
Summary	51.3	26.9	39.1	5.6	4.6	4.9	1152	934	651	301	111	69	6902	7414	8226	9705	0.8	11.7	197.8	88.3	200.5	48.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WESTBY, MT US**

GHCND:USC00248777

Elev: 2106 ft. Lat: 48.874° N Lon: 104.050° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	@	@	@	@			
2	0.26	@	@	@	@			
3	0.59	@	@	@	@			
4	0.84	@	@	@	@			
5	2.04	@	@	@	@			
6	2.83	@	@	@	@			
7	2.56	@	@	@	@			
8	1.58	@	@	@	@			
9	1.14	@	@	@	@			
10	0.88	@	@	@	@			
11	0.50	@	@	@	@			
12	0.39	@	@	@	@			
Summary	13.98	9999	9999	9999	9999	9999	9999	9999

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **WESTBY, MT US**

GHCND:USC00248777  
Elev: 2106 ft. Lat: 48.874° N Lon: 104.050° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	136	402	645	845	813	437	140	12	-7777
45	0	-7777	4	69	270	496	690	659	303	71	4	0
50	0	-7777	1	28	156	350	535	506	188	30	1	0
55	0	0	-7777	10	75	216	382	357	102	10	-7777	0
60	0	0	-7777	3	28	111	238	223	46	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	116	251	383	526	505	287	119	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	152	554	1199	2044	2857	3294	3434	3446	-7777
45	0	-7777	4	73	343	839	1529	2188	2491	2562	2566	2566
50	0	-7777	1	29	185	535	1070	1576	1764	1794	1795	1795
55	0	0	-7777	10	85	301	683	1040	1142	1152	-7777	1152
60	0	0	-7777	3	31	142	380	603	649	651	651	651
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	20	136	387	770	1296	1801	2088	2207	2222	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **RICHARDTON ABBEY, ND US**

GHCND:USC00327530  
Elev: 2470 ft. Lat: 46.889° N Lon: 102.319° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.1	7.8	16.4	7.2	8.0	7.5	0	0	0	0	0	0	1195	1257	1350	1505	0.0	0.0	0.7	18.7	30.1	10.0
2	29.5	11.8	20.7	7.8	7.3	7.4	-7777	0	0	0	0	0	962	1018	1102	1242	0.0	0.0	2.1	14.6	26.8	6.2
3	40.5	21.1	30.8	6.4	4.8	5.4	1	-7777	-7777	-7777	0	0	751	812	905	1060	0.0	0.0	8.2	8.2	26.7	2.0
4	56.2	32.3	44.2	4.9	3.0	3.8	23	15	7	1	-7777	-7777	345	398	480	624	0.0	0.1	20.8	1.2	13.8	0.0
5	67.7	43.7	55.7	3.7	2.8	3.0	118	87	51	16	3	1	97	127	184	305	0.0	0.2	29.5	0.0	2.7	0.0
6	76.1	52.8	64.4	4.2	3.1	3.5	294	242	171	83	31	20	11	18	38	100	0.1	1.7	30.0	0.0	-7777	0.0
7	83.7	58.6	71.1	4.8	2.7	3.6	502	440	350	211	102	69	1	2	5	21	0.7	7.7	31.0	0.0	0.0	0.0
8	82.7	57.3	70.0	3.8	2.7	3.1	467	406	319	188	87	58	2	4	9	33	0.1	6.5	31.0	0.0	0.0	0.0
9	71.2	47.1	59.1	4.4	2.5	3.3	185	147	98	42	13	7	61	82	124	217	0.0	1.3	28.9	0.0	1.2	0.0
10	56.2	34.9	45.6	3.9	2.7	3.1	29	19	10	2	-7777	-7777	322	374	458	605	0.0	-7777	21.2	1.2	11.2	0.1
11	38.7	21.6	30.2	7.4	5.3	6.2	1	-7777	-7777	0	0	0	746	806	895	1045	0.0	0.0	6.3	9.1	24.8	1.5
12	26.6	9.8	18.2	7.6	7.4	7.4	0	0	0	0	0	0	1140	1202	1295	1451	0.0	0.0	0.8	18.1	30.1	7.5
Summary	54.5	33.2	43.9	5.5	4.4	4.8	1620	1356	1006	543	236	155	5633	6100	6845	8208	0.9	17.5	210.5	71.1	167.4	27.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **RICHARDTON ABBEY, ND US**

GHCND:USC00327530

Elev: 2470 ft. Lat: 46.889° N Lon: 102.319° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.39	5.2	1.4	0.1	0.0	0.18	0.29	0.56
2	0.40	4.2	1.2	0.2	0.1	0.13	0.30	0.47
3	0.85	6.0	2.6	0.2	0.1	0.46	0.82	1.21
4	1.42	6.7	3.5	0.7	0.2	0.67	1.14	1.98
5	2.43	9.3	5.4	1.3	0.5	1.45	2.29	3.57
6	3.19	11.3	6.8	2.0	0.6	1.83	3.04	4.36
7	2.16	8.3	4.9	1.4	0.5	0.98	1.78	2.96
8	1.71	7.0	3.8	1.1	0.3	0.67	1.11	2.39
9	1.49	6.3	3.3	0.9	0.3	0.63	1.18	1.70
10	1.37	5.5	3.1	0.7	0.3	0.33	0.68	1.83
11	0.67	5.0	1.8	0.3	-7777	0.18	0.53	0.97
12	0.47	5.6	1.3	0.1	-7777	0.18	0.45	0.65
Summary	16.55	80.4	39.1	9.0	2.9	7.69	13.61	22.65

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Station: **RICHARDTON ABBEY, ND US**

GHCND:USC00327530  
Elev: 2470 ft. Lat: 46.889° N Lon: 102.319° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.0	4.7	2.2	0.6	0.1	0.0	21.4	16.7	10.8	5.0	2.0	3.3	8.0
2	4.6	3.9	2.0	0.5	0.2	0.0	15.3	9.7	7.2	2.5	1.6	3.7	6.5
3	8.5	4.8	2.7	1.0	0.3	0.1	11.3	8.4	5.8	1.4	3.1	6.8	12.0
4	5.1	2.5	1.4	0.7	0.3	0.1	3.2	2.1	1.7	0.6	0.9	3.9	8.1
5	1.0	0.5	0.3	0.2	-7777	0.0	0.5	0.3	0.2	-7777	0.0	0.0	0.3
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.5	0.2	0.1	0.1	-7777	0.0	0.2	0.1	-7777	0.0	0.0	0.0	0.0
10	2.4	1.2	0.8	0.4	0.2	0.1	1.0	0.5	0.3	0.1	0.0	0.3	4.6
11	5.5	3.8	2.1	0.7	0.3	-7777	9.3	5.2	2.9	1.3	0.8	3.5	9.1
12	5.7	5.0	2.2	0.8	0.3	0.0	19.1	11.9	8.8	2.5	2.1	4.5	9.4
Summary	38.3	26.6	13.8	5.0	1.7	0.3	81.3	54.9	37.7	13.4	10.5	26.0	58.0

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **RICHARDTON ABBEY, ND US**

GHCND:USC00327530  
Elev: 2470 ft. Lat: 46.889° N Lon: 102.319° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	6	38	198	491	733	965	930	577	235	38	2
45	-7777	1	13	112	349	584	810	775	434	139	17	-7777
50	0	-7777	4	55	222	436	656	620	300	70	5	-7777
55	0	-7777	1	23	118	294	502	467	185	29	1	0
60	0	0	-7777	7	51	171	350	319	98	10	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	30	134	291	446	622	596	343	141	25	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	8	46	244	735	1468	2433	3363	3940	4175	4213	4215
45	-7777	1	14	126	475	1059	1869	2644	3078	3217	3234	-7777
50	0	-7777	4	59	281	717	1373	1993	2293	2363	2368	-7777
55	0	-7777	1	24	142	436	938	1405	1590	1619	1620	1620
60	0	0	-7777	7	58	229	579	898	996	1006	-7777	1006
Growing Degree Units for Corn (Monthly)												
50/86	1	5	35	169	460	906	1528	2124	2467	2608	2633	2634

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[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HETTINGER EXPERIMENT STATION, ND US**

GHCND:USC00324180  
Elev: 2703 ft. Lat: 46.004° N Lon: 102.647° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	29.5	5.3	17.4				0	0	0	0	0	0	1166	1228	1321	1476	0.0	0.0	1.8	15.9	30.6	11.4
2	33.1	9.1	21.1				-7777	0	0	0	0	0	949	1005	1089	1229	0.0	0.0	2.0	11.7	27.6	7.0
3	42.6	18.5	30.6				1	-7777	-7777	0	0	0	759	820	913	1068	0.0	0.0	9.2	6.4	28.6	2.4
4	56.8	28.9	42.9				9	5	2	-7777	0	0	374	429	516	665	0.0	0.0	21.2	0.7	18.5	0.1
5	67.3	40.2	53.8				80	54	29	7	2	1	119	155	222	356	0.0	0.1	29.2	0.0	3.5	0.0
6	76.6	49.5	63.1				257	205	138	59	18	10	15	24	47	117	0.2	1.3	29.9	0.0	0.2	0.0
7	85.2	55.2	70.2				472	411	323	190	90	61	1	3	8	29	1.4	8.6	31.0	0.0	0.0	0.0
8	85.0	53.0	69.0				437	378	293	170	79	53	3	6	15	46	0.8	9.0	31.0	0.0	0.1	0.0
9	73.8	42.8	58.3				163	128	86	36	12	7	64	89	137	237	0.0	2.9	29.6	0.0	2.3	0.0
10	59.0	30.7	44.9				26	16	7	1	-7777	-7777	341	393	477	625	0.0	0.0	23.5	0.9	17.0	0.0
11	42.6	18.1	30.4				-7777	-7777	-7777	-7777	0	0	739	799	889	1039	0.0	0.0	9.5	6.8	28.1	1.3
12	31.4	7.2	19.3				0	0	0	0	0	0	1106	1168	1261	1416	0.0	0.0	2.0	14.8	30.8	9.2
Summary	56.9	29.9	43.4	9999	9999	9999	1445	1197	878	463	201	132	5636	6119	6895	8303	2.4	21.9	219.9	57.2	187.3	31.4

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HETTINGER EXPERIMENT STATION, ND US**

GHCND:USC00324180  
Elev: 2703 ft. Lat: 46.004° N Lon: 102.647° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.38	@	@	@	@			
2	0.45	@	@	@	@			
3	1.00	@	@	@	@			
4	1.50	@	@	@	@			
5	2.46	@	@	@	@			
6	3.20	@	@	@	@			
7	2.29	@	@	@	@			
8	1.94	@	@	@	@			
9	1.44	@	@	@	@			
10	1.36	@	@	@	@			
11	0.60	@	@	@	@			
12	0.46	@	@	@	@			
Summary	17.08	9999	9999	9999	9999	9999	9999	9999

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Monthly Normals  
1981-2010**

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Station: **HETTINGER EXPERIMENT STATION, ND US**

GHCND:USC00324180  
Elev: 2703 ft. Lat: 46.004° N Lon: 102.647° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	4	44	163	432	692	935	898	550	214	30	1
45	-7777	1	19	85	291	542	781	744	406	122	10	-7777
50	0	-7777	6	34	171	396	626	589	273	62	2	-7777
55	0	-7777	1	9	80	257	472	437	163	26	-7777	0
60	0	0	-7777	2	29	138	323	293	86	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	5	7	45	137	274	431	594	568	358	172	39	5

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	7	51	214	646	1338	2273	3171	3721	3935	3965	3966
45	-7777	1	20	105	396	938	1719	2463	2869	2991	3001	-7777
50	0	-7777	6	40	211	607	1233	1822	2095	2157	2159	-7777
55	0	-7777	1	10	90	347	819	1256	1419	1445	-7777	1445
60	0	0	-7777	2	31	169	492	785	871	878	-7777	878
Growing Degree Units for Corn (Monthly)												
50/86	5	12	57	194	468	899	1493	2061	2419	2591	2630	2635

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FAIRFIELD, ND US**

GHCND:USC00322809

Elev: 2749 ft. Lat: 47.190° N Lon: 103.225° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.2	5.5	15.4	7.1	8.6	7.8	0	0	0	0	0	0	1229	1291	1384	1539	0.0	0.0	0.4	19.0	30.6	11.2
2	30.3	9.5	19.9	7.3	7.8	7.5	-7777	-7777	0	0	0	0	983	1039	1123	1263	0.0	0.0	2.5	13.7	27.0	7.6
3	40.9	19.7	30.3	6.2	5.1	5.5	1	-7777	-7777	-7777	0	0	766	828	921	1076	0.0	0.0	8.4	7.7	27.7	2.2
4	55.8	31.2	43.5	4.9	3.1	3.8	19	12	6	1	-7777	-7777	364	417	501	646	0.0	-7777	20.3	1.1	15.8	0.1
5	66.8	42.5	54.6	4.0	3.0	3.3	104	76	44	14	2	1	115	149	209	335	0.0	0.3	28.7	0.0	3.0	0.0
6	75.7	51.7	63.7	3.9	3.2	3.4	274	223	155	72	26	16	13	22	44	111	0.1	1.9	29.9	0.0	0.1	0.0
7	84.2	57.4	70.8	4.7	2.1	3.3	490	429	339	202	95	65	1	1	5	22	1.3	8.5	31.0	0.0	0.0	0.0
8	83.8	55.4	69.6	3.9	3.1	3.2	456	396	310	182	85	57	3	6	13	40	0.6	8.2	31.0	0.0	0.0	0.0
9	71.5	44.8	58.1	4.9	2.7	3.5	171	136	93	42	14	8	76	102	148	247	0.1	2.1	28.7	0.0	2.1	0.0
10	56.3	32.6	44.5	4.2	3.1	3.3	25	16	8	2	-7777	-7777	352	406	490	639	0.0	0.1	20.9	1.2	13.8	-7777
11	39.6	19.4	29.5	7.4	5.8	6.5	1	-7777	-7777	0	0	0	766	825	915	1065	0.0	0.0	7.3	8.5	26.2	2.3
12	27.1	7.4	17.3	7.9	7.5	7.6	0	0	0	0	0	0	1170	1232	1325	1480	0.0	0.0	0.9	18.1	30.7	8.9
Summary	54.8	31.4	43.1	5.5	4.6	4.9	1541	1288	955	515	222	147	5838	6318	7078	8463	2.1	21.1	210.0	69.3	177.0	32.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FAIRFIELD, ND US**

GHCND:USC00322809

Elev: 2749 ft. Lat: 47.190° N Lon: 103.225° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.47	4.0	0.9	0.0	0.0	0.10	0.26	0.63
2	0.32	3.4	1.0	0.1	0.0	0.10	0.25	0.41
3	0.59	4.8	2.2	0.1	0.0	0.30	0.47	0.87
4	1.37	6.5	3.5	0.6	0.1	0.92	1.09	1.57
5	1.90	9.9	5.2	0.9	0.3	1.13	1.70	2.46
6	2.99	10.4	6.0	1.8	0.4	1.79	2.43	4.05
7	2.35	8.6	5.5	1.3	0.3	1.27	1.90	2.50
8	1.56	6.7	3.5	0.9	0.3	0.80	1.19	2.32
9	1.22	7.2	3.7	0.7	0.2	0.45	0.86	1.62
10	1.33	5.3	2.6	0.5	0.3	0.30	0.79	1.93
11	0.51	3.7	2.0	0.1	-7777	0.12	0.27	0.73
12	0.36	3.7	1.1	0.0	0.0	0.20	0.34	0.56
Summary	14.97	74.2	37.2	7.0	1.9	7.48	11.55	19.65

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**Summary of  
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Federal Building  
151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **FAIRFIELD, ND US**

GHCND:USC00322809

Elev: 2749 ft. Lat: 47.190° N Lon: 103.225° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	4.1	3.8	1.7	0.4	-7777	0.0	@	@	@	@	1.0	3.0	5.8
2	5.0	3.7	1.9	0.5	0.2	0.0	@	@	@	@	1.3	3.1	7.8
3	5.1	3.8	2.4	0.7	0.1	0.0	@	@	@	@	2.2	3.2	5.7
4	5.0	1.9	1.5	0.8	0.3	-7777	@	@	@	@	0.0	3.3	9.0
5	1.1	0.4	0.3	0.1	0.1	0.0	@	@	@	@	0.0	0.0	1.5
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.2	0.2	0.1	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.2	1.1	0.9	0.5	0.1	-7777	@	@	@	@	0.0	0.2	4.0
11	5.5	3.0	2.0	0.6	-7777	0.0	@	@	@	@	2.2	4.0	7.5
12	5.4	4.1	2.2	0.7	0.1	0.0	@	@	@	@	2.6	3.6	9.0
Summary	33.6	22.0	13.0	4.3	0.9	0.0	9999	9999	9999	9999	9.3	20.4	50.3

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FAIRFIELD, ND US**

GHCND:USC00322809  
Elev: 2749 ft. Lat: 47.190° N Lon: 103.225° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	36	183	461	711	955	917	548	212	38	1
45	-7777	1	13	103	322	561	800	762	407	123	16	-7777
50	0	-7777	4	50	199	414	645	608	278	61	5	-7777
55	0	-7777	1	19	104	274	490	456	171	25	1	0
60	0	0	-7777	6	44	155	339	310	93	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	33	131	275	429	606	579	336	142	30	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	41	224	685	1396	2351	3268	3816	4028	4066	4067
45	-7777	1	14	117	439	1000	1800	2562	2969	3092	3108	-7777
50	0	-7777	4	54	253	667	1312	1920	2198	2259	2264	-7777
55	0	-7777	1	20	124	398	888	1344	1515	1540	1541	1541
60	0	0	-7777	6	50	205	544	854	947	955	-7777	955
Growing Degree Units for Corn (Monthly)												
50/86	1	5	38	169	444	873	1479	2058	2394	2536	2566	2568

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **POWERS LAKE 1 N, ND US**

GHCND:USC00327281  
Elev: 2205 ft. Lat: 48.572° N Lon: 102.647° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.9	-2.9	7.5	8.0	8.6	8.2	0	0	0	0	0	0	1472	1534	1627	1782	0.0	0.0	0.0	24.2	31.0	16.0
2	22.9	2.6	12.7	7.8	8.4	8.0	0	0	0	0	0	0	1183	1239	1323	1463	0.0	0.0	0.4	19.0	28.0	11.1
3	35.0	15.0	25.0	6.5	6.9	6.5	-7777	-7777	-7777	0	0	0	930	992	1085	1240	0.0	0.0	4.2	12.0	29.5	4.9
4	53.7	27.7	40.7	5.1	3.3	4.0	13	8	4	1	-7777	-7777	442	497	583	730	0.0	0.1	18.5	1.8	20.6	0.3
5	65.5	39.3	52.4	3.6	3.1	3.1	78	56	31	10	2	1	159	199	267	400	0.0	0.5	27.8	-7777	6.5	0.0
6	73.3	49.0	61.2	4.3	3.0	3.5	213	170	115	52	19	12	29	45	80	167	0.1	1.6	29.8	0.0	0.2	0.0
7	79.8	53.9	66.9	4.0	2.4	3.0	370	311	227	113	42	25	2	5	14	56	0.3	3.5	31.0	0.0	0.0	0.0
8	79.5	51.5	65.5	4.1	2.9	3.4	336	281	205	103	40	25	11	18	35	88	0.2	4.1	30.9	0.0	0.2	0.0
9	68.0	40.3	54.2	4.6	2.4	3.3	103	78	48	18	4	2	129	163	223	343	-7777	1.2	28.0	-7777	4.6	0.0
10	52.7	28.0	40.4	4.3	3.2	3.2	10	6	2	-7777	-7777	0	464	522	611	765	0.0	0.1	17.7	2.2	20.3	0.3
11	35.0	14.7	24.9	7.2	5.7	6.2	-7777	-7777	0	0	0	0	905	964	1054	1204	0.0	0.0	4.5	12.0	28.6	3.8
12	20.7	0.6	10.6	7.2	7.2	7.1	0	0	0	0	0	0	1374	1437	1530	1685	0.0	0.0	0.1	23.3	31.0	13.8
Summary	50.3	26.6	38.5	5.6	4.8	5.0	1123	910	632	297	107	65	7100	7615	8432	9923	0.6	11.1	192.9	94.5	200.5	50.2

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **POWERS LAKE 1 N, ND US**

GHCND:USC00327281  
Elev: 2205 ft. Lat: 48.572° N Lon: 102.647° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.44	4.1	1.4	0.1	0.0	0.20	0.38	0.56
2	0.29	3.7	0.8	0.1	0.0	0.15	0.26	0.31
3	0.58	4.9	2.0	0.2	0.0	0.29	0.47	0.67
4	0.90	6.4	2.7	0.4	0.0	0.43	0.81	1.39
5	2.18	8.6	5.9	1.0	0.3	1.07	1.88	2.86
6	2.70	11.4	7.1	1.7	0.4	1.56	2.19	3.96
7	3.07	9.8	6.4	1.9	0.9	1.74	2.95	3.77
8	1.73	7.9	4.3	1.0	0.2	0.78	1.77	2.13
9	1.35	7.1	3.8	0.5	0.2	0.84	1.25	1.69
10	1.16	5.8	3.3	0.8	0.2	0.58	0.98	1.48
11	0.48	4.4	2.0	0.2	0.1	0.13	0.44	0.72
12	0.44	4.4	1.1	0.0	0.0	0.19	0.41	0.58
Summary	15.32	78.5	40.8	7.9	2.3	7.96	13.79	20.12

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Station: **POWERS LAKE 1 N, ND US**

GHCND:USC00327281  
Elev: 2205 ft. Lat: 48.572° N Lon: 102.647° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.8	3.8	3.1	0.6	0.2	0.1	28.3	20.2	13.4	5.2	3.3	4.5	7.8
2	2.9	2.5	2.0	0.2	-7777	-7777	19.3	14.5	10.3	3.3	1.0	2.8	4.8
3	5.1	2.3	2.1	0.7	0.2	0.0	14.0	9.1	5.7	2.3	1.0	4.1	7.0
4	2.9	1.0	0.9	0.5	0.3	0.1	2.4	1.4	0.8	0.2	0.0	1.0	4.6
5	0.7	0.2	0.2	0.1	-7777	0.0	0.6	0.3	0.1	0.0	0.0	0.0	0.0
6	-7777	-7777	-7777	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.4	0.1	0.1	-7777	0.0	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
10	2.5	1.2	1.1	0.4	0.3	0.0	3.0	1.8	0.8	0.3	0.0	1.0	5.0
11	5.0	2.6	2.2	0.7	0.3	0.0	13.6	7.7	5.4	0.9	1.0	3.2	9.1
12	4.6	3.5	2.1	0.5	0.3	0.0	20.3	13.6	6.6	0.2	2.0	4.0	5.7
Summary	30.9	17.2	13.8	3.7	1.6	0.2	101.6	68.6	43.1	12.4	8.3	20.6	44.0

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## Summary of Monthly Normals 1981-2010

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Federal Building  
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[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **POWERS LAKE 1 N, ND US**

GHCND:USC00327281  
Elev: 2205 ft. Lat: 48.572° N Lon: 102.647° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	14	137	398	635	832	790	433	136	15	-7777
45	0	-7777	4	74	269	486	677	636	301	70	6	0
50	0	-7777	1	34	160	342	522	483	188	30	2	0
55	0	0	-7777	13	78	213	370	336	103	10	-7777	0
60	0	0	-7777	4	31	115	227	205	48	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	112	253	378	521	494	277	109	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	14	151	549	1184	2016	2806	3239	3375	3390	-7777
45	0	-7777	4	78	347	833	1510	2146	2447	2517	2523	2523
50	0	-7777	1	35	195	537	1059	1542	1730	1760	1762	1762
55	0	0	-7777	13	91	304	674	1010	1113	1123	-7777	1123
60	0	0	-7777	4	35	150	377	582	630	632	632	632
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	127	380	758	1279	1773	2050	2159	2175	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CARRINGTON 4 N, ND US**

GHCND:USC00321362

Elev: 1562 ft. Lat: 47.509° N Lon: 99.121° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.4	-1.5	8.5	7.6	8.2	7.8	0	0	0	0	0	0	1443	1505	1598	1753	0.0	0.0	0.1	24.6	30.8	16.3
2	23.9	3.2	13.6	6.7	7.7	7.0	0	0	0	0	0	0	1160	1216	1301	1440	0.0	0.0	0.6	18.9	27.9	11.8
3	36.0	16.9	26.4	5.9	5.1	5.3	-7777	-7777	-7777	0	0	0	885	947	1040	1195	0.0	0.0	3.7	10.2	29.4	3.7
4	55.0	30.5	42.8	5.2	2.9	3.8	19	13	6	2	-7777	-7777	387	440	524	669	0.0	0.1	20.2	1.3	17.5	0.1
5	68.1	42.9	55.5	3.9	3.4	3.4	120	90	53	18	4	2	105	136	193	312	0.0	0.5	29.3	0.0	3.3	0.0
6	76.0	52.8	64.4	3.8	3.0	3.3	291	239	168	79	26	15	9	17	36	97	0.0	1.6	30.0	0.0	-7777	0.0
7	82.1	57.5	69.8	3.7	2.4	2.7	459	397	307	170	69	43	-7777	-7777	3	21	0.3	4.1	31.0	0.0	0.0	0.0
8	81.1	54.7	67.9	3.8	2.6	3.0	403	344	259	139	56	35	3	6	14	49	0.1	4.4	31.0	0.0	-7777	0.0
9	70.8	44.7	57.7	3.8	2.4	2.9	154	119	76	31	9	5	71	96	144	248	0.0	0.8	29.3	0.0	1.8	0.0
10	56.0	31.9	44.0	4.1	2.9	2.9	18	11	5	1	-7777	-7777	361	416	502	654	0.0	0.1	21.4	0.9	15.9	-7777
11	36.5	17.5	27.0	7.3	5.9	6.3	-7777	-7777	-7777	0	0	0	840	900	990	1140	0.0	0.0	5.2	11.7	27.8	2.9
12	21.9	3.4	12.6	6.7	7.5	7.0	0	0	0	0	0	0	1313	1375	1468	1623	0.0	0.0	-7777	23.0	31.0	12.3
Summary	52.2	29.5	40.8	5.2	4.5	4.6	1464	1213	874	440	164	100	6577	7054	7813	9201	0.4	11.6	201.8	90.6	185.4	47.1

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CARRINGTON 4 N, ND US**

GHCND:USC00321362

Elev: 1562 ft. Lat: 47.509° N Lon: 99.121° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.54	4.5	1.6	0.3	0.1	0.19	0.48	0.78
2	0.40	4.1	1.4	0.0	0.0	0.15	0.29	0.49
3	0.85	4.5	2.5	0.3	-7777	0.29	0.67	1.19
4	1.17	5.1	2.8	0.5	0.2	0.56	0.89	1.56
5	2.76	9.4	6.1	1.9	0.6	1.53	2.22	3.65
6	3.77	11.0	7.3	2.5	0.8	2.33	3.53	4.56
7	3.39	9.6	6.7	2.3	1.0	1.75	3.28	4.40
8	2.31	8.4	5.2	1.6	0.6	1.53	2.00	2.69
9	1.91	6.7	3.8	1.3	0.4	1.20	1.59	2.87
10	1.77	6.2	3.6	1.2	0.4	0.47	1.42	2.59
11	0.88	4.7	2.3	0.4	0.1	0.26	0.79	1.35
12	0.55	5.0	1.8	0.4	0.2	0.21	0.42	0.70
Summary	20.30	79.2	45.1	12.7	4.4	10.47	17.58	26.83

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Data derived from 1981-2010 normals.

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Monthly Normals  
1981-2010**

National Climatic Data Center  
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Station: **CARRINGTON 4 N, ND US**

GHCND:USC00321362

Elev: 1562 ft. Lat: 47.509° N Lon: 99.121° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	166	485	732	923	865	534	192	20	-7777
45	0	-7777	3	90	343	582	769	710	391	106	7	-7777
50	0	0	1	44	219	434	614	555	261	49	1	0
55	0	0	-7777	19	120	291	459	403	154	18	-7777	0
60	0	0	-7777	6	53	168	307	259	76	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	123	297	449	598	551	328	135	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	177	662	1394	2317	3182	3716	3908	3928	-7777
45	0	-7777	3	93	436	1018	1787	2497	2888	2994	3001	-7777
50	0	0	1	45	264	698	1312	1867	2128	2177	2178	2178
55	0	0	-7777	19	139	430	889	1292	1446	1464	-7777	1464
60	0	0	-7777	6	59	227	534	793	869	874	-7777	874
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	135	432	881	1479	2030	2358	2493	2511	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: TUTTLE, ND US

GHCND:USC00328850

Elev: 1880 ft. Lat: 47.133° N Lon: 100.000° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	0.4	10.2	7.9	8.1	7.9	0	0	0	0	0	0	1390	1452	1545	1700	0.0	0.0	0.1	24.3	30.9	15.1
2	25.3	4.7	15.0	7.0	8.5	7.6	0	0	0	0	0	0	1120	1176	1260	1400	0.0	0.0	0.9	17.4	27.7	10.6
3	37.1	16.8	26.9	6.2	5.1	5.4	1	-7777	-7777	0	0	0	870	932	1025	1180	0.0	0.0	4.2	9.2	29.8	3.4
4	55.8	30.2	43.0	4.7	2.9	3.6	24	17	9	3	-7777	-7777	385	437	520	663	0.0	0.1	20.1	0.9	18.2	0.0
5	68.3	42.0	55.2	3.5	2.9	2.9	119	90	54	18	4	2	115	148	205	324	0.0	0.5	29.4	0.0	3.9	0.0
6	76.6	51.4	64.0	4.1	3.1	3.4	284	233	165	78	31	20	14	23	45	108	0.1	2.7	30.0	0.0	0.1	0.0
7	83.5	56.8	70.1	4.0	2.2	2.8	470	409	319	183	81	54	-7777	1	4	23	0.6	6.8	31.0	0.0	0.0	0.0
8	83.1	54.5	68.8	3.7	2.5	3.0	431	372	288	165	73	47	3	6	15	47	0.6	7.5	31.0	0.0	0.0	0.0
9	71.2	43.8	57.5	3.8	2.4	2.9	154	120	79	34	11	7	79	105	154	259	0.1	1.5	29.1	0.1	2.9	0.0
10	56.5	31.8	44.1	3.5	3.2	2.8	21	13	5	1	-7777	0	358	411	497	648	0.0	0.1	21.7	0.9	15.4	0.1
11	37.4	17.3	27.4	7.2	4.9	5.8	-7777	-7777	0	0	0	0	830	889	979	1129	0.0	0.0	5.8	10.0	28.0	2.7
12	23.4	3.8	13.6	7.5	7.8	7.5	0	0	0	0	0	0	1283	1345	1438	1593	0.0	0.0	0.3	21.0	30.9	12.2
Summary	53.2	29.5	41.3	5.3	4.5	4.6	1504	1254	919	482	200	130	6447	6925	7687	9074	1.4	19.2	203.6	83.8	187.8	44.1

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TUTTLE, ND US**

GHCND:USC00328850

Elev: 1880 ft. Lat: 47.133° N Lon: 100.000° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.38	5.7	1.1	0.0	0.0	0.19	0.29	0.67
2	0.39	4.9	1.1	0.0	0.0	0.09	0.26	0.38
3	0.69	6.0	2.0	0.1	0.0	0.39	0.61	0.94
4	1.16	6.9	3.3	0.6	0.1	0.65	1.02	1.40
5	2.45	8.9	5.3	1.5	0.3	1.47	2.10	3.22
6	3.22	11.3	6.2	2.1	0.6	2.09	2.94	3.80
7	2.72	10.4	6.3	2.5	0.8	1.57	2.18	3.27
8	2.24	8.6	4.5	1.2	0.3	1.63	2.08	2.89
9	1.72	7.7	3.7	0.9	0.3	0.78	1.54	2.52
10	1.31	5.4	2.8	1.0	0.3	0.49	1.09	1.97
11	0.59	5.7	2.1	0.1	0.0	0.11	0.45	0.77
12	0.48	6.1	1.1	0.0	0.0	0.28	0.34	0.61
Summary	17.35	87.6	39.5	10.0	2.7	9.74	14.90	22.44

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TUTTLE, ND US**

GHCND:USC00328850  
Elev: 1880 ft. Lat: 47.133° N Lon: 100.000° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.5	5.4	2.9	0.6	0.1	0.0	24.9	17.7	12.2	3.9	2.8	4.4	6.9
2	5.1	4.6	1.9	0.7	0.2	0.0	20.6	16.3	7.2	3.9	2.2	2.9	5.6
3	6.5	4.2	2.6	0.7	0.2	0.0	14.6	9.4	5.2	1.5	3.1	6.2	9.4
4	3.6	2.1	1.3	0.5	0.1	0.0	2.1	1.1	0.5	0.1	0.0	2.8	5.1
5	0.6	0.3	0.2	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	2.9	1.3	0.7	0.5	0.3	0.0	0.9	0.6	0.4	0.0	0.0	1.0	4.5
11	7.8	4.4	2.6	0.9	0.4	0.0	10.4	6.3	4.6	2.1	2.7	5.2	12.6
12	5.9	5.5	1.9	0.5	0.4	0.0	20.4	14.6	9.4	3.3	1.9	4.0	7.4
Summary	38.2	27.9	14.2	4.6	1.7	0.0	94.4	66.1	39.5	14.8	12.7	26.5	51.5

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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: TUTTLE, ND US

GHCND:USC00328850  
Elev: 1880 ft. Lat: 47.133° N Lon: 100.000° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	12	172	476	720	934	892	528	201	19	-7777
45	-7777	-7777	4	97	336	570	779	737	387	114	6	0
50	0	0	2	51	213	423	624	583	258	54	1	0
55	0	0	1	24	119	284	470	431	154	21	-7777	0
60	0	0	-7777	9	54	165	319	288	79	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	14	131	298	441	597	565	328	142	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	13	185	661	1381	2315	3207	3735	3936	3955	-7777
45	-7777	-7777	4	101	437	1007	1786	2523	2910	3024	3030	3030
50	0	0	2	53	266	689	1313	1896	2154	2208	2209	2209
55	0	0	1	25	144	428	898	1329	1483	1504	-7777	1504
60	0	0	-7777	9	63	228	547	835	914	919	919	919
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	16	147	445	886	1483	2048	2376	2518	2536	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DEVILS LAKE KDLR, ND US**

GHCND:USW00014912  
Elev: 1463 ft. Lat: 48.107° N Lon: 98.868° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.9	-0.9	8.0	7.9	8.1	7.9	0	0	0	0	0	0	1457	1519	1612	1767	0.0	0.0	-7777	25.8	31.0	15.7
2	22.2	3.7	13.0	7.0	8.3	7.5	0	0	0	0	0	0	1177	1233	1317	1457	0.0	0.0	0.3	20.1	27.8	12.1
3	33.8	17.4	25.6	5.5	5.2	5.2	-7777	-7777	-7777	0	0	0	911	973	1066	1221	0.0	0.0	2.8	12.3	28.1	3.2
4	53.1	33.5	43.3	5.3	3.1	4.0	22	14	7	2	-7777	-7777	373	426	508	653	0.0	-7777	17.8	1.7	12.5	0.0
5	66.1	45.9	56.0	3.6	3.3	3.3	130	98	59	20	5	3	100	129	183	299	0.0	0.2	28.9	0.0	1.8	0.0
6	74.3	55.4	64.8	3.7	2.8	3.1	304	250	179	87	33	20	8	15	33	92	-7777	1.5	30.0	0.0	0.0	0.0
7	79.8	59.9	69.8	3.6	2.2	2.6	461	399	310	174	73	46	-7777	1	5	23	-7777	2.3	31.0	0.0	0.0	0.0
8	78.9	58.3	68.6	3.6	2.4	2.9	424	364	278	152	61	38	3	5	12	40	0.1	2.6	31.0	0.0	0.0	0.0
9	68.1	48.8	58.5	3.7	2.5	3.0	167	130	86	36	11	6	64	87	132	232	0.0	0.5	28.6	0.0	0.6	0.0
10	52.9	34.7	43.8	4.0	2.5	2.9	19	12	5	1	-7777	-7777	366	421	508	658	0.0	0.0	18.2	1.4	12.1	-7777
11	34.5	18.5	26.5	6.6	5.3	5.8	-7777	-7777	0	0	0	0	855	915	1005	1155	0.0	0.0	3.8	12.3	26.8	2.4
12	20.3	3.8	12.1	7.1	7.7	7.3	0	0	0	0	0	0	1331	1393	1486	1641	0.0	0.0	0.0	24.3	31.0	11.9
Summary	50.1	31.6	40.8	5.1	4.4	4.6	1527	1267	924	472	183	113	6645	7117	7867	9238	0.1	7.1	192.4	97.9	171.7	45.3

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www.ncdc.noaa.gov

Station: **DEVILS LAKE KDLR, ND US**

GHCND:USW00014912

Elev: 1463 ft. Lat: 48.107° N Lon: 98.868° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	8.3	1.8	-7777	0.0	0.28	0.48	0.92
2	0.47	6.8	1.7	-7777	0.0	0.30	0.41	0.59
3	0.84	6.8	2.5	0.3	0.0	0.38	0.71	1.27
4	0.96	6.3	3.2	0.4	0.0	0.45	0.81	1.35
5	2.47	10.5	5.6	1.5	0.4	1.39	2.14	3.43
6	4.01	12.6	7.8	2.6	1.0	2.56	3.64	5.40
7	3.55	10.5	6.6	2.4	0.9	2.10	3.18	4.56
8	2.47	8.7	5.0	1.5	0.6	1.63	2.23	3.11
9	1.78	7.9	4.0	1.0	0.3	0.89	1.50	2.66
10	1.56	7.5	3.4	0.8	0.2	0.53	1.34	2.34
11	1.01	6.5	2.4	0.4	0.1	0.21	0.63	1.54
12	0.69	7.7	2.3	0.1	0.0	0.48	0.72	0.88
Summary	20.42	100.1	46.3	11.0	3.5	11.20	17.79	28.05

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Station: **DEVILS LAKE KDLR, ND US**

GHCND:USW00014912  
Elev: 1463 ft. Lat: 48.107° N Lon: 98.868° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	180	500	746	925	886	555	190	17	-7777
45	0	-7777	3	104	358	596	770	731	412	106	6	0
50	0	0	1	53	231	447	615	577	278	50	1	0
55	0	0	-7777	22	130	304	461	424	167	19	-7777	0
60	0	0	-7777	7	59	179	310	278	86	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	7	107	280	453	604	570	310	102	12	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	189	689	1435	2360	3246	3801	3991	4008	-7777
45	0	-7777	3	107	465	1061	1831	2562	2974	3080	3086	3086
50	0	0	1	54	285	732	1347	1924	2202	2252	2253	2253
55	0	0	-7777	22	152	456	917	1341	1508	1527	-7777	1527
60	0	0	-7777	7	66	245	555	833	919	924	924	924
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	115	395	848	1452	2022	2332	2434	2446	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC VILLE, ND US**

GHCND:USC00325764

Elev: 1467 ft. Lat: 47.762° N Lon: 98.182° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.5	-2.7	6.9	8.1	7.9	7.9	0	0	0	0	0	0	1491	1553	1646	1801	0.0	0.0	0.1	25.8	30.9	17.3
2	22.4	2.1	12.3	7.9	8.3	8.0	0	0	0	0	0	0	1197	1253	1337	1477	0.0	0.0	0.5	19.2	27.9	12.6
3	34.2	15.4	24.8	5.6	4.6	5.0	-7777	-7777	-7777	0	0	0	936	998	1091	1246	0.0	0.0	3.0	11.5	29.8	4.4
4	54.6	28.9	41.7	5.3	2.7	3.7	19	14	8	3	-7777	-7777	417	471	555	700	0.0	0.2	19.4	1.3	19.5	0.1
5	68.6	41.5	55.0	3.8	3.6	3.3	118	89	55	19	4	2	117	150	208	328	0.0	0.2	29.5	0.0	5.2	0.0
6	76.6	51.7	64.2	4.1	3.2	3.4	286	234	164	78	31	20	11	19	40	104	0.0	2.5	30.0	0.0	0.1	0.0
7	81.5	57.0	69.2	4.1	2.9	3.1	442	381	293	162	68	45	1	2	6	31	0.3	4.5	31.0	0.0	0.0	0.0
8	80.5	54.0	67.3	4.3	3.1	3.6	384	327	244	130	55	36	5	9	20	61	0.3	3.8	31.0	0.0	0.1	0.0
9	69.6	44.1	56.8	4.0	2.7	3.0	144	111	71	28	8	5	89	116	166	273	0.0	0.9	28.7	0.0	2.9	0.0
10	53.8	31.1	42.5	3.9	2.9	2.9	14	8	3	1	-7777	-7777	403	459	547	700	0.0	0.0	19.7	1.4	16.1	0.1
11	34.3	16.8	25.5	7.2	6.0	6.4	-7777	-7777	0	0	0	0	884	944	1033	1183	0.0	0.0	3.2	12.8	27.8	2.7
12	19.2	1.9	10.5	7.4	7.7	7.5	0	0	0	0	0	0	1378	1440	1533	1688	0.0	0.0	0.0	25.2	30.9	13.3
Summary	51.0	28.5	39.7	5.5	4.6	4.8	1407	1164	838	421	166	108	6929	7414	8182	9592	0.6	12.1	196.1	97.2	191.2	50.5

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC VILLE, ND US**

GHCND:USC00325764

Elev: 1467 ft. Lat: 47.762° N Lon: 98.182° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	3.9	1.4	0.2	0.1	0.30	0.60	0.84
2	0.49	2.7	1.2	0.0	0.0	0.22	0.42	0.58
3	0.85	3.7	2.5	0.5	0.0	0.35	0.62	1.43
4	1.07	4.6	2.8	0.6	0.1	0.50	0.78	1.14
5	2.45	6.9	4.7	1.1	0.5	1.35	2.24	3.44
6	3.76	8.7	6.5	3.0	0.8	2.75	3.57	4.69
7	3.54	8.5	6.5	2.7	1.1	2.35	3.07	4.51
8	2.91	7.2	4.8	1.7	0.9	1.12	2.73	4.37
9	2.60	6.2	4.0	1.0	0.5	1.12	1.80	4.05
10	1.69	5.9	3.3	0.9	0.3	0.32	1.72	2.50
11	1.05	4.2	2.3	0.5	0.1	0.16	0.63	1.71
12	0.72	3.9	1.7	0.1	0.0	0.32	0.64	1.01
Summary	21.74	66.4	41.7	12.3	4.4	10.86	18.82	30.27

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Station: **MC VILLE, ND US**

GHCND:USC00325764

Elev: 1467 ft. Lat: 47.762° N Lon: 98.182° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.3	3.7	2.8	0.8	0.3	0.1	@	@	@	@	3.0	6.5	8.5
2	4.6	3.1	2.3	0.4	0.1	0.0	@	@	@	@	1.0	3.5	9.0
3	6.5	2.3	1.9	0.8	0.3	0.0	@	@	@	@	0.0	5.2	12.5
4	1.9	0.7	0.6	0.2	0.2	0.0	@	@	@	@	0.0	0.0	4.5
5	0.3	0.1	0.1	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.0	0.6	0.6	0.2	0.1	0.0	@	@	@	@	0.0	0.0	2.2
11	8.7	3.7	2.7	1.0	0.4	0.1	@	@	@	@	2.6	5.2	16.5
12	6.4	4.5	3.0	0.5	0.0	0.0	@	@	@	@	1.5	6.1	9.5
Summary	37.7	18.7	14.0	4.0	1.4	0.2	9999	9999	9999	9999	8.1	26.5	62.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC VILLE, ND US**

GHCND:USC00325764

Elev: 1467 ft. Lat: 47.762° N Lon: 98.182° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	8	148	473	724	906	844	508	169	14	-7777
45	0	0	2	79	335	574	751	689	369	90	5	0
50	0	0	1	40	212	426	597	535	244	39	1	0
55	0	0	-7777	19	118	286	442	384	144	14	-7777	0
60	0	0	-7777	8	55	164	293	244	71	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	119	303	445	583	538	312	113	10	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	9	157	630	1354	2260	3104	3612	3781	3795	-7777
45	0	0	2	81	416	990	1741	2430	2799	2889	2894	2894
50	0	0	1	41	253	679	1276	1811	2055	2094	2095	2095
55	0	0	-7777	19	137	423	865	1249	1393	1407	-7777	1407
60	0	0	-7777	8	63	227	520	764	835	838	838	838
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	128	431	876	1459	1997	2309	2422	2432	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **KEENE 3 S, ND US**

GHCND:USC00324571  
Elev: 2470 ft. Lat: 47.897° N Lon: 102.921° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.5	3.9	13.7	7.7	8.5	8.0	0	0	0	0	0	0	1280	1342	1435	1590	0.0	0.0	0.4	19.7	30.6	12.2
2	29.3	8.8	19.1	7.7	8.3	7.9	-7777	-7777	0	0	0	0	1007	1062	1147	1287	0.0	0.0	1.9	14.7	27.2	8.0
3	41.2	19.3	30.3	6.8	5.4	5.9	1	1	-7777	-7777	0	0	768	830	922	1077	0.0	0.0	8.5	7.3	27.5	2.9
4	58.3	30.6	44.5	4.9	2.9	3.7	25	17	8	2	-7777	-7777	342	393	475	618	0.0	0.1	22.5	1.0	16.1	0.1
5	69.1	41.3	55.2	4.1	2.5	3.1	112	82	48	16	4	2	106	138	196	320	0.0	0.7	29.7	0.0	4.9	0.0
6	76.7	50.4	63.6	4.6	3.1	3.7	271	220	154	73	29	19	14	24	47	116	0.2	2.5	30.0	0.0	0.3	0.0
7	84.3	55.7	70.0	4.5	2.5	3.4	465	405	316	182	86	58	1	2	6	28	1.0	7.6	31.0	0.0	0.0	0.0
8	84.4	54.6	69.5	4.0	2.8	3.2	452	392	307	179	84	57	3	5	12	40	0.4	8.5	31.0	0.0	0.1	0.0
9	73.0	44.2	58.6	4.8	2.5	3.4	178	142	96	42	14	8	70	94	138	234	0.0	2.0	29.3	0.0	2.8	0.0
10	57.7	32.4	45.0	4.2	2.7	3.2	29	19	9	1	-7777	-7777	338	390	473	620	0.0	-7777	22.0	1.0	14.5	0.1
11	38.9	19.4	29.2	7.3	5.5	6.2	1	1	-7777	0	0	0	777	836	926	1075	0.0	0.0	6.8	9.3	26.2	2.2
12	25.5	6.4	15.9	7.4	7.6	7.4	0	0	0	0	0	0	1210	1272	1365	1520	0.0	0.0	0.6	19.0	30.7	9.9
Summary	55.2	30.6	42.9	5.7	4.5	4.9	1534	1279	938	495	217	144	5916	6388	7142	8525	1.6	21.4	213.7	72.0	180.9	35.4

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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**Summary of  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KEENE 3 S, ND US**

GHCND:USC00324571  
Elev: 2470 ft. Lat: 47.897° N Lon: 102.921° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.48	4.2	1.9	-7777	0.0	0.24	0.32	0.62
2	0.39	3.3	1.1	0.1	-7777	0.16	0.22	0.48
3	0.66	4.7	2.4	0.1	-7777	0.22	0.63	1.00
4	1.12	5.7	2.8	0.6	0.1	0.34	1.02	1.69
5	2.39	9.0	6.2	1.5	0.2	1.27	2.21	2.76
6	3.26	11.1	7.3	2.0	0.7	2.33	2.92	4.21
7	2.88	8.7	5.6	1.9	0.5	1.66	2.44	3.85
8	1.54	6.0	3.9	0.8	0.2	0.95	1.24	2.14
9	1.40	6.4	3.6	0.7	0.2	0.63	1.17	1.96
10	1.40	5.1	3.2	0.6	0.2	0.51	1.06	1.93
11	0.65	4.1	2.0	0.2	-7777	0.21	0.41	0.83
12	0.54	5.1	2.0	0.1	0.0	0.28	0.48	0.72
Summary	16.71	73.4	42.0	8.6	2.1	8.80	14.12	22.19

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Station: **KEENE 3 S, ND US**

GHCND:USC00324571  
Elev: 2470 ft. Lat: 47.897° N Lon: 102.921° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	37	205	477	706	930	914	561	228	35	1
45	-7777	1	14	119	336	557	775	759	419	135	15	-7777
50	0	-7777	5	61	212	410	620	605	288	69	5	-7777
55	0	-7777	1	25	112	271	465	452	178	29	1	0
60	0	0	-7777	8	48	154	316	307	96	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	35	158	305	436	592	582	356	160	26	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	42	247	724	1430	2360	3274	3835	4063	4098	4099
45	-7777	1	15	134	470	1027	1802	2561	2980	3115	3130	-7777
50	0	-7777	5	66	278	688	1308	1913	2201	2270	2275	-7777
55	0	-7777	1	26	138	409	874	1326	1504	1533	1534	1534
60	0	0	-7777	8	56	210	526	833	929	938	-7777	938
Growing Degree Units for Corn (Monthly)												
50/86	1	5	40	198	503	939	1531	2113	2469	2629	2655	2656

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CARSON, ND US**

GHCND:USC00321370

Elev: 2336 ft. Lat: 46.425° N Lon: 101.574° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.7	3.8	14.7	7.8	7.8	7.6	0	0	0	0	0	0	1248	1310	1403	1558	0.0	0.0	0.7	18.7	30.9	12.5
2	29.5	8.1	18.8	7.8	8.1	7.8	-7777	0	0	0	0	0	1013	1069	1153	1293	0.0	0.0	2.6	14.9	27.3	9.2
3	39.7	18.3	29.0	7.1	5.0	5.9	1	-7777	-7777	-7777	0	0	807	869	961	1116	0.0	0.0	7.3	8.4	28.4	3.0
4	55.8	28.7	42.2	4.7	3.1	3.7	18	12	6	1	-7777	-7777	400	454	539	684	0.0	0.1	19.7	1.1	19.0	-7777
5	66.9	40.1	53.5	3.8	3.0	3.1	88	63	36	11	2	1	134	172	237	368	0.0	0.4	28.5	0.0	5.3	0.0
6	75.0	50.2	62.6	4.1	2.9	3.4	249	201	137	61	22	13	21	33	59	133	0.1	1.9	29.9	0.0	0.2	0.0
7	82.8	56.1	69.4	4.5	2.9	3.5	449	388	300	171	76	50	1	2	7	33	0.6	6.1	31.0	0.0	0.0	0.0
8	82.4	54.4	68.4	4.2	2.7	3.3	419	360	277	156	68	43	4	7	16	51	0.3	7.1	31.0	0.0	0.0	0.0
9	71.2	43.7	57.5	3.9	3.1	3.2	155	122	81	35	11	6	81	108	157	261	0.0	1.4	28.8	0.0	2.2	0.0
10	57.3	32.0	44.6	4.1	3.2	3.2	23	14	7	1	-7777	-7777	344	397	482	632	0.0	0.1	21.5	1.0	14.4	0.1
11	40.2	18.9	29.6	7.3	5.1	6.0	1	-7777	-7777	0	0	0	764	824	913	1063	0.0	0.0	7.6	8.4	27.3	2.2
12	27.5	6.6	17.0	8.1	7.1	7.5	0	0	0	0	0	0	1176	1238	1331	1486	0.0	0.0	1.2	17.8	30.9	9.4
Summary	54.5	30.1	42.3	5.6	4.5	4.8	1403	1160	844	436	179	113	5993	6483	7258	8678	1.0	17.1	209.8	70.3	185.9	36.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CARSON, ND US**

GHCND:USC00321370

Elev: 2336 ft. Lat: 46.425° N Lon: 101.574° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.31	3.1	1.1	0.1	0.0	0.11	0.23	0.51
2	0.68	3.7	2.2	0.3	0.1	0.22	0.42	0.76
3	0.91	4.9	3.1	0.5	0.2	0.41	0.71	1.45
4	1.29	5.8	3.6	0.9	0.2	0.61	0.94	1.67
5	2.28	7.5	5.0	1.7	0.6	1.27	2.13	3.24
6	3.25	10.3	6.9	1.9	0.6	2.35	3.17	4.02
7	2.52	8.3	5.3	1.8	0.5	1.31	2.22	3.33
8	1.88	6.4	3.9	1.0	0.4	1.17	1.83	2.15
9	1.38	5.4	3.8	0.7	0.1	0.69	1.11	1.85
10	1.25	5.4	3.3	0.8	0.3	0.49	0.79	1.44
11	0.65	3.9	2.5	0.2	0.1	0.17	0.42	1.10
12	0.52	4.0	1.9	-7777	0.0	0.25	0.45	0.74
Summary	16.92	68.7	42.6	9.9	3.1	9.05	14.42	22.26

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Station: **CARSON, ND US**

GHCND:USC00321370  
Elev: 2336 ft. Lat: 46.425° N Lon: 101.574° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	6	28	162	427	678	913	880	528	212	32	1
45	-7777	1	11	88	290	529	758	725	388	122	12	-7777
50	-7777	-7777	3	43	175	384	603	571	260	61	3	0
55	0	-7777	1	18	88	249	449	419	155	23	1	0
60	0	0	-7777	6	36	137	300	277	81	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	7	29	132	272	411	582	555	329	152	31	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	8	36	198	625	1303	2216	3096	3624	3836	3868	3869
45	-7777	1	12	100	390	919	1677	2402	2790	2912	2924	-7777
50	-7777	-7777	3	46	221	605	1208	1779	2039	2100	2103	2103
55	0	-7777	1	19	107	356	805	1224	1379	1402	1403	1403
60	0	0	-7777	6	42	179	479	756	837	844	-7777	844
Growing Degree Units for Corn (Monthly)												
50/86	3	10	39	171	443	854	1436	1991	2320	2472	2503	2506

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**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ENDERLIN 2 W, ND US**

GHCND:USC00322695

Elev: 1148 ft. Lat: 46.617° N Lon: 97.638° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.5	0.2	10.8	6.9	7.6	7.1	0	0	0	0	0	0	1368	1430	1523	1678	0.0	0.0	0.2	22.6	30.9	15.2
2	27.3	5.3	16.3	7.1	8.1	7.4	-7777	-7777	0	0	0	0	1083	1139	1223	1363	0.0	0.0	1.0	16.6	27.5	11.2
3	38.9	19.0	29.0	5.2	5.5	5.1	-7777	-7777	-7777	-7777	0	0	808	870	963	1118	0.0	0.0	5.2	8.3	27.4	2.6
4	58.2	31.4	44.8	5.5	3.7	4.2	25	17	9	2	-7777	-7777	331	383	465	608	0.0	0.1	21.8	0.6	15.8	-7777
5	70.2	43.9	57.0	3.7	3.2	3.2	141	107	66	23	6	3	77	105	158	269	0.0	0.4	30.5	0.0	3.2	0.0
6	78.8	53.7	66.2	3.9	3.2	3.3	342	287	211	106	41	26	5	10	23	69	-7777	2.3	30.0	0.0	0.0	0.0
7	84.1	57.7	70.9	3.4	2.9	2.8	493	431	340	197	85	54	-7777	-7777	3	15	0.3	4.9	31.0	0.0	0.0	0.0
8	82.8	55.2	69.0	3.0	2.9	2.8	434	374	285	155	62	39	1	2	7	31	0.2	4.2	31.0	0.0	-7777	0.0
9	72.8	46.0	59.4	3.4	2.5	2.7	185	146	98	44	14	8	53	74	116	212	-7777	1.2	29.7	0.0	1.7	0.0
10	57.9	33.7	45.8	4.1	3.4	2.9	24	16	9	2	-7777	-7777	309	363	449	597	0.0	-7777	23.7	0.2	13.5	0.0
11	39.7	19.6	29.6	6.6	5.9	5.9	-7777	-7777	-7777	0	0	0	761	820	910	1060	0.0	0.0	6.4	8.4	26.8	1.8
12	25.1	5.6	15.4	7.6	7.7	7.5	0	0	0	0	0	0	1229	1291	1384	1539	0.0	0.0	0.5	20.5	30.9	11.5
Summary	54.8	30.9	42.8	5.0	4.7	4.6	1644	1378	1018	529	208	130	6025	6487	7224	8559	0.5	13.1	211.0	77.2	177.7	42.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ENDERLIN 2 W, ND US**

GHCND:USC00322695

Elev: 1148 ft. Lat: 46.617° N Lon: 97.638° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.60	@	@	@	@			
2	0.48	@	@	@	@			
3	1.28	@	@	@	@			
4	1.51	@	@	@	@			
5	3.02	@	@	@	@			
6	3.65	@	@	@	@			
7	3.25	@	@	@	@			
8	2.47	@	@	@	@			
9	2.50	@	@	@	@			
10	2.10	@	@	@	@			
11	0.80	@	@	@	@			
12	0.58	@	@	@	@			
Summary	22.24	9999	9999	9999	9999	9999	9999	9999

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www.ncdc.noaa.gov

Station: **ENDERLIN 2 W, ND US**

GHCND:USC00322695  
Elev: 1148 ft. Lat: 46.617° N Lon: 97.638° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	23	210	530	787	958	899	582	222	28	-7777
45	0	-7777	8	122	382	637	803	744	437	125	10	-7777
50	0	-7777	2	61	250	488	648	589	302	59	2	0
55	0	-7777	-7777	25	141	342	493	434	185	24	-7777	0
60	0	0	-7777	9	66	211	340	285	98	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	19	156	332	498	625	581	364	150	23	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	24	234	764	1551	2509	3408	3990	4212	4240	-7777
45	0	-7777	8	130	512	1149	1952	2696	3133	3258	3268	-7777
50	0	-7777	2	63	313	801	1449	2038	2340	2399	2401	2401
55	0	-7777	-7777	25	166	508	1001	1435	1620	1644	-7777	1644
60	0	0	-7777	9	75	286	626	911	1009	1018	-7777	1018
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	21	177	509	1007	1632	2213	2577	2727	2750	2751

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOTT, ND US**

GHCND:USC00326155  
Elev: 2536 ft. Lat: 46.372° N Lon: 102.316° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.3	4.1	15.7	7.4	7.3	7.2	0	0	0	0	0	0	1218	1280	1373	1528	0.0	0.0	1.1	17.0	31.0	11.7
2	31.9	7.9	19.9	7.5	8.1	7.7	0	0	0	0	0	0	983	1039	1123	1263	0.0	0.0	3.5	13.0	27.8	8.0
3	41.8	17.6	29.7	6.8	5.3	5.8	1	-7777	-7777	0	0	0	785	847	939	1094	0.0	0.0	9.7	8.4	29.4	2.5
4	56.6	28.4	42.5	4.5	2.8	3.4	18	12	5	1	-7777	-7777	393	447	530	676	0.0	0.1	20.9	1.5	19.5	0.1
5	67.2	40.3	53.8	3.8	2.2	2.7	92	66	37	11	1	-7777	130	167	231	359	0.0	0.2	28.7	0.0	5.2	0.0
6	76.8	49.9	63.4	4.5	2.7	3.3	265	216	151	70	25	16	15	26	51	120	0.2	3.0	30.0	0.0	0.1	0.0
7	85.0	55.5	70.2	4.5	2.5	3.3	473	413	324	192	90	61	1	2	7	29	1.0	9.2	31.0	0.0	0.0	0.0
8	84.7	52.9	68.8	4.0	2.7	3.2	431	372	287	164	73	47	3	6	14	46	0.7	9.7	31.0	0.0	0.0	0.0
9	73.3	41.3	57.3	4.7	2.7	3.4	155	122	81	34	11	6	86	113	162	265	0.1	2.9	28.7	-7777	3.5	0.0
10	58.5	29.3	43.9	4.0	2.8	2.9	20	13	5	1	-7777	-7777	364	419	504	655	0.0	0.2	23.1	0.9	18.5	-7777
11	41.6	17.5	29.6	7.4	4.5	5.6	1	-7777	-7777	0	0	0	764	824	913	1063	0.0	0.0	8.6	7.6	27.9	2.5
12	29.1	6.0	17.6	8.2	6.7	7.3	0	0	0	0	0	0	1161	1223	1316	1471	0.0	0.0	1.7	15.9	30.9	9.4
Summary	56.2	29.2	42.7	5.6	4.2	4.6	1456	1214	890	473	200	130	5903	6393	7163	8569	2.0	25.3	218.0	64.3	193.8	34.2

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOTT, ND US**

GHCND:USC00326155  
Elev: 2536 ft. Lat: 46.372° N Lon: 102.316° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.42	3.1	1.5	0.1	-7777	0.10	0.41	0.65
2	0.74	3.1	1.6	0.2	0.2	0.14	0.28	0.91
3	0.91	4.7	2.7	0.4	-7777	0.54	0.75	1.15
4	1.70	5.9	4.0	1.0	0.2	0.84	1.34	2.35
5	2.53	8.5	5.6	1.8	0.4	1.52	2.25	3.42
6	2.85	9.6	6.2	2.0	0.5	1.39	2.79	3.93
7	2.19	7.8	4.8	1.5	0.4	1.24	2.19	2.70
8	1.52	6.2	3.4	1.0	0.4	0.81	1.23	2.14
9	1.32	5.3	3.3	0.6	0.1	0.70	0.92	1.36
10	1.28	4.0	2.5	0.4	0.2	0.41	0.84	1.55
11	0.60	3.1	1.8	0.0	0.0	0.05	0.37	0.87
12	0.50	3.2	1.4	0.1	0.0	0.25	0.45	0.72
Summary	16.56	64.5	38.8	9.1	2.4	7.99	13.82	21.75

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Station: **MOTT, ND US**

GHCND:USC00326155  
 Elev: 2536 ft. Lat: 46.372° N Lon: 102.316° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.5	3.2	2.4	0.7	0.1	0.0	@	@	@	@	3.0	6.7	10.2
2	5.0	2.7	2.1	0.7	0.1	-7777	@	@	@	@	0.1	3.2	8.9
3	4.7	3.2	2.4	0.6	0.1	0.0	@	@	@	@	2.0	3.0	8.3
4	2.9	1.3	1.1	0.6	0.2	0.1	@	@	@	@	0.0	2.5	4.5
5	0.7	0.2	0.2	0.1	0.1	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.3	-7777	-7777	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
10	1.9	0.6	0.6	0.3	0.1	0.0	@	@	@	@	0.0	0.0	2.5
11	4.0	2.1	1.7	0.8	0.2	0.0	@	@	@	@	0.0	1.0	8.6
12	5.1	3.1	2.2	0.7	0.1	0.0	@	@	@	@	1.0	4.5	9.0
Summary	31.1	16.4	12.7	4.5	1.0	0.1	9999	9999	9999	9999	6.1	20.9	52.0

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.  
 @ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.  
 -7777 indicates a non-zero growing degree day value that would round to zero  
 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MOTT, ND US**

GHCND:USC00326155  
Elev: 2536 ft. Lat: 46.372° N Lon: 102.316° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	31	166	434	700	937	892	524	197	33	1
45	-7777	1	10	92	297	551	783	738	385	110	13	-7777
50	0	-7777	2	44	179	404	628	583	259	53	3	-7777
55	0	0	1	18	92	265	473	431	155	20	1	0
60	0	0	-7777	5	37	151	324	287	81	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	10	41	142	276	428	592	561	348	166	40	4

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	6	37	203	637	1337	2274	3166	3690	3887	3920	3921
45	-7777	1	11	103	400	951	1734	2472	2857	2967	2980	-7777
50	0	-7777	2	46	225	629	1257	1840	2099	2152	2155	-7777
55	0	0	1	19	111	376	849	1280	1435	1455	1456	1456
60	0	0	-7777	5	42	193	517	804	885	890	-7777	890
Growing Degree Units for Corn (Monthly)												
50/86	3	13	54	196	472	900	1492	2053	2401	2567	2607	2611

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLOW CITY, ND US**

GHCND:USC00329445  
Elev: 1473 ft. Lat: 48.606° N Lon: 100.291° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	15.6	-6.1	4.7	7.7	8.6	8.0	0	0	0	0	0	0	1557	1619	1712	1867	0.0	0.0	0.0	26.5	31.0	18.5
2	21.0	-0.8	10.1	7.2	8.8	7.9	0	0	0	0	0	0	1257	1313	1397	1537	0.0	0.0	0.3	20.8	27.8	14.2
3	33.5	12.9	23.2	6.3	6.5	6.2	-7777	-7777	-7777	0	0	0	986	1048	1141	1296	0.0	0.0	2.7	12.1	30.1	5.9
4	53.6	26.2	39.9	5.5	3.4	4.0	8	5	2	-7777	0	0	461	518	605	753	0.0	0.0	18.3	1.8	22.8	0.1
5	66.2	37.1	51.7	3.4	3.4	3.1	67	47	24	7	1	1	171	212	283	421	0.0	0.4	28.7	-7777	9.0	0.0
6	74.6	48.0	61.3	4.0	3.3	3.4	215	170	113	47	16	9	26	41	74	158	-7777	1.4	29.9	0.0	0.4	0.0
7	80.3	52.6	66.5	3.7	2.6	2.7	357	298	213	101	34	19	2	5	14	56	0.1	3.2	31.0	0.0	0.0	0.0
8	80.2	50.1	65.2	3.9	2.7	3.1	323	267	191	90	30	18	8	15	31	86	0.2	4.2	31.0	0.0	0.2	0.0
9	68.9	39.3	54.1	4.4	2.5	3.0	91	66	38	12	2	1	118	153	215	339	0.0	0.6	28.7	0.0	4.7	0.0
10	54.3	27.9	41.1	3.7	3.2	2.8	9	5	2	-7777	0	0	440	498	588	741	0.0	-7777	19.0	1.1	21.5	0.1
11	34.5	14.3	24.4	7.5	6.1	6.5	-7777	-7777	0	0	0	0	918	978	1068	1218	0.0	0.0	4.2	12.9	29.3	4.3
12	19.6	-0.1	9.7	7.1	7.8	7.3	0	0	0	0	0	0	1403	1465	1558	1713	0.0	0.0	0.1	25.1	31.0	15.1
Summary	50.2	25.1	37.7	5.4	4.9	4.8	1070	858	583	257	83	48	7347	7865	8686	10185	0.3	9.8	193.9	100.3	207.8	58.2

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLOW CITY, ND US**

GHCND:USC00329445

Elev: 1473 ft. Lat: 48.606° N Lon: 100.291° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.54	4.8	1.6	0.2	0.0	0.26	0.48	0.64
2	0.35	3.3	1.4	0.1	-7777	0.10	0.24	0.43
3	0.75	4.4	2.3	0.4	0.0	0.36	0.68	1.09
4	1.09	5.0	3.0	0.4	0.1	0.48	0.87	1.14
5	2.49	8.3	5.5	1.3	0.4	1.34	1.91	2.93
6	3.60	11.0	7.3	2.1	0.8	2.70	3.34	4.65
7	2.73	8.6	5.6	1.7	0.7	1.31	2.09	3.72
8	2.45	7.3	4.7	1.1	0.6	1.15	2.13	3.87
9	1.49	6.5	3.6	0.8	0.2	0.74	1.46	2.08
10	1.19	5.1	2.8	0.6	0.2	0.23	0.89	1.63
11	0.66	4.1	2.0	0.3	0.1	0.18	0.51	1.07
12	0.49	4.3	1.8	0.1	-7777	0.19	0.40	0.78
Summary	17.83	72.7	41.6	9.1	3.1	9.04	15.00	24.03

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLOW CITY, ND US**

GHCND:USC00329445  
Elev: 1473 ft. Lat: 48.606° N Lon: 100.291° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.4	4.8	3.9	1.0	0.5	0.0	@	@	@	@	4.5	7.6	10.7
2	4.3	3.0	1.9	0.5	0.1	0.0	@	@	@	@	1.5	3.0	5.3
3	5.3	2.8	2.3	0.6	0.3	0.0	@	@	@	@	1.5	5.1	9.0
4	2.7	1.0	1.0	0.4	0.1	0.0	@	@	@	@	0.0	0.0	7.0
5	0.3	0.2	0.1	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.6	0.6	0.4	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.1
11	6.7	2.7	2.0	0.9	0.5	0.0	@	@	@	@	0.5	2.6	12.5
12	6.6	4.3	3.4	1.1	0.3	0.0	@	@	@	@	1.6	5.0	9.0
Summary	34.9	19.4	15.0	4.6	1.8	0.0	9999	9999	9999	9999	9.6	23.3	53.6

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILLOW CITY, ND US**

GHCND:USC00329445  
Elev: 1473 ft. Lat: 48.606° N Lon: 100.291° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	119	374	639	820	779	429	137	10	-7777
45	0	-7777	2	61	246	490	665	625	294	70	2	0
50	0	-7777	-7777	25	142	346	510	471	178	29	-7777	0
55	0	0	-7777	8	67	215	357	323	91	9	-7777	0
60	0	0	-7777	2	24	113	213	191	38	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	110	258	392	517	492	287	117	14	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	125	499	1138	1958	2737	3166	3303	3313	-7777
45	0	-7777	2	63	309	799	1464	2089	2383	2453	2455	2455
50	0	-7777	-7777	25	167	513	1023	1494	1672	1701	-7777	1701
55	0	0	-7777	8	75	290	647	970	1061	1070	-7777	1070
60	0	0	-7777	2	26	139	352	543	581	583	583	583
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	120	378	770	1287	1779	2066	2183	2197	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHIELDS, ND US**

GHCND:USC00328065

Elev: 1804 ft. Lat: 46.233° N Lon: 101.129° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.41	3.9	1.5	0.1	0.0	0.13	0.34	0.62
2	0.43	3.3	1.5	0.1	-7777	0.20	0.35	0.47
3	0.84	4.7	2.6	0.4	0.2	0.25	0.63	1.26
4	1.39	5.5	3.5	0.6	0.2	0.65	1.07	1.59
5	2.61	7.7	5.6	1.6	0.6	1.03	2.22	3.70
6	3.18	8.8	6.4	1.9	0.8	1.77	3.03	4.41
7	2.70	7.9	5.0	1.6	0.7	1.01	2.50	3.59
8	1.70	5.6	3.3	1.0	0.4	0.51	1.18	2.25
9	1.35	5.3	3.3	0.7	0.2	0.62	1.05	1.55
10	1.29	4.5	3.3	0.6	0.3	0.43	0.93	1.73
11	0.60	3.8	1.9	0.4	0.0	0.04	0.43	0.93
12	0.40	3.8	1.5	0.1	0.0	0.15	0.43	0.57
Summary	16.90	64.8	39.4	9.1	3.4	6.79	14.16	22.67

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHIELDS, ND US**

GHCND:USC00328065  
Elev: 1804 ft. Lat: 46.233° N Lon: 101.129° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.2	3.7	3.4	1.0	0.4	-7777	@	@	@	@	3.0	7.5	12.0
2	6.3	3.0	2.6	0.8	0.2	-7777	@	@	@	@	3.5	5.0	7.7
3	8.5	2.8	2.7	1.1	0.4	0.1	@	@	@	@	4.0	5.9	11.0
4	2.4	0.7	0.7	0.3	0.1	0.1	@	@	@	@	0.0	0.0	5.0
5	0.4	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.2	0.1	0.1	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.4	0.4	0.4	0.2	-7777	-7777	@	@	@	@	0.0	0.0	1.0
11	7.3	2.2	2.1	1.1	0.4	0.2	@	@	@	@	0.0	3.0	13.0
12	7.9	3.1	3.1	1.0	0.2	-7777	@	@	@	@	2.0	7.4	11.0
Summary	42.6	16.1	15.2	5.7	1.7	0.4	9999	9999	9999	9999	12.5	28.8	60.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WASHBURN, ND US**

GHCND:USC00329195

Elev: 1736 ft. Lat: 47.284° N Lon: 101.027° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.7	1.9	12.3	7.4	8.6	7.9	0	0	0	0	0	0	1324	1386	1479	1634	0.0	0.0	0.2	21.6	30.9	13.3
2	27.6	6.1	16.8	7.7	8.2	7.8	0	0	0	0	0	0	1068	1124	1208	1348	0.0	0.0	1.8	16.6	27.7	9.8
3	39.4	18.1	28.7	6.4	5.2	5.6	-7777	-7777	-7777	-7777	0	0	814	876	969	1124	0.0	0.0	7.1	8.1	29.3	2.8
4	56.7	30.4	43.6	4.6	2.9	3.5	19	12	6	1	-7777	-7777	363	416	499	645	0.0	0.0	21.9	1.1	16.3	0.0
5	67.6	42.4	55.0	3.7	3.0	3.0	112	82	47	16	4	2	112	144	202	326	0.0	0.4	29.0	0.0	3.5	0.0
6	76.4	51.7	64.0	4.3	2.8	3.4	283	231	161	73	26	16	12	20	40	102	0.3	2.0	29.9	0.0	0.0	0.0
7	83.3	56.8	70.1	4.0	2.3	2.9	467	406	316	181	80	52	-7777	1	5	25	0.4	5.8	31.0	0.0	0.0	0.0
8	82.8	54.9	68.9	3.7	2.7	3.0	431	372	286	163	71	46	2	4	12	44	0.4	6.3	31.0	0.0	0.0	0.0
9	72.1	44.9	58.5	4.2	2.5	3.2	166	130	86	37	11	6	61	85	131	232	-7777	1.5	29.3	0.0	1.4	0.0
10	57.4	32.3	44.8	3.8	2.1	2.5	24	16	7	2	-7777	-7777	339	392	477	626	0.0	0.1	21.9	1.0	14.8	-7777
11	39.1	19.0	29.0	7.5	5.0	6.0	-7777	-7777	-7777	0	0	0	779	839	929	1078	0.0	0.0	7.3	9.2	27.3	1.9
12	25.1	6.6	15.9	8.0	7.5	7.7	0	0	0	0	0	0	1213	1275	1368	1523	0.0	0.0	0.7	19.6	31.0	9.6
Summary	54.2	30.4	42.3	5.4	4.4	4.7	1502	1249	909	473	192	122	6087	6562	7319	8707	1.1	16.1	211.1	77.2	182.2	37.4

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WASHBURN, ND US**

GHCND:USC00329195  
Elev: 1736 ft. Lat: 47.284° N Lon: 101.027° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	4.6	1.3	-7777	0.0	0.17	0.32	0.70
2	0.50	4.6	1.7	0.3	0.2	0.21	0.36	0.53
3	0.69	5.5	1.9	0.2	0.0	0.25	0.61	1.17
4	1.47	5.9	3.3	1.1	0.2	0.60	0.94	1.99
5	2.50	9.0	5.5	1.8	0.5	1.42	2.02	3.24
6	3.29	10.7	6.8	2.4	0.8	2.33	2.82	3.95
7	2.56	8.6	5.4	1.6	0.5	1.57	2.29	3.08
8	1.85	7.0	4.0	1.2	0.3	0.96	1.79	2.65
9	1.40	6.5	3.5	0.8	0.1	0.75	1.24	2.04
10	1.27	5.5	2.8	0.8	0.2	0.36	0.80	1.53
11	0.79	4.0	1.7	0.4	0.0	0.11	0.61	1.27
12	0.41	4.8	1.3	-7777	0.0	0.19	0.37	0.55
Summary	17.18	76.7	39.2	10.6	2.8	8.92	14.17	22.70

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
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Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **WASHBURN, ND US**

GHCND:USC00329195  
Elev: 1736 ft. Lat: 47.284° N Lon: 101.027° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	24	182	471	721	931	894	556	215	29	-7777
45	0	-7777	8	101	331	572	776	739	412	124	10	0
50	0	-7777	2	47	208	424	621	584	279	62	3	0
55	0	0	-7777	19	112	283	467	431	166	24	-7777	0
60	0	0	-7777	6	47	161	316	286	86	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	26	139	287	439	596	566	343	154	29	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	27	209	680	1401	2332	3226	3782	3997	4026	-7777
45	0	-7777	8	109	440	1012	1788	2527	2939	3063	3073	3073
50	0	-7777	2	49	257	681	1302	1886	2165	2227	2230	2230
55	0	0	-7777	19	131	414	881	1312	1478	1502	-7777	1502
60	0	0	-7777	6	53	214	530	816	902	909	-7777	909
Growing Degree Units for Corn (Monthly)												
50/86	1	5	31	170	457	896	1492	2058	2401	2555	2584	2585

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HETTINGER, ND US**

GHCND:USC00324178

Elev: 2680 ft. Lat: 45.992° N Lon: 102.644° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.7	4.7	15.7	7.1	7.2	7.0	0	0	0	0	0	0	1218	1280	1373	1528	0.0	0.0	1.1	17.8	30.7	11.1
2	31.1	9.1	20.1	8.0	7.3	7.5	0	0	0	0	0	0	977	1033	1117	1257	0.0	0.0	3.3	13.5	27.8	7.6
3	40.8	18.5	29.7	6.7	4.5	5.4	1	-7777	-7777	0	0	0	786	848	941	1096	0.0	0.0	8.7	8.5	28.3	2.6
4	55.0	29.3	42.2	4.4	2.3	3.2	17	11	5	1	-7777	-7777	403	457	541	686	0.0	0.1	19.8	1.4	18.4	0.1
5	65.6	40.3	52.9	3.8	2.4	2.8	83	58	32	9	1	1	146	184	251	382	0.0	0.2	28.4	0.2	5.3	0.0
6	75.1	49.7	62.4	4.3	3.0	3.5	242	194	132	59	23	15	20	32	60	137	0.2	2.0	29.9	0.0	0.1	0.0
7	83.9	55.5	69.7	5.1	2.3	3.5	457	397	309	179	82	55	2	3	9	34	1.1	7.9	31.0	0.0	0.0	0.0
8	83.5	53.4	68.5	4.0	2.7	3.2	422	363	279	157	68	44	5	9	18	51	0.5	7.8	30.9	0.0	0.2	0.0
9	72.0	41.9	57.0	4.4	2.6	3.2	149	117	76	31	9	5	91	118	168	272	0.1	2.1	28.5	0.0	3.5	0.0
10	56.5	30.8	43.6	4.4	2.3	2.7	18	11	5	1	-7777	-7777	370	425	511	663	0.0	0.2	21.0	1.0	16.1	0.1
11	40.6	18.1	29.3	7.7	5.2	6.2	-7777	-7777	0	0	0	0	770	829	919	1069	0.0	0.0	8.7	8.0	27.9	2.4
12	28.5	7.3	17.9	8.5	7.3	7.8	0	0	0	0	0	0	1150	1212	1305	1460	0.0	0.0	1.5	16.6	30.8	8.3
Summary	54.9	29.9	42.4	5.7	4.1	4.7	1389	1151	838	437	183	120	5938	6430	7213	8635	1.9	20.3	212.8	67.0	189.1	32.2

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HETTINGER, ND US**

GHCND:USC00324178

Elev: 2680 ft. Lat: 45.992° N Lon: 102.644° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.34	3.3	1.2	0.1	0.0	0.13	0.28	0.53
2	0.41	3.3	1.4	0.1	0.0	0.14	0.30	0.53
3	0.77	4.9	2.3	0.2	0.1	0.35	0.61	0.92
4	1.42	5.4	3.2	0.7	0.2	0.70	0.86	1.81
5	2.56	7.8	5.2	1.7	0.7	1.37	2.63	3.35
6	3.00	9.1	6.6	2.0	0.4	2.27	2.88	3.74
7	2.06	8.1	5.0	1.6	0.5	1.13	1.55	3.02
8	1.71	5.1	3.2	0.9	0.3	0.70	0.93	2.64
9	1.41	5.0	3.2	0.7	0.2	0.57	0.97	1.54
10	1.20	4.3	3.0	0.7	0.3	0.29	0.71	1.57
11	0.49	4.7	1.8	0.1	0.1	0.18	0.44	0.67
12	0.28	2.7	0.9	0.1	0.0	0.09	0.27	0.40
Summary	15.65	63.7	37.0	8.9	2.8	7.92	12.43	20.72

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Station: **HETTINGER, ND US**

GHCND:USC00324178  
Elev: 2680 ft. Lat: 45.992° N Lon: 102.644° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	33	160	411	672	920	882	515	191	29	1
45	-7777	1	10	88	276	522	765	727	377	105	9	-7777
50	0	-7777	3	41	164	377	611	573	251	49	2	-7777
55	0	0	1	17	83	242	457	422	149	18	-7777	0
60	0	0	-7777	5	32	132	309	279	76	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	3	9	36	126	254	405	583	556	334	143	33	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	40	200	611	1283	2203	3085	3600	3791	3820	3821
45	-7777	1	11	99	375	897	1662	2389	2766	2871	2880	-7777
50	0	-7777	3	44	208	585	1196	1769	2020	2069	2071	-7777
55	0	0	1	18	101	343	800	1222	1371	1389	-7777	1389
60	0	0	-7777	5	37	169	478	757	833	838	838	838
Growing Degree Units for Corn (Monthly)												
50/86	3	12	48	174	428	833	1416	1972	2306	2449	2482	2485

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BERTHOLD, ND US**

GHCND:USC00320729

Elev: 2080 ft. Lat: 48.314° N Lon: 101.733° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.64	6.0	2.6	0.1	0.0	0.28	0.66	0.94
2	0.50	4.3	1.2	0.2	0.1	0.22	0.31	0.57
3	0.87	5.8	2.9	0.2	0.0	0.48	0.80	1.22
4	1.12	6.9	3.0	0.5	0.1	0.51	1.04	1.60
5	2.34	9.0	4.6	1.2	0.1	1.43	2.13	3.14
6	3.34	11.4	7.6	2.0	0.5	2.21	3.03	4.31
7	2.77	9.8	6.4	1.9	0.6	1.33	2.62	3.58
8	1.70	8.6	4.6	0.9	0.1	1.12	1.64	2.39
9	1.39	7.2	3.6	0.6	0.2	0.71	1.46	1.85
10	1.31	5.4	2.9	0.8	0.3	0.37	0.84	1.90
11	0.81	5.3	2.5	0.3	-7777	0.20	0.81	1.21
12	0.59	5.1	1.6	0.1	0.0	0.20	0.52	0.81
Summary	17.38	84.8	43.5	8.8	2.0	9.06	15.86	23.52

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Federal Building  
151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **BERTHOLD, ND US**

GHCND:USC00320729  
Elev: 2080 ft. Lat: 48.314° N Lon: 101.733° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.6	5.2	3.9	0.8	0.2	0.0	25.8	20.1	14.4	8.9	4.1	7.9	14.4
2	5.0	3.0	1.8	0.5	0.2	0.1	18.1	13.3	9.8	3.8	1.0	3.0	7.0
3	7.4	3.7	2.8	0.8	0.3	0.0	13.3	8.8	5.9	3.0	3.5	6.5	10.0
4	4.9	1.9	1.4	0.6	0.3	0.1	3.6	1.8	1.1	0.5	0.6	3.7	7.0
5	1.7	0.5	0.4	0.3	0.1	0.0	0.6	0.4	0.2	0.0	0.0	0.0	0.6
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	3.3	1.0	0.9	0.4	0.3	0.1	1.8	0.8	0.5	0.2	0.0	0.0	3.8
11	7.6	3.7	2.9	0.8	0.3	-7777	11.9	8.2	6.2	2.2	2.7	6.7	9.8
12	7.3	4.6	3.0	0.7	0.2	-7777	20.8	14.1	9.3	3.2	3.0	6.1	10.3
Summary	45.9	23.7	17.2	4.9	1.9	0.3	96.0	67.5	47.4	21.8	14.9	33.9	62.9

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## Summary of Monthly Normals 1981-2010

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FLASHER, ND US**

GHCND:USC00323004  
Elev: 1982 ft. Lat: 46.458° N Lon: 101.200° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.4	2.2	12.8	7.4	7.5	7.3	0	0	0	0	0	0	1308	1370	1463	1618	0.0	0.0	0.5	21.3	31.0	12.5
2	28.1	7.3	17.7	7.3	8.1	7.6	0	0	0	0	0	0	1044	1100	1184	1324	0.0	0.0	1.6	16.1	27.2	8.8
3	39.3	17.4	28.3	6.1	5.0	5.4	-7777	-7777	-7777	0	0	0	826	888	981	1136	0.0	0.0	6.8	9.5	29.0	3.0
4	55.7	29.2	42.5	4.2	2.7	3.2	15	9	4	1	-7777	-7777	392	446	531	678	0.0	0.0	20.3	1.1	19.0	0.0
5	67.4	41.4	54.4	3.5	2.5	2.7	97	69	37	11	2	1	116	149	211	339	0.0	0.3	29.4	0.0	3.6	0.0
6	76.3	50.8	63.5	4.4	2.8	3.4	271	220	153	69	23	13	14	24	46	113	0.2	1.6	29.8	0.0	0.0	0.0
7	84.1	56.6	70.4	4.5	2.7	3.4	476	415	327	192	89	61	-7777	1	6	27	1.5	6.9	31.0	0.0	0.0	0.0
8	83.2	53.9	68.6	3.7	2.9	3.2	422	363	279	157	66	43	2	6	14	47	0.9	6.2	31.0	0.0	0.0	0.0
9	71.2	44.7	57.9	4.3	3.1	3.5	158	124	82	37	12	6	70	95	144	248	0.0	1.8	29.2	0.0	1.2	0.0
10	56.9	30.7	43.8	3.9	2.4	2.7	18	11	4	-7777	-7777	0	365	420	506	658	0.0	0.1	21.8	1.2	16.4	0.0
11	38.8	18.1	28.4	7.5	4.8	5.9	-7777	-7777	-7777	0	0	0	796	856	946	1096	0.0	0.0	7.4	9.4	28.1	1.8
12	25.8	5.9	15.9	8.0	6.8	7.3	0	0	0	0	0	0	1213	1275	1368	1523	0.0	0.0	0.8	19.4	30.9	10.4
Summary	54.2	29.8	42.0	5.4	4.3	4.6	1457	1211	886	467	192	124	6146	6630	7400	8807	2.6	16.9	209.6	78.0	186.4	36.5

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www.ncdc.noaa.gov

Station: **FLASHER, ND US**

GHCND:USC00323004

Elev: 1982 ft. Lat: 46.458° N Lon: 101.200° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.44	5.5	1.6	0.0	0.0	0.24	0.35	0.66
2	0.59	6.4	1.6	0.2	0.1	0.29	0.41	0.61
3	1.30	7.3	3.8	0.6	0.2	0.70	1.06	1.78
4	1.32	7.5	3.8	0.8	0.0	0.86	1.06	1.56
5	2.51	10.7	5.6	1.8	0.8	1.21	2.05	3.63
6	3.06	12.7	7.0	2.0	0.8	1.39	3.06	4.25
7	2.84	8.9	4.9	1.6	0.6	1.41	2.51	3.97
8	1.84	7.1	3.4	1.0	0.3	1.02	1.76	2.43
9	1.56	7.5	3.2	1.1	0.2	0.97	1.23	1.97
10	1.12	6.5	3.3	0.4	0.1	0.54	0.87	1.34
11	0.90	4.6	1.3	0.3	0.1	0.18	0.93	1.52
12	0.61	7.1	2.1	0.3	0.1	0.30	0.51	0.74
Summary	18.09	91.8	41.6	10.1	3.3	9.11	15.80	24.46

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FLASHER, ND US**

GHCND:USC00323004  
Elev: 1982 ft. Lat: 46.458° N Lon: 101.200° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	29	165	452	707	941	885	540	191	24	1
45	-7777	1	10	88	313	557	786	730	398	106	7	-7777
50	0	-7777	2	39	190	410	630	575	267	50	1	0
55	0	0	-7777	15	97	271	476	422	158	18	-7777	0
60	0	0	-7777	4	37	153	327	279	82	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	32	131	278	434	599	560	331	146	28	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	32	197	649	1356	2297	3182	3722	3913	3937	3938
45	-7777	1	11	99	412	969	1755	2485	2883	2989	2996	-7777
50	0	-7777	2	41	231	641	1271	1846	2113	2163	2164	2164
55	0	0	-7777	15	112	383	859	1281	1439	1457	-7777	1457
60	0	0	-7777	4	41	194	521	800	882	886	-7777	886
Growing Degree Units for Corn (Monthly)												
50/86	1	5	37	168	446	880	1479	2039	2370	2516	2544	2545

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILDROSE, ND US**

GHCND:USC00329400

Elev: 2260 ft. Lat: 48.663° N Lon: 103.213° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.4	-1.9	8.3	8.0	8.6	8.2	0	0	0	0	0	0	1449	1511	1604	1759	0.0	0.0	0.1	24.0	31.0	15.6
2	23.2	2.9	13.1	7.8	8.2	7.9	0	0	0	0	0	0	1174	1230	1314	1454	0.0	0.0	0.3	18.7	27.8	11.5
3	35.5	15.0	25.2	6.7	5.8	6.1	-7777	-7777	-7777	0	0	0	922	984	1077	1232	0.0	0.0	4.2	11.4	29.9	4.4
4	53.6	27.8	40.7	4.9	3.1	3.8	10	6	2	-7777	-7777	0	439	495	582	729	0.0	-7777	18.3	1.7	20.7	0.1
5	65.1	39.3	52.2	3.6	2.6	2.8	75	53	29	8	2	1	162	202	271	405	0.0	0.3	27.8	-7777	6.4	0.0
6	73.6	49.0	61.3	4.5	2.9	3.6	214	169	112	47	16	10	25	40	73	158	0.1	1.5	29.8	0.0	0.2	0.0
7	79.9	53.5	66.7	4.0	2.4	2.9	365	306	222	108	38	22	2	5	14	55	0.2	3.5	31.0	0.0	0.0	0.0
8	80.2	51.3	65.7	4.3	2.7	3.3	342	286	210	106	40	24	9	15	32	83	0.2	4.8	30.9	0.0	0.2	0.0
9	68.6	40.5	54.5	5.0	2.2	3.4	108	82	52	18	4	2	122	156	215	331	0.0	1.1	28.0	-7777	4.1	0.0
10	53.4	28.0	40.7	3.9	2.5	2.8	11	6	2	-7777	0	0	454	512	601	754	0.0	-7777	18.3	1.8	20.6	0.2
11	35.1	15.1	25.1	7.2	5.6	6.2	-7777	-7777	0	0	0	0	897	957	1047	1197	0.0	0.0	4.5	12.1	28.7	3.9
12	21.3	2.0	11.7	7.8	7.1	7.4	0	0	0	0	0	0	1344	1406	1499	1654	0.0	0.0	0.1	22.7	31.0	12.7
Summary	50.7	26.9	38.8	5.6	4.5	4.9	1125	908	629	287	100	59	6999	7513	8329	9811	0.5	11.2	193.3	92.4	200.6	48.4

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILDROSE, ND US**

GHCND:USC00329400

Elev: 2260 ft. Lat: 48.663° N Lon: 103.213° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.54	5.7	1.8	0.1	0.0	0.29	0.49	0.72
2	0.35	3.8	0.9	0.1	0.0	0.11	0.25	0.40
3	0.56	5.3	1.8	0.1	0.0	0.24	0.53	0.77
4	0.86	5.7	2.6	0.3	0.1	0.39	0.75	1.28
5	2.11	8.6	5.1	1.2	0.4	1.31	1.78	2.66
6	2.96	10.9	7.0	2.0	0.4	1.93	2.66	3.84
7	2.86	8.7	5.8	1.8	0.5	1.87	2.40	3.41
8	1.54	6.6	3.8	0.9	0.2	0.74	1.08	2.24
9	1.21	5.9	3.5	0.6	0.1	0.61	0.91	1.81
10	1.11	5.3	3.0	0.6	0.1	0.51	0.92	1.70
11	0.53	4.0	1.7	0.1	-7777	0.17	0.36	0.63
12	0.54	5.3	2.0	0.1	0.0	0.29	0.46	0.76
Summary	15.17	75.8	39.0	7.9	1.8	8.46	12.59	20.22

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILDROSE, ND US**

GHCND:USC00329400  
Elev: 2260 ft. Lat: 48.663° N Lon: 103.213° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.6	5.2	3.2	1.0	0.2	0.0	26.9	21.7	14.6	9.4	3.8	5.5	13.5
2	4.7	3.3	1.8	0.4	0.2	-7777	20.4	16.2	12.6	7.1	1.9	3.6	4.8
3	4.1	2.9	2.1	0.4	0.1	0.0	15.8	11.4	9.3	6.2	1.5	3.0	6.7
4	2.5	1.3	1.1	0.4	0.1	0.0	2.9	1.1	0.6	0.1	0.0	2.0	3.8
5	1.1	0.6	0.4	0.1	-7777	0.0	0.6	0.2	0.1	0.0	0.0	0.0	1.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	-7777	-7777	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	2.9	1.1	0.9	0.4	0.2	0.0	2.6	1.1	0.6	-7777	0.0	1.0	5.5
11	4.9	2.6	1.8	0.7	0.2	-7777	9.9	5.8	4.1	1.6	1.0	3.0	6.5
12	7.0	4.4	3.0	0.7	0.2	-7777	22.8	16.4	11.2	4.3	3.0	6.6	9.0
Summary	34.9	21.4	14.3	4.1	1.2	0.0	102.0	73.9	53.1	28.7	11.2	24.7	50.8

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WILDROSE, ND US**

GHCND:USC00329400  
Elev: 2260 ft. Lat: 48.663° N Lon: 103.213° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	134	391	639	828	798	444	140	14	-7777
45	0	-7777	5	70	261	490	673	643	311	73	5	0
50	0	-7777	1	30	153	345	518	490	195	32	1	0
55	0	0	-7777	10	75	214	365	342	108	11	-7777	0
60	0	0	-7777	2	29	112	222	210	52	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	110	246	380	515	498	285	114	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	150	541	1180	2008	2806	3250	3390	3404	-7777
45	0	-7777	5	75	336	826	1499	2142	2453	2526	2531	2531
50	0	-7777	1	31	184	529	1047	1537	1732	1764	1765	1765
55	0	0	-7777	10	85	299	664	1006	1114	1125	-7777	1125
60	0	0	-7777	2	31	143	365	575	627	629	629	629
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	16	126	372	752	1267	1765	2050	2164	2179	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: RIVERDALE, ND US

GHCND:USC00327585  
Elev: 1978 ft. Lat: 47.498° N Lon: 101.375° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.1	2.8	12.0				0	0	0	0	0	0	1334	1396	1490	1645	0.0	0.0	0.1	23.8	30.9	12.9
2	25.1	5.9	15.5				0	0	0	0	0	0	1106	1162	1246	1386	0.0	0.0	1.1	19.8	27.8	9.6
3	37.1	17.3	27.2				-7777	-7777	0	0	0	0	861	923	1016	1171	0.0	0.0	4.6	10.5	29.6	2.7
4	55.8	32.4	44.1				13	7	3	-7777	0	0	341	395	480	628	0.0	0.1	21.2	0.7	12.1	0.0
5	65.8	41.9	53.9				76	50	24	6	1	-7777	111	147	215	351	0.0	0.1	29.1	0.0	2.8	0.0
6	74.4	52.4	63.4				266	214	144	56	14	7	14	22	42	104	0.0	0.7	29.7	0.0	0.1	0.0
7	81.3	58.2	69.8				457	395	306	166	63	38	-7777	1	4	19	0.1	4.1	31.0	0.0	0.0	0.0
8	81.0	55.9	68.5				417	356	267	139	51	30	1	2	6	32	0.2	4.1	31.0	0.0	0.0	0.0
9	70.4	46.6	58.5				162	126	83	35	9	5	58	81	128	230	0.1	1.1	29.2	0.0	0.8	0.0
10	55.4	34.3	44.9				24	16	8	1	0	0	339	393	478	625	0.0	0.0	20.5	0.6	12.5	0.0
11	37.3	18.8	28.1				-7777	-7777	0	0	0	0	808	868	958	1108	0.0	0.0	6.0	11.2	27.9	1.4
12	25.0	8.5	16.8				0	0	0	0	0	0	1185	1247	1340	1495	0.0	0.0	0.7	20.5	30.9	8.4
Summary	52.5	31.2	41.9	9999	9999	9999	1415	1164	835	403	138	80	6158	6637	7403	8794	0.4	10.2	204.2	87.1	175.4	35.0

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: RIVERDALE, ND US

GHCND:USC00327585  
Elev: 1978 ft. Lat: 47.498° N Lon: 101.375° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	181	433	702	921	881	556	209	16	-7777
45	0	-7777	6	97	290	553	767	726	412	119	4	0
50	0	0	2	41	167	406	612	571	277	58	1	0
55	0	0	-7777	13	76	266	457	417	162	24	-7777	0
60	0	0	0	3	24	144	306	267	83	8	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	15	119	253	423	595	557	325	129	16	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	197	630	1332	2253	3134	3690	3899	3915	-7777
45	0	-7777	6	103	393	946	1713	2439	2851	2970	2974	2974
50	0	0	2	43	210	616	1228	1799	2076	2134	2135	2135
55	0	0	-7777	13	89	355	812	1229	1391	1415	-7777	1415
60	0	0	0	3	27	171	477	744	827	835	835	835
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	17	136	389	812	1407	1964	2289	2418	2434	2435

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW ENGLAND, ND US**

GHCND:USC00326315  
Elev: 2638 ft. Lat: 46.541° N Lon: 102.869° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	28.1	6.3	17.2	6.8	7.4	6.9	0	0	0	0	0	0	1172	1234	1327	1482	0.0	0.0	1.2	16.8	30.7	10.2
2	32.3	10.6	21.4	7.7	7.5	7.5	-7777	0	0	0	0	0	939	995	1079	1219	0.0	0.0	3.3	12.8	27.3	6.9
3	42.3	19.4	30.9	6.3	4.8	5.4	-7777	-7777	-7777	0	0	0	749	811	904	1059	0.0	0.0	9.6	7.1	28.1	2.3
4	56.7	29.8	43.2	4.8	2.9	3.6	16	10	4	1	-7777	-7777	368	422	507	653	0.0	0.1	21.3	1.1	17.4	0.1
5	67.6	41.4	54.5	3.7	2.5	2.8	94	67	38	11	2	1	110	145	208	337	0.0	0.3	29.6	0.0	4.3	0.0
6	76.3	50.4	63.4	4.1	2.9	3.3	263	212	146	66	24	15	13	22	46	115	0.2	2.1	29.9	0.0	0.1	0.0
7	84.3	56.0	70.2	4.4	2.6	3.2	470	409	319	185	83	54	1	1	5	25	0.8	8.0	31.0	0.0	-7777	0.0
8	83.8	54.7	69.2	3.8	2.6	3.1	443	383	296	169	73	47	2	4	10	37	0.4	7.8	31.0	0.0	0.0	0.0
9	72.2	43.9	58.0	4.2	2.6	3.2	159	124	81	33	9	5	68	93	139	242	0.0	1.8	28.9	0.0	2.3	0.0
10	57.7	31.7	44.7	4.1	2.4	2.9	19	11	5	1	-7777	0	338	393	479	630	0.0	-7777	22.4	0.9	15.2	0.1
11	41.1	19.1	30.1	7.3	4.7	5.8	-7777	-7777	0	0	0	0	747	807	897	1047	0.0	0.0	8.1	7.6	26.9	2.1
12	29.3	7.9	18.6	7.8	7.1	7.3	0	0	0	0	0	0	1128	1190	1283	1438	0.0	0.0	1.7	15.9	30.8	8.4
Summary	56.0	30.9	43.4	5.4	4.2	4.6	1464	1216	889	466	191	122	5635	6117	6884	8284	1.4	20.1	218.0	62.2	183.1	30.1

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW ENGLAND, ND US**

GHCND:USC00326315

Elev: 2638 ft. Lat: 46.541° N Lon: 102.869° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.28	3.4	1.2	0.0	0.0	0.14	0.26	0.43
2	0.32	2.9	1.2	0.1	0.0	0.06	0.28	0.50
3	0.94	4.2	2.3	0.5	0.2	0.28	0.65	1.23
4	1.47	5.7	3.5	0.8	0.2	0.47	1.18	2.11
5	2.37	7.5	5.5	1.5	0.4	1.28	2.08	3.30
6	3.27	8.5	6.6	2.4	0.6	2.20	2.95	4.31
7	1.97	6.5	4.9	1.2	0.3	0.93	1.76	2.66
8	1.70	4.8	3.6	1.1	0.4	1.06	1.38	2.07
9	1.35	3.9	3.2	0.7	0.3	0.68	1.01	1.92
10	1.37	3.9	2.8	1.0	0.3	0.36	0.83	1.70
11	0.46	3.2	1.6	0.1	0.0	0.08	0.44	0.74
12	0.28	3.0	1.2	0.0	0.0	0.08	0.19	0.35
Summary	15.78	57.5	37.6	9.4	2.7	7.62	13.01	21.32

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**Summary of  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW ENGLAND, ND US**

GHCND:USC00326315  
Elev: 2638 ft. Lat: 46.541° N Lon: 102.869° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.7	4.3	3.1	0.7	0.1	0.0	@	@	@	@	3.5	5.6	10.0
2	6.7	3.7	2.7	0.7	0.1	0.0	@	@	@	@	3.0	6.5	9.3
3	8.0	3.4	2.8	1.0	0.3	0.1	@	@	@	@	3.0	7.6	11.7
4	4.6	1.5	1.4	0.6	0.3	0.1	@	@	@	@	0.0	2.8	8.0
5	0.8	0.3	0.3	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.1	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.9	0.7	0.7	0.3	0.1	0.1	@	@	@	@	0.0	1.8	3.5
11	6.0	2.7	2.3	0.7	0.1	0.0	@	@	@	@	1.0	3.0	11.0
12	6.7	4.4	3.1	0.7	0.1	0.0	@	@	@	@	3.5	7.0	9.5
Summary	42.5	21.0	16.4	4.8	1.1	0.3	9999	9999	9999	9999	14.0	34.3	63.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NEW ENGLAND, ND US**

GHCND:USC00326315  
Elev: 2638 ft. Lat: 46.541° N Lon: 102.869° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	6	35	173	454	701	934	906	544	209	33	1
45	-7777	1	11	93	313	551	780	752	403	117	12	-7777
50	-7777	-7777	3	43	189	403	624	597	270	53	3	0
55	0	-7777	-7777	16	94	263	470	443	159	19	-7777	0
60	0	0	-7777	4	38	146	319	296	81	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	3	9	40	138	284	428	595	576	344	156	36	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	8	43	216	670	1371	2305	3211	3755	3964	3997	3998
45	-7777	1	12	105	418	969	1749	2501	2904	3021	3033	-7777
50	-7777	-7777	3	46	235	638	1262	1859	2129	2182	2185	2185
55	0	-7777	-7777	16	110	373	843	1286	1445	1464	-7777	1464
60	0	0	-7777	4	42	188	507	803	884	889	889	889
Growing Degree Units for Corn (Monthly)												
50/86	3	12	52	190	474	902	1497	2073	2417	2573	2609	2612

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHARON, ND US**

GHCND:USC00327986

Elev: 1526 ft. Lat: 47.598° N Lon: 97.900° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	15.6	-1.9	6.8	7.2	8.0	7.5	0	0	0	0	0	0	1492	1554	1647	1802	0.0	0.0	-7777	26.7	30.9	17.1
2	21.2	3.1	12.1	6.8	7.9	7.3	0	0	0	0	0	0	1200	1256	1340	1480	0.0	0.0	0.2	20.8	27.9	12.1
3	33.0	16.3	24.7	5.5	4.8	5.1	-7777	-7777	-7777	0	0	0	941	1003	1096	1251	0.0	0.0	2.5	13.2	29.1	4.1
4	53.1	30.3	41.7	5.2	3.5	4.1	17	11	5	1	-7777	-7777	416	470	555	700	0.0	-7777	17.9	1.6	17.1	0.0
5	66.0	42.8	54.4	3.6	3.6	3.3	103	75	43	13	2	1	121	156	216	342	0.0	0.2	28.7	0.1	3.5	0.0
6	73.6	53.0	63.3	3.6	3.2	3.2	262	212	146	65	21	12	13	23	47	116	0.0	0.5	29.9	0.0	0.0	0.0
7	78.5	57.0	67.8	3.5	2.2	2.7	396	335	247	122	41	24	1	2	7	37	0.0	1.4	31.0	0.0	0.0	0.0
8	78.7	55.3	67.0	3.5	2.7	3.0	375	316	232	114	40	22	3	6	15	52	0.1	2.0	30.9	0.0	0.1	0.0
9	68.8	45.7	57.3	3.7	3.0	3.1	142	109	68	26	7	3	75	101	151	258	0.1	0.4	29.1	0.0	1.2	0.0
10	53.5	33.1	43.3	3.4	2.7	2.6	16	10	4	1	-7777	-7777	379	435	522	673	0.0	0.0	19.6	1.2	13.4	0.0
11	34.2	17.4	25.8	6.8	5.5	6.0	-7777	-7777	0	0	0	0	876	936	1026	1176	0.0	0.0	3.6	12.9	27.4	2.4
12	18.9	3.1	11.0	7.0	7.1	7.0	0	0	0	0	0	0	1364	1426	1519	1674	0.0	0.0	0.1	25.3	30.9	13.4
Summary	49.6	29.6	39.6	5.0	4.5	4.6	1311	1068	745	342	111	62	6881	7368	8141	9561	0.2	4.5	193.5	101.8	181.5	49.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHARON, ND US**

GHCND:USC00327986

Elev: 1526 ft. Lat: 47.598° N Lon: 97.900° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	5.6	2.0	0.2	0.0	0.19	0.50	0.81
2	0.50	3.8	1.8	0.2	0.0	0.24	0.39	0.56
3	1.04	5.1	3.0	0.4	0.1	0.56	0.98	1.64
4	1.36	4.8	3.1	0.7	0.2	0.58	1.17	1.65
5	2.67	8.0	5.9	1.8	0.4	1.96	2.27	3.13
6	3.75	9.6	7.3	2.7	0.8	2.18	4.01	4.81
7	3.12	8.9	6.9	2.4	0.8	1.97	2.90	4.45
8	2.70	8.3	5.6	1.8	0.5	1.77	2.61	3.36
9	1.81	6.4	4.2	1.2	0.3	0.97	1.51	2.52
10	2.11	5.8	3.8	1.4	0.3	0.43	1.90	3.04
11	0.90	4.8	3.0	0.6	0.1	0.23	0.65	1.38
12	0.68	4.8	1.7	0.1	0.0	0.23	0.53	0.91
Summary	21.19	75.9	48.3	13.5	3.5	11.31	19.42	28.26

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHARON, ND US**

GHCND:USC00327986

Elev: 1526 ft. Lat: 47.598° N Lon: 97.900° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.5	4.8	3.6	1.1	0.6	0.0	28.8	25.4	19.4	10.4	4.1	8.2	12.0
2	6.2	3.4	2.4	0.5	0.3	0.0	22.8	19.4	16.2	6.7	2.5	5.4	8.5
3	8.2	3.0	2.5	1.0	0.5	-7777	16.9	13.9	10.5	4.1	1.5	6.9	12.1
4	3.4	1.1	0.9	0.4	0.2	0.0	2.5	1.3	0.8	-7777	0.0	1.5	7.8
5	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.1	0.6	0.6	0.2	0.1	0.0	1.1	0.7	0.3	0.0	0.0	0.0	3.2
11	9.4	3.3	2.9	1.3	0.6	0.1	15.4	12.0	6.8	2.1	4.0	7.2	15.9
12	5.8	4.6	3.3	0.7	0.1	-7777	24.8	21.3	13.2	4.4	2.5	5.8	8.5
Summary	43.8	20.9	16.3	5.3	2.4	0.1	112.5	94.1	67.2	27.7	14.6	35.0	68.0

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHARON, ND US**

GHCND:USC00327986

Elev: 1526 ft. Lat: 47.598° N Lon: 97.900° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	151	453	699	860	836	519	179	16	-7777
45	0	-7777	3	83	316	549	705	682	377	96	6	-7777
50	0	-7777	1	41	195	401	550	528	247	43	1	0
55	0	0	-7777	17	103	262	396	375	142	16	-7777	0
60	0	0	-7777	5	43	146	247	232	68	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	107	267	419	547	528	303	106	11	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	159	612	1311	2171	3007	3526	3705	3721	-7777
45	0	-7777	3	86	402	951	1656	2338	2715	2811	2817	-7777
50	0	-7777	1	42	237	638	1188	1716	1963	2006	2007	2007
55	0	0	-7777	17	120	382	778	1153	1295	1311	-7777	1311
60	0	0	-7777	5	48	194	441	673	741	745	745	745
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	7	114	381	800	1347	1875	2178	2284	2295	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **CASSELTON AGRONOMY FM, ND US**

GHCND:USC00321408  
Elev: 935 ft. Lat: 46.877° N Lon: 97.233° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.5	-1.8	8.3	7.0	8.2	7.5	0	0	0	0	0	0	1446	1508	1601	1756	0.0	0.0	0.1	25.2	30.8	16.7
2	23.9	3.4	13.6	6.7	8.5	7.4	0	0	0	0	0	0	1158	1214	1298	1438	0.0	0.0	0.2	19.2	27.3	12.3
3	36.3	18.0	27.1	5.3	5.0	5.0	-7777	-7777	-7777	-7777	0	0	863	925	1018	1173	0.0	0.0	4.3	10.0	27.2	3.3
4	55.7	31.0	43.3	5.2	2.7	3.6	21	14	7	2	-7777	-7777	370	423	507	651	0.0	-7777	19.5	1.1	16.5	0.0
5	69.2	43.2	56.2	3.8	3.4	3.3	132	99	61	21	5	2	95	124	179	294	0.0	0.6	29.4	0.0	3.0	0.0
6	77.5	53.7	65.6	3.8	3.1	3.1	325	270	195	95	34	21	7	12	27	77	0.0	2.3	30.0	0.0	0.0	0.0
7	82.4	58.1	70.3	3.7	2.3	2.8	473	411	321	182	76	49	-7777	1	3	19	0.1	4.0	31.0	0.0	0.0	0.0
8	81.6	55.6	68.6	3.6	2.3	2.8	423	363	276	149	60	37	1	3	10	37	0.3	4.2	31.0	0.0	0.0	0.0
9	71.6	45.6	58.6	3.5	2.7	2.7	168	130	85	35	11	6	60	83	127	227	0.0	1.0	29.6	0.0	1.6	0.0
10	56.9	33.4	45.2	3.7	3.3	2.8	28	19	10	2	-7777	-7777	333	387	470	618	0.0	0.1	21.8	0.5	14.3	0.0
11	38.0	18.9	28.5	6.6	5.7	5.9	-7777	-7777	-7777	0	0	0	797	857	946	1096	0.0	0.0	5.9	9.9	26.7	1.9
12	22.9	4.6	13.8	7.2	7.5	7.2	0	0	0	0	0	0	1278	1340	1434	1589	0.0	0.0	0.2	22.1	30.9	11.6
Summary	52.9	30.3	41.6	5.0	4.6	4.5	1570	1306	955	486	186	115	6408	6877	7620	8975	0.4	12.2	203.0	88.0	178.3	45.8

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CASSELTON AGRONOMY FM, ND US**

GHCND:USC00321408

Elev: 935 ft. Lat: 46.877° N Lon: 97.233° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.60	3.6	2.0	0.3	-7777	0.17	0.49	0.82
2	0.53	4.3	2.3	0.1	0.0	0.28	0.49	0.65
3	1.16	5.0	3.2	0.9	0.1	0.63	1.10	1.52
4	1.45	5.5	3.7	0.7	0.3	0.68	1.14	1.89
5	3.05	9.9	6.3	2.2	0.6	1.85	2.47	3.87
6	3.95	10.8	7.5	2.9	0.9	2.33	3.69	4.93
7	3.46	8.4	5.8	2.2	0.8	1.74	3.14	4.56
8	2.62	7.6	4.9	1.9	0.5	1.72	2.58	3.34
9	2.58	7.3	5.0	1.7	0.7	1.71	2.47	3.13
10	2.43	6.5	3.8	1.6	0.6	1.15	2.00	3.80
11	0.92	4.2	2.8	0.3	-7777	0.30	0.73	1.28
12	0.62	3.9	2.0	0.2	0.0	0.24	0.55	0.77
Summary	23.37	77.0	49.3	15.0	4.5	12.80	20.85	30.56

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CASSELTON AGRONOMY FM, ND US**

GHCND:USC00321408  
Elev: 935 ft. Lat: 46.877° N Lon: 97.233° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.3	3.3	2.6	1.0	0.5	0.1	@	@	@	@	1.5	7.5	9.5
2	6.3	3.3	2.8	0.7	0.2	0.0	@	@	@	@	3.8	6.5	8.9
3	6.8	2.6	2.0	1.0	0.6	0.1	@	@	@	@	2.0	6.5	10.5
4	2.2	0.7	0.7	0.3	0.2	-7777	@	@	@	@	0.0	0.0	3.0
5	-7777	-7777	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.4	0.2	0.2	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
11	4.5	1.7	1.5	0.8	0.3	0.0	@	@	@	@	0.0	3.5	10.0
12	9.3	3.8	3.0	1.1	0.5	0.1	@	@	@	@	3.9	8.0	12.4
Summary	36.8	15.6	12.8	5.0	2.3	0.3	9999	9999	9999	9999	11.2	32.0	54.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: CASSELTON AGRONOMY FM, ND US

GHCND:USC00321408  
Elev: 935 ft. Lat: 46.877° N Lon: 97.233° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	16	177	505	768	938	886	559	214	23	-7777
45	0	-7777	4	100	363	618	783	731	414	124	8	-7777
50	0	-7777	1	49	235	469	628	576	282	64	2	0
55	0	0	-7777	21	132	325	473	423	168	28	-7777	0
60	0	0	-7777	7	61	195	321	276	85	10	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	131	314	477	611	569	344	143	19	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	16	193	698	1466	2404	3290	3849	4063	4086	-7777
45	0	-7777	4	104	467	1085	1868	2599	3013	3137	3145	-7777
50	0	-7777	1	50	285	754	1382	1958	2240	2304	2306	2306
55	0	0	-7777	21	153	478	951	1374	1542	1570	-7777	1570
60	0	0	-7777	7	68	263	584	860	945	955	-7777	955
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	145	459	936	1547	2116	2460	2603	2622	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: COLGATE, ND US

GHCND:USC00321686

Elev: 1181 ft. Lat: 47.243° N Lon: 97.656° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.5	-4.8	5.8	7.3	7.6	7.4	0	0	0	0	0	0	1524	1586	1679	1834	0.0	0.0	-7777	26.3	31.0	18.1
2	22.1	0.2	11.1	7.1	7.9	7.4	0	0	0	0	0	0	1228	1284	1368	1508	0.0	0.0	0.4	20.1	27.9	13.8
3	34.7	14.8	24.7	5.7	5.1	5.2	-7777	-7777	-7777	0	0	0	938	1000	1093	1248	0.0	0.0	3.0	11.3	29.9	4.6
4	54.9	29.8	42.3	5.6	2.7	3.9	17	11	6	1	-7777	-7777	397	451	536	681	0.0	0.1	19.7	1.5	18.7	-7777
5	68.9	42.8	55.8	4.3	3.5	3.6	126	94	57	20	4	2	100	130	186	304	0.0	0.7	29.6	0.0	3.4	0.0
6	77.2	52.7	64.9	4.1	3.0	3.3	307	253	181	88	32	19	8	15	33	89	0.1	2.2	30.0	0.0	0.1	0.0
7	82.8	57.2	70.0	4.0	2.4	2.9	465	404	314	176	74	48	-7777	1	4	21	0.3	5.0	31.0	0.0	0.0	0.0
8	82.1	55.0	68.6	4.0	2.6	3.1	422	362	277	152	64	41	2	4	12	42	0.4	5.0	31.0	0.0	0.1	0.0
9	71.4	44.7	58.0	3.2	2.3	2.5	159	123	81	34	10	6	67	92	140	243	-7777	1.0	29.5	0.0	2.3	0.0
10	55.7	31.2	43.4	3.8	3.1	2.9	17	10	5	1	-7777	-7777	375	431	518	669	0.0	-7777	21.1	0.8	16.6	0.0
11	36.0	16.3	26.1	7.0	5.3	5.9	-7777	-7777	-7777	0	0	0	866	926	1016	1165	0.0	0.0	4.6	12.1	28.7	3.0
12	20.8	1.3	11.0	6.9	7.3	7.0	0	0	0	0	0	0	1362	1424	1517	1672	0.0	0.0	0.1	24.6	30.9	13.7
Summary	51.9	28.4	40.1	5.2	4.4	4.6	1513	1257	921	472	184	116	6867	7344	8102	9476	0.8	14.0	200.0	96.7	189.6	53.2

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: COLGATE, ND US

GHCND:USC00321686  
Elev: 1181 ft. Lat: 47.243° N Lon: 97.656° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	3.2	1.7	0.1	0.0	0.18	0.36	0.68
2	0.44	2.7	1.1	0.1	-7777	0.14	0.35	0.50
3	0.77	3.6	2.3	0.5	0.0	0.34	0.61	1.33
4	0.94	4.3	2.7	0.5	0.1	0.40	0.72	1.11
5	2.81	7.7	6.0	1.9	0.5	1.39	2.59	3.99
6	3.17	8.3	6.3	2.3	0.6	1.73	2.98	4.67
7	3.04	7.3	5.5	2.3	0.7	1.82	2.69	4.17
8	2.64	6.9	5.2	1.7	0.4	1.71	2.27	3.04
9	2.45	5.9	4.6	1.6	0.6	1.72	2.33	3.10
10	1.82	5.1	3.7	1.1	0.4	0.28	1.52	2.53
11	0.69	3.7	2.4	0.3	-7777	0.22	0.47	0.89
12	0.56	3.5	1.7	0.1	-7777	0.26	0.47	0.78
Summary	19.76	62.2	43.2	12.5	3.3	10.19	17.36	26.79

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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: COLGATE, ND US

GHCND:USC00321686

Elev: 1181 ft. Lat: 47.243° N Lon: 97.656° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.9	3.2	2.8	0.9	0.3	0.0	@	@	@	@	3.0	6.5	13.2
2	4.3	2.5	1.9	0.4	0.2	0.0	@	@	@	@	1.5	4.0	6.0
3	4.4	2.3	2.0	0.6	0.1	0.0	@	@	@	@	0.4	4.0	7.0
4	1.3	0.7	0.6	0.2	-7777	0.0	@	@	@	@	0.0	0.0	3.2
5	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.8	0.4	0.3	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.5
11	6.7	2.5	2.2	0.9	0.4	0.0	@	@	@	@	2.0	5.5	10.5
12	6.3	3.5	3.1	0.7	0.2	0.0	@	@	@	@	4.0	5.7	9.4
Summary	31.7	15.1	12.9	3.8	1.2	0.0	9999	9999	9999	9999	10.9	25.7	49.8

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Data derived from 1981-2010 normals.

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: COLGATE, ND US

GHCND:USC00321686  
Elev: 1181 ft. Lat: 47.243° N Lon: 97.656° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	160	495	748	930	885	543	179	15	-7777
45	0	-7777	3	88	353	598	775	730	399	97	5	0
50	0	0	1	43	227	450	620	575	267	44	1	0
55	0	0	-7777	17	126	307	465	422	159	17	-7777	0
60	0	0	-7777	6	57	181	314	277	81	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	125	308	464	600	566	338	129	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	168	663	1411	2341	3226	3769	3948	3963	-7777
45	0	-7777	3	91	444	1042	1817	2547	2946	3043	3048	3048
50	0	0	1	44	271	721	1341	1916	2183	2227	2228	2228
55	0	0	-7777	17	143	450	915	1337	1496	1513	-7777	1513
60	0	0	-7777	6	63	244	558	835	916	921	-7777	921
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	136	444	908	1508	2074	2412	2541	2557	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NAPOLEON, ND US**

GHCND:USC00326255

Elev: 1982 ft. Lat: 46.507° N Lon: 99.769° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.5	0.7	10.6	7.0	7.4	7.1	0	0	0	0	0	0	1376	1438	1531	1686	0.0	0.0	0.2	23.5	30.9	14.7
2	25.4	5.4	15.4	7.3	8.2	7.6	-7777	0	0	0	0	0	1109	1165	1249	1389	0.0	0.0	1.1	17.8	27.5	10.3
3	37.2	17.9	27.6	6.2	5.2	5.5	-7777	-7777	-7777	-7777	0	0	851	913	1006	1161	0.0	0.0	5.3	10.1	28.2	3.0
4	54.5	30.4	42.5	4.9	3.2	3.9	18	12	6	1	-7777	-7777	394	448	532	678	0.0	0.0	19.0	1.6	17.4	0.0
5	66.7	42.4	54.6	3.7	3.2	3.2	106	78	46	14	3	1	120	154	215	338	0.0	0.1	28.6	-7777	3.6	0.0
6	75.4	52.4	63.9	4.1	3.1	3.5	280	229	161	76	27	17	13	22	44	109	0.1	1.6	29.9	0.0	0.0	0.0
7	82.4	57.8	70.1	4.1	2.6	3.2	468	408	318	184	82	54	1	2	5	26	0.4	5.2	31.0	0.0	0.0	0.0
8	81.3	55.8	68.6	3.6	2.5	2.9	423	364	279	156	66	42	3	6	14	46	0.2	4.4	31.0	0.0	0.0	0.0
9	70.6	45.4	58.0	3.8	2.4	2.9	163	129	87	39	12	7	73	99	147	249	0.1	1.0	29.0	0.0	1.6	0.0
10	56.0	32.4	44.2	3.9	2.8	2.8	23	15	7	1	-7777	-7777	358	412	497	646	0.0	0.1	20.7	1.1	14.7	-7777
11	37.9	18.5	28.2	7.2	5.1	6.0	-7777	-7777	-7777	0	0	0	804	864	954	1104	0.0	0.0	6.6	10.4	27.7	2.0
12	23.9	5.5	14.7	7.5	7.5	7.4	0	0	0	0	0	0	1249	1311	1404	1559	0.0	0.0	0.3	20.8	30.9	10.6
Summary	52.6	30.4	41.5	5.3	4.4	4.7	1481	1235	904	471	190	121	6351	6834	7598	8991	0.8	12.4	202.7	85.3	182.5	40.6

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U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NAPOLEON, ND US**

GHCND:USC00326255

Elev: 1982 ft. Lat: 46.507° N Lon: 99.769° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.56	7.1	2.0	0.1	0.0	0.35	0.47	0.65
2	0.52	5.9	1.7	-7777	0.0	0.25	0.44	0.59
3	1.08	7.4	3.3	0.4	0.1	0.45	0.94	1.65
4	1.48	7.0	3.8	0.7	0.2	0.65	1.24	1.92
5	2.79	9.5	6.0	1.8	0.4	1.42	2.66	3.63
6	3.48	10.6	7.0	2.4	0.7	2.03	3.25	4.65
7	2.94	9.0	6.3	2.2	0.5	1.64	2.60	3.50
8	2.20	7.1	4.2	1.5	0.5	1.23	2.14	3.26
9	1.75	7.0	3.9	1.2	0.3	1.07	1.27	2.39
10	1.63	6.4	3.8	1.0	0.4	0.60	1.24	2.04
11	0.76	5.7	2.4	0.2	0.0	0.33	0.58	1.26
12	0.55	6.5	1.8	0.1	0.0	0.19	0.49	0.85
Summary	19.74	89.2	46.2	11.6	3.1	10.21	17.32	26.39

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1981-2010**

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www.ncdc.noaa.gov

Station: **NAPOLEON, ND US**

GHCND:USC00326255

Elev: 1982 ft. Lat: 46.507° N Lon: 99.769° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.4	6.4	3.2	1.4	0.3	-7777	28.4	23.9	20.6	11.3	6.0	6.9	14.3
2	7.5	5.1	2.8	0.9	0.2	0.0	24.3	20.2	17.1	11.9	3.7	6.9	10.6
3	9.6	4.7	3.0	1.3	0.3	-7777	18.0	14.5	11.4	7.0	2.5	7.3	14.5
4	4.6	1.6	1.1	0.6	0.2	0.1	3.3	2.0	1.3	0.8	0.0	2.3	6.5
5	0.4	0.1	0.1	0.1	-7777	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	0.1	-7777	-7777	-7777	0.0	0.1	0.1	-7777	0.0	0.0	0.0	0.0
10	1.7	0.9	0.6	0.3	0.1	0.0	1.1	0.4	0.1	0.0	0.0	0.5	2.3
11	7.7	4.0	2.6	1.1	0.4	0.1	12.0	8.6	4.8	1.2	1.0	6.9	12.5
12	9.0	6.4	3.6	1.3	0.4	0.0	23.1	16.5	12.5	6.1	3.4	7.4	11.4
Summary	50.1	29.3	17.0	7.0	1.9	0.2	110.3	86.2	67.8	38.3	16.6	38.2	72.1

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **NAPOLEON, ND US**

GHCND:USC00326255

Elev: 1982 ft. Lat: 46.507° N Lon: 99.769° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	18	165	458	717	933	885	542	202	25	-7777
45	-7777	-7777	6	90	320	567	778	730	401	116	9	0
50	0	-7777	2	44	199	420	623	575	270	57	2	0
55	0	-7777	-7777	18	106	280	468	423	163	23	-7777	0
60	0	0	-7777	6	46	161	318	279	87	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	17	121	275	436	602	565	329	137	24	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	20	185	643	1360	2293	3178	3720	3922	3947	-7777
45	-7777	-7777	6	96	416	983	1761	2491	2892	3008	3017	3017
50	0	-7777	2	46	245	665	1288	1863	2133	2190	2192	2192
55	0	-7777	-7777	18	124	404	872	1295	1458	1481	-7777	1481
60	0	0	-7777	6	52	213	531	810	897	904	-7777	904
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	19	140	415	851	1453	2018	2347	2484	2508	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WOODWORTH, ND US**

GHCND:USC00329575

Elev: 1919 ft. Lat: 47.184° N Lon: 99.292° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	5.2	1.2	0.0	0.0	0.18	0.34	0.54
2	0.42	4.8	1.5	-7777	0.0	0.22	0.31	0.51
3	0.64	5.9	2.0	0.2	-7777	0.33	0.53	0.83
4	1.14	5.7	2.7	0.5	0.1	0.80	1.04	1.39
5	2.70	8.5	5.6	1.8	0.4	1.32	2.26	3.56
6	3.21	10.3	7.0	2.2	0.6	2.22	2.95	3.68
7	3.76	9.8	6.8	2.9	1.0	2.18	2.92	4.66
8	2.03	7.3	4.0	1.4	0.4	1.18	1.70	2.64
9	1.99	7.2	4.0	1.1	0.3	0.96	1.75	2.85
10	1.68	6.4	3.1	1.1	0.4	0.45	1.62	2.15
11	0.65	5.4	1.7	0.1	-7777	0.22	0.47	0.94
12	0.40	4.7	1.6	0.0	0.0	0.18	0.34	0.56
Summary	18.99	81.2	41.2	11.3	3.2	10.24	16.23	24.31

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **WOODWORTH, ND US**

GHCND:USC00329575  
 Elev: 1919 ft. Lat: 47.184° N Lon: 99.292° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.5	4.9	3.3	1.1	0.2	0.0	@	@	@	@	3.5	5.4	13.0
2	7.1	3.7	2.5	0.6	0.2	0.0	@	@	@	@	4.0	6.2	10.8
3	5.8	3.6	2.4	0.9	0.3	0.0	@	@	@	@	0.0	3.3	10.6
4	3.3	1.6	1.0	0.4	0.2	0.1	@	@	@	@	0.0	2.5	5.6
5	0.5	0.2	0.2	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.9	1.0	0.7	0.3	0.1	0.0	@	@	@	@	0.0	1.4	2.8
11	7.7	3.9	2.6	1.0	0.3	-7777	@	@	@	@	1.5	6.0	8.1
12	5.0	4.3	2.6	0.7	0.2	0.0	@	@	@	@	2.6	4.5	6.0
Summary	39.9	23.3	15.3	5.0	1.5	0.1	9999	9999	9999	9999	11.6	29.3	56.9

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U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TURTLE LAKE, ND US**

GHCND:USC00328840  
Elev: 1893 ft. Lat: 47.521° N Lon: 100.888° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.5	1.9	11.7	7.3	8.4	7.8	0	0	0	0	0	0	1342	1404	1497	1652	0.0	0.0	0.1	22.6	30.8	13.4
2	26.4	6.6	16.5	7.3	8.4	7.7	0	0	0	0	0	0	1078	1134	1218	1358	0.0	0.0	0.8	16.9	27.4	10.0
3	38.0	17.4	27.7	6.4	5.5	5.6	-7777	-7777	-7777	0	0	0	847	908	1001	1156	0.0	0.0	5.5	9.3	29.3	3.7
4	56.2	28.7	42.5	5.1	3.2	3.9	16	10	4	1	-7777	-7777	392	446	531	677	0.0	0.1	20.5	1.4	19.2	0.2
5	67.7	40.6	54.1	3.2	2.7	2.7	96	68	38	11	2	1	122	157	219	347	0.0	0.2	29.2	0.0	4.8	0.0
6	76.0	50.3	63.2	4.3	2.9	3.4	259	209	142	62	21	12	15	25	48	117	0.1	2.2	30.0	0.0	-7777	0.0
7	82.6	55.5	69.1	3.7	2.5	2.9	436	375	287	156	65	41	1	2	6	31	0.4	5.2	31.0	0.0	0.0	0.0
8	82.1	53.5	67.8	4.0	2.7	3.2	400	341	257	138	56	36	3	6	16	51	0.3	5.9	31.0	0.0	-7777	0.0
9	70.5	42.6	56.6	4.3	2.6	3.2	135	104	66	25	7	3	88	117	169	279	0.0	1.4	28.8	0.0	2.7	0.0
10	56.2	31.1	43.7	3.9	2.7	2.8	20	12	6	1	-7777	-7777	372	426	512	663	0.0	0.1	20.9	1.0	16.3	-7777
11	37.8	17.9	27.9	7.2	5.2	6.0	-7777	-7777	-7777	0	0	0	815	874	964	1114	0.0	0.0	6.2	10.2	27.6	2.3
12	24.3	5.8	15.0	7.7	7.7	7.6	0	0	0	0	0	0	1238	1300	1393	1548	0.0	0.0	0.3	20.1	30.9	10.1
Summary	53.3	29.3	41.3	5.4	4.5	4.7	1362	1119	800	394	151	93	6313	6799	7574	8993	0.8	15.1	204.3	81.5	189.0	39.7

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TURTLE LAKE, ND US**

GHCND:USC00328840

Elev: 1893 ft. Lat: 47.521° N Lon: 100.888° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.63	3.0	1.7	0.2	0.0	0.16	0.52	0.93
2	0.42	2.7	1.5	0.1	-7777	0.17	0.32	0.56
3	0.71	4.3	2.3	0.4	0.0	0.33	0.71	1.08
4	1.32	5.3	3.1	0.8	0.2	0.51	1.14	1.88
5	2.51	8.2	5.4	1.6	0.5	1.31	2.11	3.63
6	3.49	11.0	7.1	2.3	0.6	2.40	3.30	4.22
7	2.70	8.3	5.7	2.1	0.5	1.89	2.38	3.26
8	1.90	6.7	4.2	1.3	0.4	0.96	1.55	2.78
9	1.38	6.2	3.5	0.6	0.2	0.58	1.28	1.85
10	1.21	4.9	2.9	0.7	0.1	0.35	0.79	1.79
11	0.76	3.1	1.9	0.4	-7777	0.10	0.59	1.09
12	0.52	3.2	1.8	0.3	0.1	0.15	0.33	0.73
Summary	17.55	66.9	41.1	10.8	2.6	8.91	15.02	23.80

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Station: **TURTLE LAKE, ND US**

GHCND:USC00328840  
Elev: 1893 ft. Lat: 47.521° N Lon: 100.888° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.1	2.8	2.6	1.3	0.7	0.1	@	@	@	@	2.0	7.5	15.7
2	6.3	2.3	1.9	0.8	0.2	-7777	@	@	@	@	4.0	6.0	8.5
3	4.4	2.0	1.5	0.6	0.1	0.0	@	@	@	@	1.0	3.3	6.2
4	1.6	0.5	0.5	0.3	-7777	0.0	@	@	@	@	0.0	0.0	3.0
5	0.4	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	-7777	-7777	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.4	0.4	0.4	0.1	0.1	0.0	@	@	@	@	0.0	0.0	1.0
11	8.8	1.5	1.4	0.9	0.4	0.1	@	@	@	@	0.0	6.0	13.5
12	6.2	2.5	2.1	0.9	0.4	0.1	@	@	@	@	1.1	3.0	10.7
Summary	39.3	12.1	10.5	5.0	1.9	0.3	9999	9999	9999	9999	8.1	25.8	58.6

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TURTLE LAKE, ND US**

GHCND:USC00328840  
Elev: 1893 ft. Lat: 47.521° N Lon: 100.888° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	18	164	445	694	900	862	500	189	24	-7777
45	-7777	-7777	6	89	307	545	745	707	360	105	9	-7777
50	0	-7777	1	41	187	398	590	552	234	51	2	0
55	0	0	-7777	16	96	259	436	400	135	20	-7777	0
60	0	0	-7777	4	38	142	287	257	66	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	136	284	422	571	541	314	138	22	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	20	184	629	1323	2223	3085	3585	3774	3798	-7777
45	-7777	-7777	6	95	402	947	1692	2399	2759	2864	2873	-7777
50	0	-7777	1	42	229	627	1217	1769	2003	2054	2056	2056
55	0	0	-7777	16	112	371	807	1207	1342	1362	-7777	1362
60	0	0	-7777	4	42	184	471	728	794	800	-7777	800
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	158	442	864	1435	1976	2290	2428	2450	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CHURCHS FERRY, ND US**

GHCND:USC00321500

Elev: 1460 ft. Lat: 48.272° N Lon: 99.199° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.42	@	@	@	@			
2	0.58	@	@	@	@			
3	0.85	@	@	@	@			
4	1.08	@	@	@	@			
5	2.63	@	@	@	@			
6	3.61	@	@	@	@			
7	3.20	@	@	@	@			
8	2.48	@	@	@	@			
9	1.68	@	@	@	@			
10	1.34	@	@	@	@			
11	0.80	@	@	@	@			
12	0.67	@	@	@	@			
Summary	19.34	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **RUGBY, ND US**

GHCND:USC00327704

Elev: 1549 ft. Lat: 48.354° N Lon: 99.992° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.3	-4.4	6.4	8.0	8.7	8.2	0	0	0	0	0	0	1505	1567	1660	1815	0.0	0.0	-7777	25.4	30.9	17.8
2	22.8	0.8	11.8	7.3	9.0	8.0	0	0	0	0	0	0	1209	1265	1349	1489	0.0	0.0	0.5	19.5	27.9	13.2
3	35.3	14.0	24.6	6.1	6.4	6.1	-7777	-7777	-7777	0	0	0	941	1003	1096	1251	0.0	0.0	3.6	10.5	29.8	5.0
4	55.1	28.4	41.8	5.4	3.8	4.3	15	10	5	1	-7777	-7777	412	467	552	699	0.0	-7777	19.7	1.3	19.6	0.1
5	67.6	39.7	53.7	4.0	3.5	3.4	94	68	38	11	3	1	135	172	235	363	0.0	0.4	29.1	0.0	7.0	0.0
6	76.2	49.8	63.0	5.1	3.4	4.1	254	205	141	64	23	14	15	25	51	124	0.4	1.8	29.9	0.0	0.1	0.0
7	81.4	54.0	67.7	3.9	2.5	2.7	394	334	247	122	43	25	1	2	8	38	0.2	3.0	31.0	0.0	0.0	0.0
8	80.6	52.5	66.5	4.1	2.6	3.2	363	306	225	113	42	25	5	10	22	66	0.1	4.0	31.0	0.0	0.1	0.0
9	69.5	42.1	55.8	3.8	2.5	2.8	117	87	54	20	5	2	92	123	180	296	0.0	0.7	28.9	0.0	3.2	0.0
10	54.6	29.3	42.0	4.2	3.4	3.3	12	7	3	-7777	-7777	0	417	474	562	715	0.0	0.0	19.9	1.4	18.6	0.1
11	35.2	14.7	25.0	7.2	5.6	6.1	-7777	-7777	-7777	0	0	0	902	961	1051	1201	0.0	0.0	4.9	12.3	28.7	3.8
12	20.5	-0.2	10.2	7.1	7.6	7.2	0	0	0	0	0	0	1390	1452	1545	1700	0.0	0.0	0.1	23.6	30.9	14.9
Summary	51.3	26.7	39.0	5.5	4.9	5.0	1249	1017	713	331	116	67	7024	7521	8311	9757	0.7	9.9	198.6	94.0	196.8	54.9

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **RUGBY, ND US**

GHCND:USC00327704

Elev: 1549 ft. Lat: 48.354° N Lon: 99.992° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	3.9	1.6	0.1	0.0	0.20	0.37	0.56
2	0.48	4.1	1.5	0.2	-7777	0.20	0.37	0.58
3	1.08	3.6	2.0	0.2	0.1	0.31	0.72	1.77
4	1.26	5.3	3.3	0.7	0.2	0.67	1.01	1.41
5	2.85	10.2	7.0	1.7	0.5	1.66	2.49	3.56
6	3.50	11.0	6.9	2.2	0.6	2.38	3.30	4.69
7	3.37	9.5	6.1	2.3	0.9	1.69	2.62	4.52
8	2.15	8.0	5.1	1.3	0.4	1.13	2.04	3.28
9	1.79	6.7	4.0	0.9	0.3	0.84	1.56	2.78
10	1.18	5.2	2.9	1.1	0.4	0.24	1.04	1.33
11	1.03	3.7	2.0	0.5	0.1	0.26	0.70	1.66
12	0.52	4.0	1.6	0.2	-7777	0.33	0.45	0.72
Summary	19.64	75.2	44.0	11.4	3.5	9.91	16.67	26.86

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **RUGBY, ND US**

GHCND:USC00327704

Elev: 1549 ft. Lat: 48.354° N Lon: 99.992° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.6	4.6	3.1	0.9	0.4	-7777	@	@	@	@	2.8	7.6	11.8
2	5.6	4.2	2.3	0.5	0.2	0.0	@	@	@	@	1.8	5.5	8.8
3	5.6	2.7	1.7	0.5	0.1	0.0	@	@	@	@	1.1	5.5	8.8
4	2.9	1.0	0.8	0.4	0.1	-7777	@	@	@	@	0.0	1.0	4.0
5	0.7	0.3	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.6	0.7	0.3	0.2	0.1	-7777	@	@	@	@	0.0	0.0	2.0
11	6.2	2.8	2.2	1.0	0.4	0.2	@	@	@	@	0.0	1.9	12.7
12	6.1	4.1	2.8	0.8	0.2	0.0	@	@	@	@	2.6	4.8	8.0
Summary	37.3	20.4	13.4	4.4	1.5	0.2	9999	9999	9999	9999	8.3	26.3	56.1

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **RUGBY, ND US**

GHCND:USC00327704

Elev: 1549 ft. Lat: 48.354° N Lon: 99.992° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	10	150	431	690	859	823	477	158	13	-7777
45	0	-7777	4	81	295	540	704	668	338	84	4	0
50	0	-7777	1	38	179	393	549	513	213	37	1	0
55	0	0	-7777	15	94	254	394	363	117	12	-7777	0
60	0	0	-7777	5	38	141	247	225	54	3	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	124	282	424	549	522	302	123	17	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	10	160	591	1281	2140	2963	3440	3598	3611	-7777
45	0	-7777	4	85	380	920	1624	2292	2630	2714	2718	2718
50	0	-7777	1	39	218	611	1160	1673	1886	1923	1924	1924
55	0	0	-7777	15	109	363	757	1120	1237	1249	-7777	1249
60	0	0	-7777	5	43	184	431	656	710	713	-7777	713
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	137	419	843	1392	1914	2216	2339	2356	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MARMARTH, ND US**

GHCND:USC00325575  
Elev: 2710 ft. Lat: 46.291° N Lon: 103.921° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	2.4	1.6	0.3	0.1	0.17	0.33	0.52
2	0.58	2.5	1.8	0.3	0.2	0.20	0.34	0.63
3	0.74	3.6	2.4	0.4	-7777	0.35	0.57	0.95
4	1.48	5.2	3.7	0.9	0.2	0.64	1.17	2.09
5	2.45	7.0	5.4	1.3	0.4	1.10	1.87	3.61
6	2.73	7.9	6.0	1.8	0.4	1.61	2.50	3.31
7	2.08	6.9	4.9	1.4	0.4	1.14	1.81	2.19
8	1.37	4.5	3.4	0.7	0.2	0.79	1.25	1.78
9	1.32	4.4	3.3	0.7	0.2	0.77	1.10	1.79
10	1.24	3.7	2.8	0.8	0.2	0.40	0.80	1.69
11	0.61	2.8	1.6	0.3	-7777	0.14	0.45	1.04
12	0.51	2.6	1.6	0.2	0.0	0.18	0.42	0.57
Summary	15.48	53.5	38.5	9.1	2.3	7.49	12.61	20.17

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
 National Oceanic & Atmospheric Administration  
 National Environmental Satellite, Data, and Information  
 Service

**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **MARMARTH, ND US**

GHCND:USC00325575  
 Elev: 2710 ft. Lat: 46.291° N Lon: 103.921° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.6	2.6	2.0	0.7	0.4	0.1	@	@	@	@	1.0	4.5	11.0
2	4.2	2.2	1.8	0.5	0.1	0.0	@	@	@	@	2.0	4.0	6.5
3	6.5	1.8	1.6	0.7	0.3	-7777	@	@	@	@	3.5	4.7	9.5
4	4.0	0.7	0.7	0.4	0.3	-7777	@	@	@	@	0.0	1.0	7.5
5	1.2	0.4	0.3	0.2	-7777	-7777	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.8	0.6	0.4	0.3	0.2	0.1	@	@	@	@	0.0	0.0	4.0
11	5.2	2.1	1.6	0.6	0.3	0.0	@	@	@	@	1.0	4.5	9.0
12	5.1	2.3	1.8	0.7	0.2	0.0	@	@	@	@	1.1	2.5	6.0
Summary	34.6	12.7	10.2	4.1	1.8	0.2	9999	9999	9999	9999	8.6	21.2	53.5

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 -7777 indicates a non-zero growing degree day value that would round to zero  
 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAZELTON 4 NW, ND US**

GHCND:USC00324083  
Elev: 1982 ft. Lat: 46.517° N Lon: 100.349° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.8	1.6	11.2	7.4	7.7	7.4	0	0	0	0	0	0	1358	1420	1513	1668	0.0	0.0	0.3	23.3	30.8	14.2
2	25.7	6.4	16.0	7.7	7.8	7.6	0	0	0	0	0	0	1091	1147	1231	1370	0.0	0.0	0.8	18.3	27.4	9.0
3	37.7	17.1	27.4	6.4	5.2	5.6	-7777	-7777	0	0	0	0	856	917	1010	1165	0.0	0.0	5.9	10.5	28.3	3.6
4	54.9	29.0	41.9	4.8	3.0	3.7	11	7	3	1	-7777	-7777	403	458	545	692	0.0	0.0	19.7	1.2	19.2	0.0
5	66.5	41.5	54.0	3.4	3.0	2.9	94	68	38	11	2	1	125	161	224	352	0.0	0.3	29.1	0.0	3.6	0.0
6	74.9	51.1	63.0	4.2	3.2	3.5	255	206	140	59	17	10	15	26	50	119	0.1	1.0	29.9	0.0	0.0	0.0
7	82.2	56.1	69.1	4.5	2.3	3.2	440	379	291	161	69	45	1	2	7	33	0.6	5.2	31.0	0.0	0.0	0.0
8	81.3	53.9	67.6	3.8	2.6	3.1	396	337	254	135	52	31	5	9	19	54	0.2	4.1	30.9	0.0	0.0	0.0
9	70.0	43.7	56.8	4.3	3.0	3.3	140	107	68	27	7	3	84	112	163	271	0.0	0.7	29.1	0.0	1.7	0.0
10	55.7	31.7	43.7	4.2	2.7	3.1	22	14	6	1	-7777	-7777	372	426	512	662	0.0	0.1	20.8	1.4	15.9	0.1
11	37.1	17.9	27.5	7.5	5.3	6.3	-7777	-7777	0	0	0	0	825	885	975	1125	0.0	0.0	6.3	11.6	27.6	1.8
12	23.9	6.0	14.9	7.7	7.3	7.4	0	0	0	0	0	0	1241	1303	1396	1551	0.0	0.0	0.5	21.5	31.0	10.3
Summary	52.6	29.7	41.1	5.5	4.4	4.8	1358	1118	800	395	147	90	6376	6866	7645	9062	0.9	11.4	204.3	87.8	185.5	39.0

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAZELTON 4 NW, ND US**

GHCND:USC00324083

Elev: 1982 ft. Lat: 46.517° N Lon: 100.349° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.32	5.0	2.2	0.0	0.0	0.19	0.24	0.39
2	0.46	4.8	2.5	0.1	0.0	0.18	0.31	0.50
3	0.87	4.9	2.4	0.5	0.1	0.26	0.82	1.09
4	1.19	6.3	3.4	0.3	0.0	0.63	0.84	1.46
5	2.52	9.8	6.3	1.7	0.4	1.30	2.14	3.69
6	3.50	10.4	6.5	2.6	0.8	2.65	3.48	4.37
7	2.90	9.0	6.4	2.2	0.8	1.72	2.66	3.45
8	2.21	7.1	4.4	1.3	0.7	1.44	2.24	2.72
9	1.66	6.4	3.7	0.9	0.3	0.76	1.29	2.31
10	1.65	6.1	4.3	1.0	0.3	0.56	1.27	2.32
11	0.56	4.5	2.0	0.2	0.1	0.10	0.45	0.99
12	0.40	4.6	2.0	0.2	0.0	0.21	0.32	0.47
Summary	18.24	78.9	46.1	11.0	3.5	10.00	16.06	23.76

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAZELTON 4 NW, ND US**

GHCND:USC00324083  
Elev: 1982 ft. Lat: 46.517° N Lon: 100.349° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.9	5.4	3.9	0.9	0.1	0.0	27.4	20.6	15.7	8.4	4.8	6.0	14.0
2	6.9	5.0	3.6	0.5	0.0	0.0	25.3	20.4	14.0	7.0	5.0	6.5	7.0
3	6.1	4.0	2.7	0.8	0.3	0.1	18.1	12.8	8.1	2.8	3.5	4.0	9.0
4	3.7	1.3	1.0	0.4	0.1	0.0	4.5	2.5	1.3	0.4	0.0	1.8	5.3
5	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	-7777	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	1.8	1.1	0.7	0.2	0.1	0.0	1.4	0.3	0.2	0.0	0.0	1.3	2.6
11	7.4	3.6	2.7	1.1	0.3	0.0	11.8	7.7	4.2	1.5	0.5	5.0	9.1
12	7.5	5.5	3.5	0.7	0.3	0.1	19.9	14.6	8.6	5.0	3.2	5.3	8.8
Summary	42.5	26.1	18.2	4.7	1.2	0.2	108.6	79.0	52.1	25.1	17.0	29.9	55.8

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HAZELTON 4 NW, ND US**

GHCND:USC00324083  
Elev: 1982 ft. Lat: 46.517° N Lon: 100.349° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	23	154	440	690	904	855	507	193	26	-7777
45	0	1	7	81	302	540	748	700	367	108	10	-7777
50	0	-7777	2	34	183	393	593	546	240	53	2	0
55	0	0	-7777	11	94	255	440	396	140	22	-7777	0
60	0	0	0	3	38	140	291	254	68	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	123	268	415	573	540	312	134	23	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	25	179	619	1309	2213	3068	3575	3768	3794	-7777
45	0	1	8	89	391	931	1679	2379	2746	2854	2864	-7777
50	0	-7777	2	36	219	612	1205	1751	1991	2044	2046	2046
55	0	0	-7777	11	105	360	800	1196	1336	1358	-7777	1358
60	0	0	0	3	41	181	472	726	794	800	800	800
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	24	147	415	830	1403	1943	2255	2389	2412	2413

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MANDAN EXPERIMENT STATION, ND US**

GHCND:USC00325479

Elev: 1749 ft. Lat: 46.813° N Lon: 100.910° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.0	2.5	12.7	7.5	8.0	7.7	0	0	0	0	0	0	1310	1372	1465	1620	0.0	0.0	0.3	20.9	30.8	13.1
2	27.9	7.5	17.7	7.3	8.0	7.5	-7777	0	0	0	0	0	1044	1100	1184	1324	0.0	0.0	1.7	16.3	27.5	8.9
3	39.4	18.9	29.2	6.3	5.1	5.5	-7777	-7777	-7777	-7777	0	0	802	863	956	1111	0.0	0.0	7.1	9.1	28.2	2.5
4	55.6	31.1	43.4	4.6	2.8	3.5	22	14	7	2	-7777	-7777	371	424	507	651	0.0	-7777	20.3	1.3	15.3	0.0
5	67.1	43.0	55.1	3.3	2.7	2.8	113	84	50	16	4	2	112	145	204	325	0.0	0.4	28.8	-7777	3.2	0.0
6	76.0	52.6	64.3	4.3	3.0	3.5	291	239	171	82	32	20	12	20	42	103	0.2	2.0	29.9	0.0	0.0	0.0
7	83.1	58.0	70.6	4.1	2.3	3.1	482	421	332	196	92	63	-7777	1	5	24	0.6	6.3	31.0	0.0	0.0	0.0
8	82.0	55.7	68.9	3.9	2.6	3.1	433	374	289	166	74	49	4	6	15	47	0.5	6.0	31.0	0.0	0.0	0.0
9	71.1	45.0	58.1	4.0	2.5	3.1	163	128	86	38	12	6	72	97	145	246	0.0	1.6	29.0	-7777	2.0	0.0
10	56.9	31.9	44.4	4.0	2.7	2.7	22	14	6	1	-7777	-7777	351	405	490	640	0.0	0.1	21.7	0.9	15.2	-7777
11	39.4	19.1	29.2	7.2	5.1	5.9	-7777	-7777	-7777	0	0	0	773	833	922	1072	0.0	0.0	7.3	9.2	27.3	1.6
12	26.2	6.6	16.4	7.7	7.2	7.4	0	0	0	0	0	0	1196	1258	1351	1506	0.0	0.0	1.0	18.7	30.8	9.2
Summary	54.0	31.0	42.5	5.4	4.3	4.6	1526	1274	941	501	214	140	6047	6524	7286	8669	1.3	16.4	209.1	76.4	180.3	35.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MANDAN EXPERIMENT STATION, ND US**

GHCND:USC00325479

Elev: 1749 ft. Lat: 46.813° N Lon: 100.910° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	5.3	1.1	0.0	0.0	0.16	0.31	0.54
2	0.40	4.3	1.3	0.1	-7777	0.15	0.24	0.48
3	0.64	5.4	2.2	0.2	0.0	0.33	0.46	1.08
4	1.20	6.4	3.4	0.7	0.1	0.61	1.04	1.57
5	2.61	9.7	5.5	1.4	0.4	1.47	2.15	2.91
6	3.31	10.8	6.7	2.2	0.8	2.18	2.82	4.46
7	3.26	9.4	5.9	2.1	0.8	1.42	2.77	4.01
8	2.15	7.8	4.0	1.1	0.5	0.95	1.73	2.85
9	1.54	7.1	3.9	0.6	0.2	1.05	1.43	1.77
10	1.37	6.4	3.1	0.8	0.2	0.48	1.03	1.58
11	0.68	4.5	1.7	0.2	0.1	0.07	0.47	1.00
12	0.42	5.6	1.4	-7777	0.0	0.18	0.36	0.52
Summary	17.95	82.7	40.2	9.4	3.1	9.05	14.81	22.77

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151 Patton Avenue  
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Station: **MANDAN EXPERIMENT STATION, ND US**

GHCND:USC00325479  
Elev: 1749 ft. Lat: 46.813° N Lon: 100.910° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	27	183	472	729	947	894	544	205	29	1
45	-7777	1	9	104	332	579	792	739	402	116	10	-7777
50	0	-7777	2	51	209	431	637	585	272	56	2	0
55	0	-7777	-7777	22	113	291	482	433	163	22	-7777	0
60	0	0	-7777	7	50	171	332	289	86	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	27	130	282	445	609	568	332	147	28	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	31	214	686	1415	2362	3256	3800	4005	4034	4035
45	-7777	1	10	114	446	1025	1817	2556	2958	3074	3084	-7777
50	0	-7777	2	53	262	693	1330	1915	2187	2243	2245	2245
55	0	-7777	-7777	22	135	426	908	1341	1504	1526	-7777	1526
60	0	0	-7777	7	57	228	560	849	935	941	-7777	941
Growing Degree Units for Corn (Monthly)												
50/86	1	5	32	162	444	889	1498	2066	2398	2545	2573	2575

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CANDO, ND US**

GHCND:USC00321288

Elev: 1493 ft. Lat: 48.488° N Lon: 99.183° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	@	@	@	@			
2	0.44	@	@	@	@			
3	0.78	@	@	@	@			
4	1.09	@	@	@	@			
5	2.73	@	@	@	@			
6	3.68	@	@	@	@			
7	3.13	@	@	@	@			
8	2.52	@	@	@	@			
9	1.83	@	@	@	@			
10	1.35	@	@	@	@			
11	0.77	@	@	@	@			
12	0.53	@	@	@	@			
Summary	19.30	9999	9999	9999	9999	9999	9999	9999

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Data derived from 1981-2010 normals.



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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HURDSFIELD 8 SW, ND US**

GHCND:USC00324343  
Elev: 1939 ft. Lat: 47.350° N Lon: 100.017° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.8	-1.9	8.5	7.8	8.1	7.8	0	0	0	0	0	0	1443	1505	1598	1753	0.0	0.0	0.2	24.3	31.0	17.0
2	22.8	3.0	12.9	7.3	7.9	7.5	0	0	0	0	0	0	1179	1235	1319	1459	0.0	0.0	0.7	18.8	27.9	11.4
3	33.9	13.9	23.9	6.0	4.8	5.2	-7777	-7777	-7777	0	0	0	964	1026	1119	1274	0.0	0.0	3.0	12.2	30.3	5.1
4	53.1	27.3	40.2	4.9	3.3	3.9	14	9	5	1	-7777	0	458	513	599	745	0.0	0.1	17.8	1.6	21.8	0.1
5	64.6	39.3	52.0	3.5	3.2	3.1	74	52	28	7	1	-7777	169	209	277	412	0.0	0.1	28.3	0.1	7.0	0.0
6	73.6	49.4	61.5	4.4	3.3	3.6	222	176	117	52	18	11	27	41	72	157	0.1	1.7	29.8	0.0	0.1	0.0
7	80.3	54.3	67.3	3.7	2.1	2.7	383	323	236	117	42	24	1	3	10	46	0.3	3.3	31.0	0.0	0.0	0.0
8	79.8	51.4	65.6	4.2	2.8	3.3	336	281	204	100	35	20	8	15	31	82	0.1	3.8	30.9	0.0	0.1	0.0
9	68.9	41.9	55.4	3.9	2.5	3.0	115	87	54	20	6	3	103	135	192	308	0.0	1.1	28.9	0.1	3.3	0.0
10	54.5	29.8	42.1	3.4	3.3	2.8	14	8	3	1	-7777	-7777	412	469	557	709	0.0	0.0	19.9	1.3	17.7	0.0
11	35.2	16.1	25.6	7.3	5.5	6.2	-7777	0	0	0	0	0	880	940	1030	1180	0.0	0.0	4.6	11.9	28.4	3.3
12	22.2	3.4	12.8	7.1	7.8	7.2	0	0	0	0	0	0	1308	1370	1463	1618	0.0	0.0	0.2	22.0	30.9	12.5
Summary	50.6	27.3	39.0	5.3	4.6	4.7	1158	936	647	298	102	58	6952	7461	8267	9743	0.5	10.1	195.3	92.3	198.5	49.4

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HURDSFIELD 8 SW, ND US**

GHCND:USC00324343  
Elev: 1939 ft. Lat: 47.350° N Lon: 100.017° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	6	127	384	645	846	793	467	164	14	-7777
45	0	0	2	67	255	496	691	639	328	89	4	0
50	0	0	1	33	148	352	536	485	206	40	1	0
55	0	0	-7777	14	74	222	383	336	115	14	-7777	0
60	0	0	-7777	5	28	117	236	204	54	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	107	240	384	530	496	291	120	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	7	134	518	1163	2009	2802	3269	3433	3447	-7777
45	0	0	2	69	324	820	1511	2150	2478	2567	2571	2571
50	0	0	1	34	182	534	1070	1555	1761	1801	1802	1802
55	0	0	-7777	14	88	310	693	1029	1144	1158	-7777	1158
60	0	0	-7777	5	33	150	386	590	644	647	647	647
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	117	357	741	1271	1767	2058	2178	2193	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MONTPELIER, ND US**

GHCND:USC00326105

Elev: 1404 ft. Lat: 46.700° N Lon: 98.584° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	6.0	2.1	0.0	0.0	0.18	0.45	0.87
2	0.51	5.2	1.7	-7777	-7777	0.18	0.44	0.55
3	1.00	6.4	3.2	0.3	-7777	0.41	0.74	1.59
4	1.37	6.5	3.6	0.7	0.2	0.54	1.13	1.65
5	2.76	9.1	5.5	1.8	0.4	1.56	2.40	3.59
6	3.42	10.6	6.6	2.3	0.6	2.11	3.33	4.31
7	3.43	9.0	6.1	2.3	0.9	2.12	3.24	4.58
8	2.24	7.4	4.7	1.3	0.5	1.15	2.04	2.93
9	2.21	7.1	4.6	1.2	0.5	1.15	1.69	3.13
10	1.73	6.6	3.6	1.2	0.3	0.70	1.42	2.50
11	0.77	5.0	2.3	0.3	-7777	0.14	0.77	1.35
12	0.51	5.9	1.6	0.1	0.0	0.21	0.42	0.72
Summary	20.48	84.8	45.6	11.5	3.4	10.45	18.07	27.77

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MONTPELIER, ND US**

GHCND:USC00326105

Elev: 1404 ft. Lat: 46.700° N Lon: 98.584° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.6	5.6	3.4	1.4	0.4	0.0	27.2	20.5	14.7	8.7	3.3	7.5	14.2
2	6.2	4.5	2.9	0.6	0.2	0.0	22.7	18.2	13.3	5.5	2.7	4.4	7.8
3	8.0	4.0	3.2	1.0	0.2	0.1	17.5	12.0	7.7	3.4	2.8	5.7	12.2
4	3.2	1.1	1.0	0.5	0.2	-7777	3.0	1.6	1.0	0.3	0.0	1.0	5.5
5	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.6	0.5	0.3	0.1	-7777	0.0	0.6	0.1	0.0	0.0	0.0	0.0	1.0
11	6.9	3.4	2.5	0.9	0.3	-7777	10.8	5.5	2.7	0.8	1.0	4.7	9.5
12	8.2	5.3	3.4	0.9	0.3	0.0	22.5	12.7	9.2	4.2	3.2	7.7	10.4
Summary	42.9	24.5	16.8	5.4	1.6	0.1	104.4	70.6	48.6	22.9	13.0	31.0	60.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **EDMORE 1 NW, ND US**

GHCND:USC00322525

Elev: 1535 ft. Lat: 48.424° N Lon: 98.471° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	13.2	-7.4	2.9	7.2	8.0	7.5	0	0	0	0	0	0	1615	1677	1770	1925	0.0	0.0	0.0	28.4	31.0	20.1
2	18.7	-2.5	8.1	7.4	8.7	8.0	0	0	0	0	0	0	1313	1369	1453	1593	0.0	0.0	0.1	22.6	28.0	15.2
3	31.0	11.7	21.4	5.7	5.5	5.4	-7777	-7777	0	0	0	0	1043	1105	1198	1353	0.0	0.0	1.9	14.7	30.4	6.8
4	51.3	27.9	39.6	5.8	3.4	4.3	11	7	3	1	-7777	0	473	529	615	763	0.0	0.0	16.5	2.6	20.9	0.2
5	64.9	40.0	52.5	4.1	3.4	3.4	78	56	30	9	2	1	157	197	264	398	0.0	0.1	28.0	0.0	5.7	0.0
6	73.4	50.3	61.8	4.3	3.0	3.4	226	180	120	51	16	9	21	35	65	146	0.0	1.2	30.0	0.0	0.1	0.0
7	78.6	54.6	66.6	3.8	2.5	2.6	361	302	217	101	33	19	2	4	13	52	0.2	1.9	31.0	0.0	0.0	0.0
8	78.2	52.4	65.3	3.9	2.6	2.9	325	269	191	88	29	17	6	12	26	79	0.1	2.3	31.0	0.0	-7777	0.0
9	67.7	42.1	54.9	3.7	2.8	3.0	105	78	47	16	4	2	108	141	200	319	0.0	0.3	28.5	0.0	3.6	0.0
10	52.7	28.7	40.7	4.0	3.3	3.1	9	6	2	-7777	-7777	-7777	453	511	601	754	0.0	0.0	17.8	1.5	20.0	0.1
11	32.9	13.7	23.3	7.2	6.3	6.5	-7777	-7777	0	0	0	0	951	1011	1101	1251	0.0	0.0	3.5	14.2	29.0	4.4
12	17.1	-1.4	7.8	7.3	8.1	7.6	0	0	0	0	0	0	1461	1524	1616	1772	0.0	0.0	0.0	26.3	31.0	15.9
Summary	48.3	25.8	37.1	5.4	4.8	4.8	1115	898	610	266	84	48	7603	8115	8922	10405	0.3	5.8	188.3	110.3	199.7	62.7

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **EDMORE 1 NW, ND US**

GHCND:USC00322525

Elev: 1535 ft. Lat: 48.424° N Lon: 98.471° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	5.7	1.7	0.2	-7777	0.21	0.38	0.89
2	0.44	4.4	1.5	0.1	0.0	0.14	0.34	0.64
3	0.83	6.1	2.3	0.3	0.1	0.36	0.71	1.12
4	1.04	5.0	2.7	0.5	-7777	0.29	0.94	1.57
5	2.58	9.3	5.7	1.5	0.3	1.30	2.38	3.41
6	3.63	11.0	7.4	2.6	0.9	2.53	3.46	4.44
7	3.02	9.6	6.8	2.2	0.6	1.58	2.78	4.01
8	2.50	8.1	5.2	1.7	0.6	1.75	2.27	2.88
9	1.81	7.3	4.4	1.1	0.3	1.07	1.52	2.41
10	1.49	7.1	3.4	0.8	0.2	0.39	1.36	2.13
11	0.88	5.0	2.3	0.4	0.2	0.25	0.54	1.27
12	0.66	6.3	2.4	0.2	0.0	0.34	0.57	0.85
Summary	19.47	84.9	45.8	11.6	3.2	10.21	17.25	25.62

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **EDMORE 1 NW, ND US**

GHCND:USC00322525

Elev: 1535 ft. Lat: 48.424° N Lon: 98.471° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.4	6.1	2.4	0.6	0.1	0.0	29.7	24.4	17.6	7.7	3.5	5.2	9.3
2	4.3	4.5	1.8	0.3	0.1	0.0	24.7	21.4	16.1	7.9	1.8	4.0	6.7
3	4.8	4.4	1.9	0.4	0.2	0.0	19.6	15.2	11.6	5.1	2.0	4.4	7.3
4	2.8	1.3	1.0	0.4	0.2	0.0	3.0	1.7	0.7	0.0	0.0	0.5	5.0
5	0.5	0.3	0.2	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.0	1.4	1.0	0.2	0.1	0.0	1.9	0.5	0.2	0.0	0.0	1.0	2.6
11	5.6	4.1	2.4	0.8	0.3	-7777	13.0	7.3	4.6	2.6	1.0	5.0	9.3
12	7.7	6.5	3.2	0.6	0.2	0.0	26.7	19.2	12.5	5.5	4.1	6.1	8.8
Summary	34.1	28.6	13.9	3.4	1.2	0.0	118.8	89.8	63.3	28.8	12.4	26.2	49.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: EDMORE 1 NW, ND US

GHCND:USC00322525

Elev: 1535 ft. Lat: 48.424° N Lon: 98.471° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	4	122	398	655	824	784	451	132	9	-7777
45	0	-7777	1	64	267	506	669	629	315	68	2	0
50	0	-7777	-7777	29	158	360	515	475	196	28	-7777	0
55	0	0	-7777	11	78	226	361	325	105	9	-7777	0
60	0	0	0	3	30	120	217	191	47	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	94	245	393	519	491	278	100	11	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	4	126	524	1179	2003	2787	3238	3370	3379	-7777
45	0	-7777	1	65	332	838	1507	2136	2451	2519	2521	2521
50	0	-7777	-7777	29	187	547	1062	1537	1733	1761	-7777	1761
55	0	0	-7777	11	89	315	676	1001	1106	1115	-7777	1115
60	0	0	0	3	33	153	370	561	608	610	610	610
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	99	344	737	1256	1747	2025	2125	2136	-7777

M indicates the value is missing

-7777 indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HETTINGER MUNICIPAL AIRPORT, ND US**

GHCND:USW00094038  
Elev: 2703 ft. Lat: 46.014° N Lon: 102.655° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.9	5.5	16.7	6.8	6.5	6.5	0	0	0	0	0	0	1187	1249	1342	1497	0.0	0.0	1.4	16.5	30.9	10.9
2	31.6	9.8	20.7	7.6	7.6	7.4	0	0	0	0	0	0	960	1016	1100	1240	0.0	0.0	2.5	13.7	27.6	6.7
3	41.1	18.4	29.7	6.2	4.5	5.1	-7777	-7777	-7777	-7777	0	0	783	845	938	1093	0.0	0.0	8.0	8.4	29.0	2.2
4	55.5	28.2	41.9	4.7	2.6	3.4	9	5	2	-7777	0	0	403	460	547	695	0.0	0.0	20.3	1.4	18.9	0.1
5	65.6	39.2	52.4	3.5	2.5	2.6	62	42	21	5	1	-7777	143	185	257	395	0.0	0.1	28.8	0.0	5.5	0.0
6	75.5	48.2	61.8	4.0	3.2	3.3	225	177	115	45	13	7	20	31	59	139	0.1	1.1	29.9	0.0	0.4	0.0
7	83.2	54.0	68.6	5.5	2.7	3.8	422	362	276	150	62	39	1	3	10	39	0.8	6.8	31.0	0.0	0.0	0.0
8	83.9	52.5	68.2	3.9	2.6	3.0	413	354	270	149	64	42	5	7	16	51	0.5	7.8	31.0	0.0	0.1	0.0
9	71.9	41.2	56.5	4.7	3.2	3.6	136	105	68	27	8	4	89	118	172	281	0.0	2.0	29.1	0.0	3.8	0.0
10	56.4	29.5	43.0	4.2	2.4	2.9	14	8	3	1	-7777	0	388	444	532	684	0.0	0.1	20.6	1.2	19.3	0.1
11	40.9	17.4	29.1	7.8	5.2	6.1	-7777	-7777	0	0	0	0	776	835	925	1075	0.0	0.0	8.7	8.2	28.4	2.4
12	29.6	6.9	18.2	8.0	6.7	7.2	0	0	0	0	0	0	1139	1201	1294	1449	0.0	0.0	1.4	15.8	30.9	9.1
Summary	55.3	29.2	42.2	5.6	4.1	4.6	1281	1053	755	377	148	92	5894	6394	7192	8638	1.4	17.9	212.7	65.2	194.8	31.5

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HETTINGER MUNICIPAL AIRPORT, ND US**

GHCND:USW00094038  
Elev: 2703 ft. Lat: 46.014° N Lon: 102.655° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.31	@	@	@	@			
2	0.42	@	@	@	@			
3	0.76	@	@	@	@			
4	1.47	@	@	@	@			
5	2.36	@	@	@	@			
6	2.86	@	@	@	@			
7	2.40	@	@	@	@			
8	1.71	@	@	@	@			
9	1.63	@	@	@	@			
10	1.27	@	@	@	@			
11	0.60	@	@	@	@			
12	0.31	@	@	@	@			
Summary	16.10	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HETTINGER MUNICIPAL AIRPORT, ND US**

GHCND:USW00094038  
Elev: 2703 ft. Lat: 46.014° N Lon: 102.655° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	33	146	391	655	886	873	500	172	30	1
45	-7777	1	11	71	255	506	731	719	361	92	10	-7777
50	0	-7777	2	27	141	360	576	564	236	41	2	0
55	0	0	-7777	9	62	225	422	413	136	14	-7777	0
60	0	0	-7777	2	21	115	276	270	68	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	3	7	38	127	250	405	562	554	331	142	40	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	37	183	574	1229	2115	2988	3488	3660	3690	3691
45	-7777	1	12	83	338	844	1575	2294	2655	2747	2757	-7777
50	0	-7777	2	29	170	530	1106	1670	1906	1947	1949	1949
55	0	0	-7777	9	71	296	718	1131	1267	1281	-7777	1281
60	0	0	-7777	2	23	138	414	684	752	755	755	755
Growing Degree Units for Corn (Monthly)												
50/86	3	10	48	175	425	830	1392	1946	2277	2419	2459	2462

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FULLERTON 1 ESE, ND US**

GHCND:USC00323287  
Elev: 1434 ft. Lat: 46.158° N Lon: 98.400° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.0	1.7	11.8	6.8	7.6	7.1	0	0	0	0	0	0	1337	1399	1493	1648	0.0	0.0	0.2	22.4	30.9	14.2
2	28.1	7.0	17.5	6.6	8.2	7.2	0	0	0	0	0	0	1048	1104	1189	1329	0.0	0.0	1.2	15.0	27.7	9.2
3	39.9	18.9	29.4	5.9	4.8	5.1	-7777	-7777	-7777	0	0	0	794	856	949	1104	0.0	0.0	6.2	7.1	28.3	2.5
4	57.1	31.5	44.3	5.2	2.9	3.7	23	16	9	2	-7777	-7777	344	397	480	623	0.0	0.1	21.2	1.0	16.1	0.0
5	69.3	43.9	56.6	3.5	3.3	3.0	133	100	61	22	6	3	83	112	167	282	0.0	0.4	29.8	0.0	2.6	0.0
6	77.5	53.7	65.6	3.9	3.2	3.3	324	269	194	94	35	22	6	12	26	76	0.1	1.8	30.0	0.0	0.0	0.0
7	83.3	58.3	70.8	4.1	2.4	2.9	490	428	337	196	86	56	-7777	-7777	2	16	0.5	5.2	31.0	0.0	0.0	0.0
8	81.8	55.9	68.9	3.4	2.8	2.9	430	370	283	155	64	40	1	3	9	36	0.4	3.9	31.0	0.0	-7777	0.0
9	71.6	46.4	59.0	3.4	2.5	2.5	174	136	89	36	11	6	54	76	119	217	-7777	0.8	29.4	0.0	1.5	0.0
10	56.9	33.9	45.4	4.0	3.0	2.8	26	17	8	2	-7777	-7777	324	377	461	609	0.0	0.0	22.3	0.7	13.1	0.0
11	37.8	19.8	28.8	6.8	5.0	5.7	-7777	-7777	-7777	-7777	0	0	786	846	936	1086	0.0	0.0	5.6	10.6	26.6	1.5
12	24.4	6.2	15.3	7.3	7.1	7.1	0	0	0	0	0	0	1230	1292	1386	1541	0.0	0.0	0.4	20.7	30.8	9.7
Summary	54.1	31.4	42.8	5.1	4.4	4.4	1600	1336	981	507	202	127	6007	6474	7217	8567	1.0	12.2	208.3	77.5	177.6	37.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

**Summary of  
Monthly Normals  
1981-2010**Station: **FULLERTON 1 ESE, ND US**

GHCND:USC00323287

Elev: 1434 ft. Lat: 46.158° N Lon: 98.400° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.62	3.7	2.3	0.1	0.1	0.20	0.61	0.87
2	0.53	3.9	2.1	0.2	-7777	0.20	0.38	0.75
3	1.32	4.5	3.3	0.8	0.2	0.81	1.14	1.85
4	1.62	5.9	4.2	1.0	0.3	0.72	1.38	1.97
5	3.06	8.6	5.9	1.9	0.8	1.62	2.61	3.56
6	3.29	9.9	7.1	2.3	0.6	1.85	2.82	4.62
7	3.04	8.4	6.0	2.2	0.7	2.01	2.87	3.59
8	2.22	6.7	4.6	1.6	0.4	1.32	2.38	2.89
9	2.40	6.6	4.3	1.7	0.7	1.15	1.90	2.95
10	1.97	5.9	3.8	1.3	0.5	0.59	1.27	3.29
11	0.89	4.3	2.9	0.4	-7777	0.31	0.74	1.47
12	0.54	3.2	1.8	0.2	0.1	0.12	0.38	0.72
Summary	21.50	71.6	48.3	13.7	4.4	10.90	18.48	28.53

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
 National Oceanic & Atmospheric Administration  
 National Environmental Satellite, Data, and Information  
 Service

**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: FULLERTON 1 ESE, ND US

GHCND:USC00323287  
 Elev: 1434 ft. Lat: 46.158° N Lon: 98.400° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	7.8	3.3	2.6	1.0	0.3	0.1	@	@	@	@	3.0	6.9	10.0
2	5.8	3.4	2.6	0.6	0.2	0.0	@	@	@	@	2.5	6.2	7.5
3	7.7	2.6	2.3	1.1	0.5	0.1	@	@	@	@	3.0	5.0	12.5
4	2.1	0.8	0.7	0.3	0.1	-7777	@	@	@	@	0.0	1.0	2.0
5	0.0	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.4	0.3	0.3	0.0	0.0	0.0	@	@	@	@	0.0	0.0	1.0
11	4.0	2.4	2.3	0.7	0.3	0.1	@	@	@	@	0.0	2.0	6.0
12	6.3	2.9	2.3	0.8	0.2	0.1	@	@	@	@	1.1	4.3	7.9
Summary	34.1	15.7	13.1	4.5	1.6	0.4	9999	9999	9999	9999	9.6	25.4	46.9

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 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: FULLERTON 1 ESE, ND US

GHCND:USC00323287

Elev: 1434 ft. Lat: 46.158° N Lon: 98.400° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	194	517	768	954	894	571	221	25	-7777
45	-7777	-7777	6	110	371	618	800	739	426	127	8	0
50	0	-7777	2	54	240	469	645	584	289	63	2	0
55	0	0	-7777	23	133	324	490	430	174	26	-7777	0
60	0	0	-7777	9	61	194	337	283	89	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	2	21	143	318	481	623	579	351	144	20	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	20	214	731	1499	2453	3347	3918	4139	4164	-7777
45	-7777	-7777	6	116	487	1105	1905	2644	3070	3197	3205	3205
50	0	-7777	2	56	296	765	1410	1994	2283	2346	2348	2348
55	0	0	-7777	23	156	480	970	1400	1574	1600	-7777	1600
60	0	0	-7777	9	70	264	601	884	973	981	-7777	981
Growing Degree Units for Corn (Monthly)												
50/86	1	3	24	167	485	966	1589	2168	2519	2663	2683	2684

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **REEDER 13 N, ND US**

GHCND:USC00327452  
Elev: 2756 ft. Lat: 46.286° N Lon: 102.951° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	5.4	1.1	0.1	0.0	0.11	0.27	0.45
2	0.41	4.5	1.5	0.0	0.0	0.18	0.31	0.54
3	0.94	5.6	2.3	0.3	0.1	0.32	0.67	1.30
4	1.55	6.9	4.3	1.2	0.2	0.83	1.16	2.04
5	2.38	8.8	5.5	1.6	0.3	1.12	2.20	3.75
6	2.84	9.5	6.4	2.0	0.5	2.00	2.66	3.75
7	1.98	8.4	5.4	1.6	0.3	0.98	1.71	2.54
8	1.52	5.8	3.5	0.7	0.5	0.82	1.29	1.86
9	1.48	5.7	3.4	0.8	0.2	0.76	1.06	1.89
10	1.19	4.7	2.9	0.8	0.3	0.41	0.89	1.26
11	0.44	4.9	2.1	0.1	0.1	0.19	0.35	0.73
12	0.43	4.5	0.9	0.0	0.0	0.15	0.29	0.62
Summary	15.52	74.7	39.3	9.2	2.5	7.87	12.86	20.73

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Data derived from 1981-2010 normals.



U.S. Department of Commerce  
 National Oceanic & Atmospheric Administration  
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### Summary of Monthly Normals 1981-2010

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: REEDER 13 N, ND US

GHCND:USC00327452  
 Elev: 2756 ft. Lat: 46.286° N Lon: 102.951° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.2	4.5	3.1	0.5	0.1	0.0	@	@	@	@	3.5	5.0	7.0
2	4.9	3.7	3.2	0.2	-7777	0.0	@	@	@	@	3.0	4.0	6.5
3	7.3	3.7	3.0	0.7	0.2	0.1	@	@	@	@	2.5	6.0	11.5
4	5.9	2.0	1.8	0.9	0.4	0.0	@	@	@	@	1.0	6.0	9.0
5	1.1	0.5	0.4	0.1	0.1	0.0	@	@	@	@	0.0	0.0	1.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.5	0.1	0.1	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
10	2.2	0.7	0.6	0.3	0.2	0.0	@	@	@	@	0.0	0.0	2.5
11	6.3	3.3	2.8	0.9	-7777	0.0	@	@	@	@	1.5	6.5	10.0
12	4.6	3.7	2.4	0.3	0.1	0.0	@	@	@	@	2.0	4.4	6.8
Summary	39.0	22.2	17.4	3.9	1.1	0.1	9999	9999	9999	9999	13.5	31.9	54.3

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 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KENMARE 1 WSW, ND US**

GHCND:USC00324646  
Elev: 1811 ft. Lat: 48.669° N Lon: 102.098° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	0.3	10.1	8.4	8.3	8.2	0	0	0	0	0	0	1392	1454	1547	1702	0.0	0.0	0.1	22.6	30.8	15.2
2	24.4	5.2	14.8	7.3	7.7	7.4	0	0	0	0	0	0	1125	1181	1265	1406	0.0	0.0	0.6	18.1	27.6	10.9
3	36.4	16.5	26.4	6.3	5.5	5.7	-7777	-7777	-7777	0	0	0	885	947	1040	1195	0.0	0.0	4.7	10.4	29.3	4.0
4	54.3	29.0	41.6	4.5	3.2	3.6	14	9	4	1	-7777	0	415	469	555	701	0.0	0.1	19.1	1.5	18.7	0.1
5	65.9	40.7	53.3	3.8	3.3	3.2	90	65	37	11	2	1	142	180	245	374	0.0	0.4	28.5	-7777	5.3	0.0
6	74.4	50.7	62.6	4.2	2.9	3.3	246	198	135	58	20	12	20	32	58	132	0.1	1.4	29.9	0.0	-7777	0.0
7	80.5	55.0	67.8	3.6	2.6	2.8	396	336	250	127	47	28	1	3	9	42	0.2	3.3	31.0	0.0	0.0	0.0
8	80.4	52.5	66.4	4.4	2.9	3.4	361	304	224	114	45	28	7	11	24	70	0.3	4.9	31.0	0.0	0.1	0.0
9	68.8	42.1	55.4	4.0	2.6	3.1	117	89	56	21	5	3	104	135	192	308	0.0	1.0	28.4	-7777	3.2	0.0
10	53.8	30.2	42.0	4.3	2.9	3.0	12	7	3	-7777	-7777	0	415	472	561	713	0.0	0.1	19.0	1.5	17.4	-7777
11	36.0	16.7	26.3	7.2	6.1	6.4	-7777	-7777	0	0	0	0	860	919	1009	1159	0.0	0.0	5.3	11.4	27.8	3.6
12	22.3	4.1	13.2	7.8	7.7	7.6	0	0	0	0	0	0	1296	1358	1451	1606	0.0	0.0	0.3	21.4	30.7	11.7
Summary	51.4	28.6	40.0	5.5	4.6	4.8	1236	1008	709	332	119	72	6662	7161	7956	9408	0.6	11.2	197.9	86.9	190.9	45.5

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KENMARE 1 WSW, ND US**

GHCND:USC00324646  
Elev: 1811 ft. Lat: 48.669° N Lon: 102.098° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	1.06	6.7	3.5	0.6	0.1	0.44	0.75	1.57
2	0.67	4.9	1.9	0.4	-7777	0.20	0.49	0.83
3	0.93	5.7	3.1	0.3	0.0	0.44	0.91	1.34
4	0.96	5.8	2.9	0.6	0.1	0.44	0.81	1.15
5	2.52	9.5	4.8	1.3	0.4	1.30	2.11	3.45
6	2.87	12.5	6.8	1.8	0.3	1.99	2.37	3.40
7	3.03	10.3	5.6	2.3	0.6	1.78	3.25	3.84
8	1.88	8.4	4.3	1.3	0.2	0.87	1.77	2.90
9	1.62	7.5	4.0	1.3	0.4	0.99	1.39	2.15
10	1.36	5.9	3.0	0.7	0.2	0.56	0.91	1.89
11	0.66	4.2	2.1	0.3	0.1	0.19	0.56	1.02
12	0.74	5.3	2.2	0.4	0.0	0.35	0.52	0.85
Summary	18.30	86.7	44.2	11.3	2.4	9.55	15.84	24.39

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Data derived from 1981-2010 normals.

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### Summary of Monthly Normals 1981-2010

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **KENMARE 1 WSW, ND US**

GHCND:USC00324646  
 Elev: 1811 ft. Lat: 48.669° N Lon: 102.098° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	11.1	6.5	4.0	1.2	0.6	0.1	@	@	@	@	5.1	6.8	10.5
2	6.2	4.6	2.5	0.6	0.2	0.0	@	@	@	@	2.0	4.3	8.5
3	5.7	4.1	2.3	0.8	0.3	0.0	@	@	@	@	1.5	5.5	9.8
4	2.6	1.5	1.0	0.5	0.2	0.0	@	@	@	@	0.0	0.5	3.0
5	0.5	0.1	0.1	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.2	0.9	0.7	0.2	-7777	0.0	@	@	@	@	0.0	0.0	4.7
11	5.1	3.2	1.8	0.6	0.2	-7777	@	@	@	@	0.5	4.0	9.4
12	5.4	5.1	2.9	0.8	0.3	0.0	@	@	@	@	1.9	3.9	6.9
Summary	38.9	26.1	15.3	4.8	1.8	0.1	9999	9999	9999	9999	11.0	25.0	52.8

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 Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KENMARE 1 WSW, ND US**

GHCND:USC00324646  
Elev: 1811 ft. Lat: 48.669° N Lon: 102.098° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	150	422	676	860	820	469	159	19	-7777
45	-7777	-7777	5	82	288	527	705	665	333	85	7	0
50	0	-7777	2	38	174	381	550	511	212	38	1	0
55	0	0	-7777	14	90	246	396	361	117	12	-7777	0
60	0	0	-7777	4	37	135	250	224	56	3	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	17	116	260	405	544	513	289	115	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	17	167	589	1265	2125	2945	3414	3573	3592	-7777
45	-7777	-7777	5	87	375	902	1607	2272	2605	2690	2697	2697
50	0	-7777	2	40	214	595	1145	1656	1868	1906	1907	1907
55	0	0	-7777	14	104	350	746	1107	1224	1236	-7777	1236
60	0	0	-7777	4	41	176	426	650	706	709	709	709
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	134	394	799	1343	1856	2145	2260	2278	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHERWOOD 3 N, ND US**

GHCND:USC00328047

Elev: 1647 ft. Lat: 48.999° N Lon: 101.628° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.21	1.4	0.7	0.1	0.0	0.12	0.18	0.22
2	0.26	0.9	0.5	0.0	0.0	0.07	0.16	0.30
3	0.74	1.8	1.2	0.3	0.1	0.24	0.51	1.00
4	0.66	2.9	1.9	0.3	0.1	0.27	0.63	0.99
5	1.90	7.2	4.5	1.2	0.3	1.00	1.53	2.35
6	2.89	8.7	6.2	1.9	0.5	1.94	2.83	3.48
7	2.59	6.8	5.4	1.8	0.7	1.41	2.40	3.53
8	2.00	5.6	3.6	1.2	0.5	0.92	1.55	2.38
9	1.15	4.4	2.8	0.8	0.1	0.60	1.10	1.52
10	1.07	3.5	2.2	0.7	0.2	0.38	0.66	1.53
11	0.26	1.4	0.7	0.1	-7777	0.06	0.24	0.45
12	0.34	1.4	0.8	0.2	0.2	0.06	0.21	0.44
Summary	14.07	46.0	30.5	8.6	2.7	7.07	12.00	18.19

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SHERWOOD 3 N, ND US**

GHCND:USC00328047  
Elev: 1647 ft. Lat: 48.999° N Lon: 101.628° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.6	3.0	2.9	1.0	0.2	0.1	@	@	@	@	4.0	6.0	8.0
2	3.9	1.9	1.7	0.4	0.1	0.0	@	@	@	@	1.0	3.5	6.0
3	3.9	2.2	1.7	0.5	0.1	0.0	@	@	@	@	2.2	3.0	7.0
4	1.8	0.9	0.8	0.3	0.1	-7777	@	@	@	@	0.0	0.0	3.0
5	0.5	0.2	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.9	0.6	0.6	0.3	0.1	-7777	@	@	@	@	0.0	0.0	3.0
11	4.7	1.8	1.6	0.7	0.3	0.1	@	@	@	@	0.0	4.0	6.0
12	5.3	2.7	2.3	0.5	0.3	0.0	@	@	@	@	2.0	5.0	8.0
Summary	28.6	13.3	11.8	3.8	1.2	0.2	9999	9999	9999	9999	9.2	21.5	41.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **REEDER, ND US**

GHCND:USC00327450  
Elev: 2835 ft. Lat: 46.109° N Lon: 102.945° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	4.2	1.3	-7777	-7777	0.14	0.34	0.45
2	0.36	4.0	1.4	0.1	0.0	0.14	0.29	0.40
3	0.84	5.5	2.1	0.4	0.1	0.37	0.59	1.04
4	1.31	6.9	3.7	0.6	0.1	0.77	0.98	1.83
5	2.71	9.3	5.5	1.8	0.5	1.12	2.58	3.58
6	3.12	10.3	6.4	2.1	0.6	2.19	3.01	3.77
7	2.27	9.0	5.1	1.5	0.4	1.22	2.04	3.18
8	1.72	6.2	3.6	0.8	0.4	0.67	1.74	2.59
9	1.46	5.8	3.0	0.6	0.3	0.54	0.87	1.98
10	1.43	5.6	2.9	0.8	0.3	0.44	0.73	1.84
11	0.52	4.6	1.4	0.1	-7777	0.14	0.36	0.66
12	0.35	4.0	1.2	0.0	0.0	0.11	0.26	0.52
Summary	16.45	75.4	37.6	8.8	2.7	7.85	13.79	21.84

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**Summary of  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CHAFFEE 5 NE, ND US**

GHCND:USC00321477  
Elev: 965 ft. Lat: 46.796° N Lon: 97.269° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.47	4.9	1.8	0.1	0.0	0.09	0.37	0.76
2	0.45	4.4	1.6	0.1	0.0	0.14	0.33	0.54
3	1.02	5.0	2.9	0.5	0.1	0.41	0.87	1.61
4	1.32	4.9	3.1	0.8	0.3	0.44	0.86	1.74
5	3.04	8.2	6.2	2.2	0.6	1.81	2.57	4.11
6	3.57	9.1	7.2	2.5	0.7	1.96	3.10	4.80
7	3.30	8.1	5.7	2.0	0.9	1.60	2.83	4.28
8	2.59	7.1	4.9	2.1	0.6	1.93	2.80	3.36
9	2.47	6.5	4.5	1.6	0.6	1.55	2.17	3.18
10	2.20	6.0	3.8	1.6	0.7	0.63	1.76	3.22
11	0.73	4.1	2.4	0.3	-7777	0.20	0.54	1.14
12	0.56	4.5	1.7	0.1	0.0	0.24	0.46	0.74
Summary	21.72	72.8	45.8	13.9	4.5	11.00	18.66	29.48

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CHAFFEE 5 NE, ND US**

GHCND:USC00321477  
Elev: 965 ft. Lat: 46.796° N Lon: 97.269° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.6	5.0	2.9	1.0	0.4	-7777	@	@	@	@	2.2	7.7	13.4
2	5.6	4.1	2.6	0.5	0.1	0.0	@	@	@	@	2.8	5.4	8.6
3	7.6	2.8	2.4	1.1	0.6	0.0	@	@	@	@	1.9	7.7	10.3
4	1.5	0.6	0.5	0.2	0.1	0.0	@	@	@	@	0.0	0.0	2.0
5	-7777	-7777	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.6	0.2	0.2	0.1	0.0	0.0	@	@	@	@	0.0	0.0	0.0
11	5.4	2.8	2.2	1.0	0.3	0.0	@	@	@	@	0.2	4.4	8.1
12	8.2	4.9	2.8	0.7	0.4	0.1	@	@	@	@	3.5	5.5	11.0
Summary	37.5	20.4	13.6	4.6	1.9	0.1	9999	9999	9999	9999	10.6	30.7	53.4

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **FORT YATES 4 SW, ND US**

GHCND:USC00323207  
Elev: 1673 ft. Lat: 46.050° N Lon: 100.667° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.3	2.0	14.6	7.3	7.7	7.3	0	0	0	0	0	0	1251	1313	1406	1561	0.0	0.0	1.1	18.6	30.7	13.8
2	32.5	7.3	19.9	6.7	7.8	7.0	0	0	0	0	0	0	983	1039	1123	1263	0.0	0.0	4.0	13.6	27.9	8.5
3	43.3	17.6	30.5	5.8	4.4	4.8	-7777	-7777	-7777	0	0	0	761	823	916	1071	0.0	0.0	9.3	6.2	29.4	3.1
4	59.2	28.9	44.1	4.4	2.7	3.3	23	16	8	3	-7777	-7777	352	404	487	631	0.0	0.2	23.2	0.5	18.7	0.1
5	70.4	41.5	56.0	3.8	2.9	2.9	126	96	59	22	5	2	97	128	184	302	0.0	0.8	30.0	0.0	5.0	0.0
6	80.1	51.2	65.6	4.3	2.9	3.4	327	273	199	101	41	27	7	14	30	81	0.2	3.9	30.0	0.0	0.3	0.0
7	87.1	56.9	72.0	3.9	3.0	3.2	527	465	374	231	114	80	-7777	-7777	2	14	1.0	10.3	31.0	0.0	0.0	0.0
8	86.0	54.8	70.4	3.1	2.8	2.7	479	418	329	196	92	62	2	3	7	28	0.9	10.2	31.0	0.0	0.2	0.0
9	74.2	43.4	58.8	3.4	2.1	2.3	173	135	89	37	12	7	59	81	125	223	0.1	2.0	29.6	0.0	3.6	0.0
10	60.8	31.3	46.1	4.3	3.0	2.8	25	15	7	1	-7777	-7777	302	355	439	589	0.0	0.4	25.5	0.4	15.3	0.1
11	42.3	18.6	30.5	7.1	5.2	5.9	-7777	-7777	-7777	0	0	0	736	796	886	1036	0.0	0.0	9.2	6.6	27.9	1.8
12	29.4	6.1	17.8	7.2	7.0	6.9	0	0	0	0	0	0	1155	1217	1310	1465	0.0	0.0	1.6	16.0	30.8	8.9
Summary	57.7	30.0	43.9	5.1	4.3	4.4	1680	1418	1065	591	264	178	5705	6173	6915	8264	2.2	27.8	225.5	61.9	189.8	36.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORT YATES 4 SW, ND US**

GHCND:USC00323207  
Elev: 1673 ft. Lat: 46.050° N Lon: 100.667° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.19	2.7	0.9	0.0	0.0	0.09	0.19	0.25
2	0.32	3.1	1.1	0.1	0.0	0.11	0.21	0.41
3	0.55	4.0	1.9	0.2	0.1	0.16	0.46	0.79
4	1.04	4.6	2.4	0.5	0.1	0.37	0.95	1.37
5	2.49	7.6	5.3	1.6	0.4	1.13	1.99	3.34
6	2.83	7.9	5.9	1.8	0.6	1.87	2.84	3.85
7	2.39	6.9	4.7	2.0	0.8	1.41	2.45	3.02
8	1.57	5.5	3.2	0.8	0.4	0.73	1.35	2.19
9	1.49	4.6	3.1	0.8	0.3	0.70	1.30	1.82
10	1.30	4.8	2.9	1.1	0.3	0.50	0.83	1.86
11	0.43	3.6	1.4	0.1	0.0	0.11	0.24	0.68
12	0.23	2.9	0.9	0.1	0.0	0.05	0.16	0.35
Summary	14.83	58.2	33.7	9.1	3.0	7.23	12.97	19.93

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www.ncdc.noaa.gov

Station: **FORT YATES 4 SW, ND US**

GHCND:USC00323207  
Elev: 1673 ft. Lat: 46.050° N Lon: 100.667° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.1	2.4	2.4	0.7	0.3	0.0	18.8	13.6	6.9	3.8	0.0	3.0	7.0
2	4.8	2.6	2.3	0.6	0.2	0.0	13.5	9.2	5.0	0.7	3.0	3.9	5.0
3	6.1	2.5	2.4	1.1	0.4	0.1	10.4	7.9	5.4	2.4	1.0	4.5	11.0
4	2.1	0.8	0.8	0.2	0.2	0.0	2.1	1.1	0.6	0.0	0.0	0.5	3.0
5	0.4	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.2	0.2	0.2	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0
11	3.8	2.1	2.0	1.0	0.3	0.0	6.9	4.3	2.5	0.6	0.0	2.5	6.0
12	6.0	3.0	2.9	0.6	0.2	0.1	16.6	11.1	7.0	1.8	1.5	6.0	6.8
Summary	28.6	13.8	13.2	4.4	1.7	0.2	68.7	47.4	27.4	9.3	5.5	20.4	38.8

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Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORT YATES 4 SW, ND US**

GHCND:USC00323207  
Elev: 1673 ft. Lat: 46.050° N Lon: 100.667° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	3	27	188	496	769	992	942	566	235	29	-7777
45	-7777	-7777	6	105	353	619	837	787	422	134	10	-7777
50	0	0	1	53	225	470	682	632	287	63	2	0
55	0	0	-7777	23	126	327	527	479	173	25	-7777	0
60	0	0	-7777	8	59	199	374	329	89	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	3	9	40	164	326	490	641	604	372	187	35	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	32	220	716	1485	2477	3419	3985	4220	4249	-7777
45	-7777	-7777	6	111	464	1083	1920	2707	3129	3263	3273	-7777
50	0	0	1	54	279	749	1431	2063	2350	2413	2415	2415
55	0	0	-7777	23	149	476	1003	1482	1655	1680	-7777	1680
60	0	0	-7777	8	67	266	640	969	1058	1065	-7777	1065
Growing Degree Units for Corn (Monthly)												
50/86	3	12	52	216	542	1032	1673	2277	2649	2836	2871	2874

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LEITH 13 SW, ND US**

GHCND:USC00325090  
Elev: 2270 ft. Lat: 46.177° N Lon: 101.670° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	@	@	@	@			
2	0.50	@	@	@	@			
3	0.88	@	@	@	@			
4	1.34	@	@	@	@			
5	2.61	@	@	@	@			
6	3.37	@	@	@	@			
7	2.57	@	@	@	@			
8	1.71	@	@	@	@			
9	1.44	@	@	@	@			
10	1.26	@	@	@	@			
11	0.65	@	@	@	@			
12	0.35	@	@	@	@			
Summary	17.04	9999	9999	9999	9999	9999	9999	9999

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Federal Building  
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Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HANSBORO 4 NNE, ND US**

GHCND:USC00323963

Elev: 1539 ft. Lat: 48.999° N Lon: 99.346° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.3	-4.8	6.7	7.8	7.7	7.6	0	0	0	0	0	0	1495	1558	1651	1806	0.0	0.0	0.1	25.1	31.0	18.5
2	23.4	0.3	11.9	6.9	8.2	7.4	0	0	0	0	0	0	1208	1264	1348	1488	0.0	0.0	0.4	19.4	27.8	14.0
3	34.8	13.5	24.2	5.8	6.2	5.9	-7777	-7777	-7777	0	0	0	956	1018	1111	1266	0.0	0.0	2.8	10.8	30.0	5.8
4	54.6	28.5	41.5	6.0	3.6	4.5	14	8	4	1	-7777	-7777	418	472	558	705	0.0	0.0	19.2	1.3	19.4	0.2
5	67.5	39.4	53.5	4.9	3.4	3.7	90	65	37	11	2	1	138	175	240	369	0.0	0.4	28.9	0.0	6.6	0.0
6	75.7	49.8	62.7	4.3	3.0	3.3	250	201	137	59	19	10	18	29	55	126	-7777	1.4	30.0	0.0	0.1	0.0
7	81.0	53.7	67.4	3.5	2.7	2.6	384	324	237	114	37	21	1	3	9	41	-7777	2.9	31.0	0.0	0.0	0.0
8	81.1	51.7	66.4	4.3	2.7	3.2	358	300	219	109	39	23	5	9	21	66	0.2	4.3	31.0	0.0	-7777	0.0
9	71.1	41.9	56.5	3.8	2.5	2.8	128	98	61	23	5	3	83	113	166	278	0.0	1.0	29.1	0.0	3.4	0.0
10	55.8	29.6	42.7	4.0	2.9	2.9	16	10	4	1	-7777	-7777	397	453	541	692	0.0	0.1	20.6	0.8	18.6	0.1
11	35.9	14.6	25.2	7.5	6.3	6.7	-7777	-7777	0	0	0	0	892	952	1042	1192	0.0	0.0	4.8	12.1	28.8	4.0
12	21.2	0.2	10.7	7.7	8.1	7.8	0	0	0	0	0	0	1373	1435	1528	1683	0.0	0.0	0.2	23.4	31.0	14.6
Summary	51.7	26.5	39.1	5.5	4.8	4.9	1240	1006	699	318	102	58	6984	7481	8270	9712	0.2	10.1	198.1	92.9	196.7	57.2

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Federal Building  
151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **HANSBORO 4 NNE, ND US**

GHCND:USC00323963

Elev: 1539 ft. Lat: 48.999° N Lon: 99.346° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.60	4.2	1.7	0.1	0.1	0.15	0.48	0.84
2	0.44	3.3	1.2	0.3	0.1	0.10	0.26	0.64
3	0.84	4.4	2.3	0.4	0.1	0.38	0.68	1.14
4	0.88	4.0	2.1	0.5	0.1	0.41	0.69	1.35
5	2.42	8.8	5.3	1.5	0.4	1.38	2.19	2.79
6	3.64	11.4	7.4	2.3	0.6	2.17	3.08	4.67
7	2.69	9.2	5.6	1.7	0.5	1.28	2.46	3.22
8	2.70	8.1	5.3	1.8	0.5	1.11	2.35	3.44
9	1.51	7.4	3.7	0.9	0.3	0.87	1.33	1.98
10	1.28	6.3	2.8	0.8	0.2	0.34	0.78	2.05
11	0.87	4.2	2.4	0.5	0.1	0.13	0.66	1.61
12	0.74	4.3	1.7	0.2	-7777	0.38	0.57	1.05
Summary	18.61	75.6	41.5	11.0	3.0	8.70	15.53	24.78

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Station: **HANSBORO 4 NNE, ND US**

GHCND:USC00323963

Elev: 1539 ft. Lat: 48.999° N Lon: 99.346° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.0	4.2	3.0	0.7	0.2	0.1	27.0	19.2	14.6	6.7	3.5	4.6	8.3
2	5.2	3.5	2.7	0.6	0.2	0.0	25.0	21.0	16.8	8.0	2.0	4.1	6.9
3	5.7	2.8	2.2	0.5	0.2	0.0	20.1	15.9	12.7	3.5	1.8	4.5	7.5
4	2.5	1.2	1.0	0.2	0.1	-7777	2.5	1.4	0.5	0.0	0.0	1.5	3.5
5	0.3	0.2	0.1	0.1	-7777	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.4	1.2	0.9	0.2	0.1	-7777	1.5	0.3	0.2	0.1	0.0	1.8	3.0
11	6.0	3.3	2.6	0.7	0.3	-7777	12.2	7.6	5.4	1.1	0.0	5.9	9.3
12	8.2	4.4	3.2	0.9	0.3	-7777	24.2	17.8	11.1	5.8	5.0	7.4	12.4
Summary	36.4	20.8	15.7	3.9	1.4	0.1	112.6	83.3	61.3	25.2	12.3	29.8	50.9

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151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HANSBORO 4 NNE, ND US**

GHCND:USC00323963

Elev: 1539 ft. Lat: 48.999° N Lon: 99.346° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	148	426	682	848	818	497	171	16	-7777
45	0	-7777	2	79	291	533	693	663	356	94	5	0
50	0	-7777	1	37	176	386	538	509	229	44	1	0
55	0	0	-7777	14	90	250	384	358	128	16	-7777	0
60	0	0	-7777	4	37	137	237	219	61	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	120	281	421	541	519	324	133	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	8	156	582	1264	2112	2930	3427	3598	3614	-7777
45	0	-7777	2	81	372	905	1598	2261	2617	2711	2716	2716
50	0	-7777	1	38	214	600	1138	1647	1876	1920	1921	1921
55	0	0	-7777	14	104	354	738	1096	1224	1240	-7777	1240
60	0	0	-7777	4	41	178	415	634	695	699	699	699
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	130	411	832	1373	1892	2216	2349	2367	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **JAMESTOWN 38 WSW, ND US**

GHCND:USW00054937  
Elev: 1919 ft. Lat: 46.770° N Lon: 99.478° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	0.7	10.3				0	0	0	0	0	0	1385	1447	1540	1696	0.0	0.0	0.0	26.4	31.0	14.7
2	25.3	5.1	15.2				0	0	0	0	0	0	1113	1170	1254	1394	0.0	0.0	0.0	23.4	28.0	8.7
3	35.4	18.3	26.9				-7777	0	0	0	0	0	872	934	1027	1182	0.0	0.0	3.5	12.5	27.5	3.0
4	54.1	30.0	42.1				2	1	-7777	0	0	0	391	450	539	689	0.0	0.0	20.5	0.0	17.0	0.0
5	67.1	42.3	54.7				76	49	18	2	-7777	0	86	121	183	322	0.0	0.0	31.0	0.0	1.0	0.0
6	73.9	52.4	63.2				250	195	119	29	3	-7777	5	11	25	85	0.0	0.0	30.0	0.0	0.0	0.0
7	80.9	57.0	69.0				431	369	277	137	37	18	-7777	-7777	-7777	14	0.0	1.5	31.0	0.0	0.0	0.0
8	80.2	54.9	67.6				388	329	244	121	44	23	1	4	11	43	0.0	2.0	31.0	0.0	0.0	0.0
9	69.5	44.5	57.0				125	93	55	18	4	2	66	93	146	259	0.0	0.0	29.7	0.0	0.7	0.0
10	54.9	32.5	43.7				17	12	6	1	0	0	368	425	512	661	0.0	0.0	18.0	0.0	14.3	0.0
11	37.5	18.4	28.0				-7777	-7777	0	0	0	0	812	872	962	1112	0.0	0.0	5.3	9.3	29.3	1.7
12	22.6	4.3	13.5				0	0	0	0	0	0	1285	1348	1441	1597	0.0	0.0	0.0	25.7	31.0	10.2
Summary	51.8	30.0	40.9	9999	9999	9999	1289	1048	719	308	88	43	6384	6875	7640	9054	0.0	3.5	200.0	97.3	179.8	38.3

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **JAMESTOWN 38 WSW, ND US**

GHCND:USW00054937  
Elev: 1919 ft. Lat: 46.770° N Lon: 99.478° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	20	134	455	694	896	852	511	172	12	-7777
45	0	-7777	4	49	306	544	741	697	367	93	2	-7777
50	0	0	-7777	11	172	394	586	542	233	43	-7777	0
55	0	0	-7777	2	76	250	431	388	125	17	-7777	0
60	0	0	0	-7777	18	119	277	244	55	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	11	103	272	412	582	543	309	118	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	20	154	609	1303	2199	3051	3562	3734	3746	-7777
45	0	-7777	4	53	359	903	1644	2341	2708	2801	2803	-7777
50	0	0	-7777	11	183	577	1163	1705	1938	1981	-7777	1981
55	0	0	-7777	2	78	328	759	1147	1272	1289	-7777	1289
60	0	0	0	-7777	18	137	414	658	713	719	719	719
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	11	114	386	798	1380	1923	2232	2350	2365	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GARRISON, ND US**

GHCND:USW00094041  
Elev: 1909 ft. Lat: 47.646° N Lon: 101.439° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.0	0.9	11.0	7.6	8.0	7.7	0	0	0	0	0	0	1365	1427	1520	1675	0.0	0.0	0.1	23.3	30.9	14.2
2	24.9	5.6	15.2	7.0	8.1	7.4	0	0	0	0	0	0	1113	1169	1253	1393	0.0	0.0	0.3	19.4	27.4	9.6
3	36.6	18.0	27.3	6.2	4.8	5.2	-7777	-7777	0	0	0	0	858	920	1013	1168	0.0	0.0	4.7	10.4	29.0	2.8
4	53.6	29.9	41.8	5.3	2.6	3.7	8	4	2	-7777	0	0	406	462	549	698	0.0	0.0	18.5	1.6	17.6	0.1
5	65.9	41.8	53.9	2.9	3.3	2.7	82	56	27	6	1	-7777	117	153	218	352	0.0	0.1	29.0	0.0	3.3	0.0
6	73.5	50.8	62.2	3.0	3.3	2.9	227	176	110	36	7	3	13	22	45	122	0.0	0.6	29.8	0.0	0.0	0.0
7	80.4	55.0	67.7	4.4	2.4	3.3	394	334	248	123	42	24	1	2	9	40	0.2	3.0	31.0	0.0	0.0	0.0
8	81.7	54.4	68.0	4.0	3.0	3.4	406	346	261	140	55	35	2	4	12	46	0.4	4.7	31.0	0.0	0.0	0.0
9	70.1	44.4	57.3	3.8	2.2	2.8	144	110	70	27	7	4	76	103	152	260	0.0	1.4	29.1	0.0	1.5	0.0
10	55.0	32.1	43.5	4.0	2.3	2.9	16	10	4	-7777	-7777	0	371	427	514	665	0.0	0.0	20.1	1.4	14.6	0.0
11	36.6	18.3	27.5	7.2	5.2	6.0	-7777	-7777	0	0	0	0	826	886	976	1126	0.0	0.0	5.6	11.2	27.6	2.1
12	23.9	4.7	14.3	7.3	7.8	7.4	0	0	0	0	0	0	1261	1323	1416	1571	0.0	0.0	0.1	20.9	31.0	11.3
Summary	51.9	29.7	40.8	5.2	4.4	4.6	1277	1036	722	332	112	66	6409	6898	7677	9116	0.6	9.8	199.3	88.2	182.9	40.1

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GARRISON, ND US**

GHCND:USW00094041  
Elev: 1909 ft. Lat: 47.646° N Lon: 101.439° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	@	@	@	@			
2	0.38	@	@	@	@			
3	0.77	@	@	@	@			
4	1.25	@	@	@	@			
5	2.52	@	@	@	@			
6	3.37	@	@	@	@			
7	2.63	@	@	@	@			
8	1.94	@	@	@	@			
9	1.31	@	@	@	@			
10	1.12	@	@	@	@			
11	0.70	@	@	@	@			
12	0.59	@	@	@	@			
Summary	17.07	9999	9999	9999	9999	9999	9999	9999

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GARRISON, ND US**

GHCND:USW00094041  
Elev: 1909 ft. Lat: 47.646° N Lon: 101.439° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	145	435	664	858	869	520	182	20	-7777
45	0	-7777	4	74	295	515	704	714	378	99	6	0
50	0	0	1	28	173	367	549	559	248	46	1	0
55	0	0	-7777	8	82	227	394	406	144	16	-7777	0
60	0	0	0	2	27	110	248	261	70	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	15	108	257	391	543	549	313	125	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	161	596	1260	2118	2987	3507	3689	3709	-7777
45	0	-7777	4	78	373	888	1592	2306	2684	2783	2789	2789
50	0	0	1	29	202	569	1118	1677	1925	1971	1972	1972
55	0	0	-7777	8	90	317	711	1117	1261	1277	-7777	1277
60	0	0	0	2	29	139	387	648	718	722	722	722
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	16	124	381	772	1315	1864	2177	2302	2320	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TAGUS, ND US**

GHCND:USC00328627

Elev: 2169 ft. Lat: 48.348° N Lon: 101.932° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.59	5.3	1.9	0.1	0.0	0.34	0.47	0.82
2	0.41	4.4	1.2	0.1	0.0	0.22	0.31	0.49
3	0.79	5.5	2.4	0.2	0.1	0.30	0.73	0.91
4	1.04	5.6	3.2	0.5	0.1	0.42	0.84	1.32
5	2.14	8.0	5.5	1.3	0.3	1.22	1.96	2.69
6	3.19	9.3	7.1	2.1	0.7	1.97	2.95	4.34
7	2.69	7.6	5.4	1.9	0.5	1.40	2.54	2.93
8	1.64	6.5	4.1	1.0	0.3	0.95	1.50	2.17
9	1.51	6.1	3.5	0.9	0.2	0.75	1.60	2.00
10	1.16	4.9	2.8	0.5	0.2	0.37	0.64	1.61
11	0.66	4.2	2.2	0.2	0.0	0.25	0.54	0.95
12	0.52	5.5	1.4	0.1	0.0	0.25	0.46	0.72
Summary	16.34	72.9	40.7	8.9	2.4	8.44	14.54	20.95

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Data derived from 1981-2010 normals.

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TAGUS, ND US**

GHCND:USC00328627  
Elev: 2169 ft. Lat: 48.348° N Lon: 101.932° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.6	4.6	4.0	1.0	0.3	0.0	28.3	23.3	17.0	9.6	4.4	6.7	10.9
2	5.5	3.6	2.7	0.6	0.2	0.0	22.5	19.3	15.3	7.5	2.8	3.7	7.3
3	8.0	3.9	3.5	1.1	0.3	-7777	17.4	12.7	9.1	5.2	6.0	8.0	10.9
4	4.8	2.3	2.0	0.6	0.2	0.1	3.1	2.1	1.2	0.5	1.0	3.0	7.0
5	1.9	0.7	0.7	0.2	0.1	-7777	0.4	0.1	-7777	0.0	0.0	0.0	4.0
6	-7777	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	3.9	1.3	1.3	0.5	0.2	0.1	2.2	0.9	0.7	0.2	0.0	2.0	5.0
11	6.4	3.2	2.8	0.8	0.3	0.0	11.5	8.5	5.0	1.2	2.0	5.9	10.5
12	8.0	4.8	3.8	0.8	0.2	0.1	25.6	19.3	11.9	3.7	3.7	6.8	10.0
Summary	47.4	24.6	20.9	5.7	1.8	0.3	111.1	86.2	60.2	27.9	19.9	36.1	65.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **PRETTY ROCK, ND US**

GHCND:USC00327311  
Elev: 2480 ft. Lat: 46.176° N Lon: 101.856° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.6	6.0	16.3	7.4	7.4	7.3	0	0	0	0	0	0	1200	1262	1355	1510	0.0	0.0	1.1	18.0	30.4	10.3
2	31.1	10.3	20.7	7.9	7.4	7.5	0	0	0	0	0	0	960	1016	1100	1240	0.0	0.0	3.0	14.3	26.9	7.0
3	42.0	19.8	30.9	6.5	4.7	5.3	1	-7777	-7777	0	0	0	748	809	902	1057	0.0	0.0	9.3	7.9	27.4	2.3
4	57.5	30.4	43.9	5.1	2.8	3.7	21	14	7	1	-7777	-7777	352	405	488	633	0.0	0.2	21.9	1.1	16.6	-7777
5	68.4	41.8	55.1	3.8	2.5	2.8	107	77	44	13	3	1	104	136	196	320	0.0	0.4	29.6	0.0	4.0	0.0
6	77.2	51.1	64.1	4.3	3.0	3.4	285	232	162	76	29	18	10	18	38	102	0.3	2.5	29.9	0.0	-7777	0.0
7	85.4	56.5	70.9	5.0	2.6	3.6	495	433	343	207	100	69	-7777	1	4	22	1.7	9.4	31.0	0.0	0.0	0.0
8	84.7	54.9	69.8	3.9	2.7	3.2	460	400	313	184	85	57	2	3	9	35	0.7	8.7	31.0	0.0	0.1	0.0
9	73.6	44.4	59.0	4.1	2.6	3.1	180	142	94	41	13	8	60	82	124	221	0.1	2.3	29.1	0.0	2.2	0.0
10	58.2	32.5	45.4	3.9	2.6	2.9	27	17	8	1	-7777	-7777	326	378	462	611	0.0	0.1	22.8	0.9	14.1	0.1
11	40.3	19.3	29.8	7.6	4.5	5.8	-7777	-7777	-7777	0	0	0	756	816	906	1056	0.0	0.0	7.6	8.3	26.7	1.9
12	28.2	8.1	18.1	8.2	7.3	7.6	0	0	0	0	0	0	1142	1204	1297	1452	0.0	0.0	1.6	16.7	30.4	8.4
Summary	56.1	31.3	43.7	5.6	4.2	4.7	1576	1315	971	523	230	153	5660	6130	6881	8259	2.8	23.6	217.9	67.2	178.8	30.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PRETTY ROCK, ND US**

GHCND:USC00327311  
Elev: 2480 ft. Lat: 46.176° N Lon: 101.856° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.29	3.9	0.9	-7777	0.0	0.08	0.30	0.44
2	0.45	4.0	1.3	0.1	-7777	0.14	0.26	0.39
3	0.91	6.1	2.4	0.4	0.2	0.36	0.76	1.20
4	1.50	7.0	4.0	0.9	0.2	0.63	1.22	2.00
5	2.55	8.7	5.2	1.6	0.7	1.41	2.33	3.46
6	2.99	10.0	6.3	1.8	0.5	1.65	3.09	4.02
7	2.20	8.1	4.8	1.4	0.3	0.96	2.06	2.91
8	1.75	6.0	3.5	0.9	0.4	0.95	1.31	2.54
9	1.46	5.7	3.4	0.8	0.3	0.62	0.98	2.29
10	1.24	5.9	3.0	0.6	0.2	0.42	0.87	1.49
11	0.60	4.5	1.5	0.2	0.1	0.12	0.50	0.79
12	0.30	4.3	0.9	-7777	0.0	0.11	0.24	0.50
Summary	16.24	74.2	37.2	8.7	2.9	7.45	13.92	22.03

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www.ncdc.noaa.gov

Station: **PRETTY ROCK, ND US**

GHCND:USC00327311  
Elev: 2480 ft. Lat: 46.176° N Lon: 101.856° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.4	5.7	2.3	0.7	0.3	0.0	21.1	14.4	10.9	4.3	2.4	5.7	10.4
2	7.5	5.6	2.5	1.1	0.2	-7777	17.4	10.2	7.6	2.5	4.3	6.1	7.8
3	9.8	5.7	3.2	1.2	0.5	0.1	12.8	8.5	6.2	2.2	4.4	8.6	13.9
4	6.9	2.8	1.8	1.0	0.5	-7777	3.7	2.1	1.3	0.5	1.5	7.2	11.5
5	1.1	0.5	0.4	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.0
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.5	0.1	0.1	0.1	-7777	-7777	0.2	0.1	0.1	0.0	0.0	0.0	0.0
10	3.1	1.5	0.9	0.4	0.2	-7777	1.3	0.5	0.2	0.1	0.0	1.1	4.0
11	7.7	4.7	2.8	1.0	0.4	-7777	10.2	6.4	3.8	1.1	1.0	5.2	11.7
12	7.3	6.1	2.5	0.7	0.2	0.0	17.0	11.0	7.6	3.8	3.1	6.1	10.6
Summary	50.3	32.7	16.5	6.4	2.4	0.1	83.8	53.2	37.7	14.5	16.7	40.0	70.9

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1981-2010**

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Station: **PRETTY ROCK, ND US**

GHCND:USC00327311  
Elev: 2480 ft. Lat: 46.176° N Lon: 101.856° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	6	38	190	472	725	959	923	572	229	34	2
45	1	1	14	106	330	575	804	769	429	133	13	-7777
50	-7777	-7777	4	51	204	426	649	614	295	66	3	-7777
55	0	0	1	21	107	285	495	460	180	27	-7777	0
60	0	0	-7777	7	44	162	343	313	94	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	4	8	39	148	296	447	611	588	364	163	33	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	3	9	47	237	709	1434	2393	3316	3888	4117	4151	4153
45	1	2	16	122	452	1027	1831	2600	3029	3162	3175	-7777
50	-7777	-7777	4	55	259	685	1334	1948	2243	2309	2312	-7777
55	0	0	1	22	129	414	909	1369	1549	1576	-7777	1576
60	0	0	-7777	7	51	213	556	869	963	971	-7777	971
Growing Degree Units for Corn (Monthly)												
50/86	4	12	51	199	495	942	1553	2141	2505	2668	2701	2704

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: EDMUNDS ARROWWOOD RE, ND US

GHCND:USC00322536

Elev: 1460 ft. Lat: 47.265° N Lon: 98.858° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.3	1.8	11.5	7.8	8.3	7.9	0	0	0	0	0	0	1347	1409	1502	1657	0.0	0.0	0.1	22.5	30.5	14.2
2	26.8	7.6	17.2	7.0	7.7	7.2	0	0	0	0	0	0	1058	1114	1198	1338	0.0	0.0	0.9	16.9	27.4	9.3
3	39.0	19.3	29.1	5.8	5.1	5.1	1	-7777	-7777	0	0	0	802	864	956	1111	0.0	0.0	5.8	8.0	28.1	2.3
4	57.1	31.9	44.5	5.1	3.1	3.9	26	18	9	2	-7777	-7777	341	393	474	617	0.0	0.1	21.6	0.9	15.3	0.0
5	69.8	44.0	56.9	3.8	3.0	3.1	140	105	63	20	4	2	81	108	159	271	0.0	0.4	30.1	0.0	2.7	0.0
6	77.8	53.5	65.6	4.1	3.0	3.4	325	270	194	96	35	22	5	10	25	76	0.1	2.3	30.0	0.0	0.1	0.0
7	83.6	58.5	71.1	3.7	2.3	2.7	497	436	345	202	88	56	-7777	-7777	2	14	0.6	5.4	31.0	0.0	0.0	0.0
8	82.9	55.8	69.4	3.6	2.6	2.9	447	386	299	168	71	45	2	4	9	33	0.3	6.2	31.0	0.0	-7777	0.0
9	73.0	46.1	59.6	3.2	2.8	2.6	187	147	98	43	13	7	50	71	112	206	0.1	1.1	29.8	0.0	1.5	0.0
10	58.9	33.9	46.4	4.2	3.4	3.2	32	21	11	2	-7777	-7777	299	350	432	579	0.0	-7777	23.9	0.7	13.1	0.0
11	39.7	19.8	29.7	7.0	5.4	5.8	1	-7777	-7777	0	0	0	758	818	907	1057	0.0	0.0	7.4	9.5	25.8	1.7
12	25.0	6.7	15.9	7.5	7.3	7.2	0	0	0	0	0	0	1213	1276	1369	1524	0.0	0.0	0.4	19.7	30.6	10.2
Summary	54.6	31.6	43.1	5.2	4.5	4.6	1656	1383	1019	533	211	132	5956	6417	7145	8483	1.1	15.5	212.0	78.2	175.1	37.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **EDMUNDS ARROWWOOD RE, ND US**

GHCND:USC00322536  
Elev: 1460 ft. Lat: 47.265° N Lon: 98.858° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	18	202	526	769	962	909	587	247	33	1
45	-7777	-7777	5	116	381	619	807	755	442	146	12	-7777
50	0	-7777	2	58	248	470	652	600	305	75	3	0
55	0	0	1	26	140	325	497	447	187	32	1	0
60	0	0	-7777	9	63	194	345	299	98	11	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	18	145	324	481	629	586	365	168	29	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	21	223	749	1518	2480	3389	3976	4223	4256	4257
45	-7777	-7777	5	121	502	1121	1928	2683	3125	3271	3283	-7777
50	0	-7777	2	60	308	778	1430	2030	2335	2410	2413	2413
55	0	0	1	27	167	492	989	1436	1623	1655	1656	1656
60	0	0	-7777	9	72	266	611	910	1008	1019	-7777	1019
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	165	489	970	1599	2185	2550	2718	2747	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data



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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CROSBY, ND US**

GHCND:USC00321871  
Elev: 1952 ft. Lat: 48.908° N Lon: 103.294° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.2	1.1	10.2	7.8	8.7	8.2	0	0	0	0	0	0	1390	1452	1545	1700	0.0	0.0	0.1	23.4	30.8	14.3
2	24.8	6.2	15.5	7.7	8.2	7.8	0	0	0	0	0	0	1106	1162	1246	1386	0.0	0.0	0.5	17.5	27.4	9.5
3	37.4	17.9	27.7	6.9	5.7	6.2	-7777	-7777	-7777	0	0	0	848	910	1003	1158	0.0	0.0	5.4	9.6	28.5	3.6
4	56.6	30.4	43.5	4.8	3.0	3.7	16	10	5	1	-7777	-7777	361	415	500	646	0.0	0.1	21.1	0.9	16.9	0.2
5	68.1	41.6	54.9	3.7	2.6	3.0	105	76	44	14	4	2	109	143	204	329	0.0	0.4	29.7	0.0	3.8	0.0
6	76.2	51.2	63.7	4.5	3.0	3.6	273	221	154	71	27	17	12	21	43	110	0.3	2.2	29.9	0.0	-7777	0.0
7	82.1	56.0	69.1	4.2	2.3	3.1	436	375	285	153	61	38	1	1	5	28	0.5	4.9	31.0	0.0	0.0	0.0
8	81.3	54.1	67.7	4.2	2.8	3.2	397	337	253	135	55	34	3	6	15	51	0.4	5.1	31.0	0.0	-7777	0.0
9	69.4	43.8	56.6	4.7	2.3	3.2	130	99	62	23	6	3	82	111	164	275	0.0	0.9	28.7	0.0	2.0	0.0
10	54.2	31.9	43.0	3.9	2.5	2.9	15	9	4	1	-7777	-7777	385	441	529	681	0.0	0.0	19.9	1.5	15.0	0.1
11	35.2	17.7	26.5	7.2	5.6	6.2	-7777	-7777	0	0	0	0	856	916	1006	1156	0.0	0.0	4.5	11.5	27.2	2.9
12	21.5	4.3	12.9	7.7	7.3	7.4	0	0	0	0	0	0	1305	1367	1460	1615	0.0	0.0	-7777	22.3	30.8	11.3
Summary	52.2	29.7	40.9	5.6	4.5	4.9	1372	1127	807	398	153	94	6458	6945	7720	9135	1.2	13.6	201.8	86.7	182.4	41.9

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www.ncdc.noaa.gov

Station: **CROSBY, ND US**

GHCND:USC00321871  
Elev: 1952 ft. Lat: 48.908° N Lon: 103.294° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	5.9	2.1	-7777	0.0	0.23	0.38	0.85
2	0.35	3.8	1.0	0.1	0.0	0.10	0.25	0.33
3	0.58	5.1	1.9	0.1	-7777	0.25	0.55	0.91
4	0.85	5.4	2.7	0.3	-7777	0.47	0.67	1.18
5	2.11	8.8	5.6	1.0	0.2	1.22	1.81	2.92
6	2.87	11.0	6.9	1.6	0.4	1.93	2.56	3.43
7	2.79	9.0	5.7	1.8	0.7	1.52	2.72	3.78
8	1.61	6.9	3.9	1.0	0.2	0.90	1.36	2.19
9	1.29	6.1	3.5	0.8	0.1	0.72	1.18	1.71
10	1.04	5.6	3.0	0.5	0.1	0.42	1.03	1.37
11	0.44	4.5	1.6	0.2	-7777	0.24	0.34	0.57
12	0.44	5.6	1.8	-7777	0.0	0.32	0.43	0.60
Summary	14.92	77.7	39.7	7.4	1.7	8.32	13.28	19.84

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Station: **CROSBY, ND US**

GHCND:USC00321871  
Elev: 1952 ft. Lat: 48.908° N Lon: 103.294° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.3	5.6	3.6	0.8	0.4	0.0	24.5	19.0	14.8	7.1	4.2	5.9	10.0
2	4.4	3.5	1.9	0.3	0.2	-7777	19.9	15.7	12.2	6.0	1.8	3.9	6.4
3	5.3	3.4	2.1	0.5	0.2	0.0	15.1	11.1	8.9	4.4	1.3	4.9	6.5
4	3.0	1.2	0.9	0.4	0.1	0.0	2.2	1.5	0.8	0.2	0.0	2.1	5.0
5	0.9	0.3	0.3	0.1	0.1	0.0	0.2	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.5	1.2	1.1	0.3	0.1	0.0	1.5	0.5	0.1	0.0	0.0	2.2	4.5
11	5.1	3.2	2.0	0.8	0.3	0.0	8.9	5.3	3.1	0.8	1.0	3.9	7.9
12	8.3	5.2	3.4	0.7	0.1	0.0	21.9	15.0	7.9	2.1	4.8	8.2	11.4
Summary	37.8	23.6	15.3	3.9	1.5	0.0	94.2	68.2	47.8	20.6	13.1	31.1	51.7

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CROSBY, ND US**

GHCND:USC00321871  
Elev: 1952 ft. Lat: 48.908° N Lon: 103.294° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	21	180	466	711	900	858	501	178	17	-7777
45	0	-7777	7	98	324	561	745	704	361	96	6	0
50	0	-7777	2	45	200	413	590	549	233	42	1	0
55	0	0	-7777	16	105	273	436	397	130	15	-7777	0
60	0	0	-7777	5	44	154	285	253	62	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	20	137	290	431	571	541	303	118	13	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	22	202	668	1379	2279	3137	3638	3816	3833	-7777
45	0	-7777	7	105	429	990	1735	2439	2800	2896	2902	2902
50	0	-7777	2	47	247	660	1250	1799	2032	2074	2075	2075
55	0	0	-7777	16	121	394	830	1227	1357	1372	-7777	1372
60	0	0	-7777	5	49	203	488	741	803	807	807	807
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	21	158	448	879	1450	1991	2294	2412	2425	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LARIMORE, ND US**

GHCND:USC00325013

Elev: 1152 ft. Lat: 47.874° N Lon: 97.711° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.5	-3.6	6.5	7.1	8.2	7.5	0	0	0	0	0	0	1505	1567	1660	1815	0.0	0.0	0.1	26.4	30.9	17.9
2	22.1	1.6	11.9	7.0	8.4	7.5	0	0	0	0	0	0	1208	1264	1348	1488	0.0	0.0	0.3	20.4	27.6	13.8
3	34.1	14.9	24.5	5.5	4.9	5.0	-7777	-7777	-7777	0	0	0	945	1007	1100	1255	0.0	0.0	2.7	11.7	29.5	4.9
4	53.2	28.9	41.1	5.0	3.1	3.8	16	10	5	1	-7777	0	435	489	574	720	0.0	0.0	17.1	1.6	20.2	0.0
5	66.7	41.7	54.2	3.8	3.5	3.5	108	80	47	16	4	2	133	167	227	351	0.0	0.4	28.3	0.0	4.4	0.0
6	75.7	52.3	64.0	3.5	2.7	3.0	282	230	160	74	25	15	12	20	40	104	0.0	1.8	30.0	0.0	0.0	0.0
7	80.1	56.5	68.3	3.1	2.5	2.5	413	353	265	136	49	28	1	2	7	34	0.1	2.4	31.0	0.0	0.0	0.0
8	79.9	54.2	67.0	3.7	2.8	3.1	377	318	235	117	40	24	4	7	17	53	-7777	2.5	31.0	0.0	0.0	0.0
9	69.6	43.5	56.6	3.6	2.9	3.0	128	97	59	21	4	2	81	110	163	274	0.0	0.4	29.2	0.0	1.8	0.0
10	54.6	31.2	42.9	3.9	3.4	3.0	17	11	5	1	-7777	-7777	392	448	536	687	0.0	-7777	20.1	1.0	17.2	0.0
11	35.5	17.4	26.4	6.9	6.3	6.4	-7777	-7777	0	0	0	0	857	916	1006	1156	0.0	0.0	4.3	12.5	27.4	2.3
12	20.9	3.2	12.0	7.1	7.4	7.1	0	0	0	0	0	0	1331	1393	1486	1641	0.0	0.0	0.0	24.0	31.0	12.3
Summary	50.7	28.5	39.6	5.0	4.7	4.6	1341	1099	776	366	122	71	6904	7390	8164	9578	0.1	7.5	194.1	97.6	190.0	51.2

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LARIMORE, ND US**

GHCND:USC00325013  
Elev: 1152 ft. Lat: 47.874° N Lon: 97.711° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	9	141	449	720	877	838	498	174	20	-7777
45	0	-7777	2	78	315	570	722	683	357	95	8	0
50	0	0	-7777	38	198	422	567	529	230	44	2	0
55	0	0	-7777	16	108	282	413	377	128	17	-7777	0
60	0	0	-7777	5	47	160	265	235	59	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	107	276	437	560	531	304	118	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	10	151	600	1320	2197	3035	3533	3707	3727	-7777
45	0	-7777	2	80	395	965	1687	2370	2727	2822	2830	2830
50	0	0	-7777	38	236	658	1225	1754	1984	2028	2030	2030
55	0	0	-7777	16	124	406	819	1196	1324	1341	-7777	1341
60	0	0	-7777	5	52	212	477	712	771	776	776	776
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	10	117	393	830	1390	1921	2225	2343	2359	-7777

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **VELVA, ND US**

GHCND:USC00328990  
Elev: 1535 ft. Lat: 48.080° N Lon: 100.875° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.7	-3.3	8.7	8.0	8.9	8.4	0	0	0	0	0	0	1435	1497	1590	1745	0.0	0.0	0.2	22.4	30.9	16.7
2	25.6	2.4	14.0	7.3	8.2	7.7	0	0	0	0	0	0	1148	1204	1288	1428	0.0	0.0	0.8	17.7	27.5	12.3
3	37.7	14.5	26.1	6.6	5.1	5.7	-7777	-7777	-7777	0	0	0	896	958	1051	1206	0.0	0.0	5.8	9.9	30.0	4.4
4	55.8	26.7	41.3	5.7	3.3	4.2	15	10	5	1	-7777	-7777	428	482	568	714	0.0	-7777	20.1	1.5	21.2	0.3
5	67.8	39.6	53.7	3.2	3.5	3.1	93	67	37	11	2	1	134	169	233	361	0.0	0.2	29.1	-7777	6.7	0.0
6	74.9	49.7	62.3	3.9	3.2	3.3	237	189	127	53	18	12	18	30	58	134	0.1	1.4	30.0	0.0	0.2	0.0
7	81.4	54.4	67.9	4.0	2.5	2.9	401	342	255	130	51	32	2	4	11	40	0.4	4.2	31.0	0.0	0.0	0.0
8	80.9	51.9	66.4	4.5	2.7	3.4	360	303	223	113	44	27	7	12	25	70	0.3	4.7	31.0	0.0	0.1	0.0
9	69.4	41.6	55.5	4.7	2.5	3.0	113	84	51	18	5	3	98	129	186	303	0.0	1.1	28.9	0.0	3.4	0.0
10	56.6	29.0	42.8	4.1	2.3	2.7	16	10	4	1	-7777	0	394	450	538	689	0.0	0.1	21.2	0.9	19.4	-7777
11	37.9	15.2	26.6	7.2	6.0	6.3	-7777	-7777	0	0	0	0	854	913	1003	1153	0.0	0.0	6.2	10.3	28.8	3.5
12	24.3	2.0	13.2	7.6	7.4	7.4	0	0	0	0	0	0	1297	1359	1452	1607	0.0	0.0	0.5	20.4	30.9	13.6
Summary	52.8	27.0	39.9	5.6	4.6	4.8	1235	1005	702	327	120	75	6711	7207	8003	9450	0.8	11.7	204.8	83.1	199.1	50.8

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VELVA, ND US**

GHCND:USC00328990

Elev: 1535 ft. Lat: 48.080° N Lon: 100.875° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	3.4	2.5	0.3	-7777	0.29	0.53	0.91
2	0.46	2.6	1.8	0.2	0.0	0.20	0.42	0.57
3	0.82	3.0	2.5	0.4	0.2	0.26	0.69	1.07
4	1.26	3.8	2.9	0.7	0.2	0.57	0.98	1.66
5	2.41	6.6	5.3	1.6	0.5	1.50	2.23	2.86
6	3.62	8.9	7.5	2.6	0.9	2.50	3.71	4.69
7	3.04	6.9	5.9	1.9	0.8	1.97	2.55	3.60
8	2.00	5.3	4.2	1.0	0.5	1.11	1.71	2.87
9	1.48	4.7	3.9	0.9	0.3	1.07	1.48	1.85
10	1.46	3.4	2.8	1.0	0.2	0.37	0.87	2.18
11	1.08	3.0	2.5	0.7	0.3	0.20	0.49	1.66
12	0.57	3.2	2.6	0.2	0.1	0.26	0.41	0.68
Summary	18.81	54.8	44.4	11.5	4.0	10.30	16.07	24.60

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VELVA, ND US**

GHCND:USC00328990

Elev: 1535 ft. Lat: 48.080° N Lon: 100.875° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.6	3.5	3.1	1.2	0.5	0.1	@	@	@	@	4.3	7.8	19.2
2	5.2	2.6	2.0	0.5	0.2	0.0	@	@	@	@	2.0	4.4	6.7
3	5.7	2.1	1.9	0.6	0.4	0.1	@	@	@	@	0.5	3.0	9.5
4	3.4	1.0	0.9	0.5	0.3	0.1	@	@	@	@	0.0	1.0	5.0
5	0.5	0.2	0.2	0.1	0.1	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.4	0.6	0.5	0.4	0.2	-7777	@	@	@	@	0.0	0.0	5.0
11	5.5	2.2	1.7	0.9	0.3	0.1	@	@	@	@	0.1	3.1	5.5
12	8.4	3.4	2.8	1.0	0.3	-7777	@	@	@	@	3.5	8.0	10.3
Summary	41.7	15.6	13.1	5.2	2.3	0.4	9999	9999	9999	9999	10.4	27.3	61.2

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **VELVA, ND US**

GHCND:USC00328990  
Elev: 1535 ft. Lat: 48.080° N Lon: 100.875° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	14	147	433	669	864	818	469	172	19	-7777
45	-7777	-7777	5	77	297	519	710	663	330	93	6	-7777
50	0	0	1	36	181	372	555	509	207	43	1	0
55	0	0	-7777	15	93	237	401	360	113	16	-7777	0
60	0	0	-7777	5	37	127	255	223	51	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	134	286	408	547	514	299	143	25	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	162	595	1264	2128	2946	3415	3587	3606	-7777
45	-7777	-7777	5	82	379	898	1608	2271	2601	2694	2700	-7777
50	0	0	1	37	218	590	1145	1654	1861	1904	1905	1905
55	0	0	-7777	15	108	345	746	1106	1219	1235	-7777	1235
60	0	0	-7777	5	42	169	424	647	698	702	702	702
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	20	154	440	848	1395	1909	2208	2351	2376	2377

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

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National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MAYVILLE, ND US**

GHCND:USC00325660

Elev: 945 ft. Lat: 47.499° N Lon: 97.351° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	16.3	-2.8	6.8	7.3	7.9	7.5	0	0	0	0	0	0	1495	1557	1650	1805	0.0	0.0	0.0	27.1	31.0	17.2
2	22.6	1.7	12.1	6.6	7.3	6.9	0	0	0	0	0	0	1200	1256	1340	1480	0.0	0.0	0.1	20.3	27.9	12.9
3	34.6	15.0	24.8	5.1	5.4	5.1	-7777	0	0	0	0	0	936	998	1091	1246	0.0	0.0	2.7	11.9	30.0	4.2
4	54.8	29.7	42.3	5.1	2.6	3.6	14	9	4	1	-7777	-7777	397	452	537	683	0.0	0.0	19.6	1.4	18.6	0.0
5	68.2	42.3	55.3	4.0	3.5	3.4	113	83	49	16	3	1	106	138	196	318	0.0	0.6	29.4	0.0	3.4	0.0
6	76.6	53.8	65.2	3.4	3.0	3.0	313	259	184	85	29	16	8	13	28	80	0.0	1.6	29.9	0.0	0.0	0.0
7	81.4	57.7	69.6	3.9	2.3	2.8	451	390	300	161	61	37	-7777	1	4	21	0.0	2.7	31.0	0.0	0.0	0.0
8	80.3	55.0	67.7	3.4	2.6	2.9	393	333	247	127	48	28	1	3	10	45	0.1	3.1	31.0	0.0	0.0	0.0
9	70.4	44.7	57.5	3.4	2.0	2.5	144	110	70	27	8	4	68	94	143	251	0.1	1.0	29.4	0.0	1.9	0.0
10	55.4	32.3	43.9	3.6	3.3	2.8	16	10	4	-7777	0	0	361	417	505	656	0.0	0.0	21.0	0.6	15.8	0.0
11	36.2	17.7	27.0	6.7	5.3	5.8	-7777	0	0	0	0	0	841	901	991	1141	0.0	0.0	4.7	11.0	27.4	2.4
12	21.1	3.4	12.2	7.4	8.7	7.9	0	0	0	0	0	0	1325	1387	1480	1635	0.0	0.0	0.1	24.7	30.7	12.3
Summary	51.5	29.2	40.4	5.0	4.5	4.5	1444	1194	858	417	149	86	6738	7217	7975	9361	0.2	9.0	198.9	97.0	186.7	49.0

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MAYVILLE, ND US**

GHCND:USC00325660

Elev: 945 ft. Lat: 47.499° N Lon: 97.351° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.69	5.1	2.0	0.2	0.0	0.32	0.71	0.99
2	0.56	5.4	2.1	0.1	0.0	0.26	0.52	0.79
3	1.06	6.1	3.4	0.7	0.1	0.53	0.89	1.41
4	1.18	5.6	3.5	0.5	0.1	0.59	1.02	1.53
5	2.69	10.3	6.5	1.4	0.7	1.69	2.51	3.48
6	3.75	11.6	7.1	2.5	1.3	1.86	3.05	4.89
7	4.62	9.1	6.2	2.3	0.9	2.04	4.02	6.09
8	3.19	8.9	5.4	1.8	0.9	2.15	2.83	4.30
9	2.39	8.2	5.3	1.7	0.4	1.32	2.47	3.30
10	2.23	8.3	4.9	1.4	0.7	0.91	2.04	3.35
11	0.86	3.8	2.1	0.4	0.1	0.24	0.70	1.44
12	0.70	6.7	2.9	0.3	0.0	0.40	0.64	1.00
Summary	23.92	89.1	51.4	13.3	5.2	12.31	21.40	32.57

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**Summary of  
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www.ncdc.noaa.gov

Station: **MAYVILLE, ND US**

GHCND:USC00325660  
Elev: 945 ft. Lat: 47.499° N Lon: 97.351° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	5	153	476	756	916	856	528	180	16	-7777
45	0	0	1	81	334	606	761	702	385	95	3	0
50	0	0	-7777	36	211	458	606	547	254	43	-7777	0
55	0	0	-7777	14	113	313	451	393	144	16	-7777	0
60	0	0	0	4	49	184	300	247	70	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	120	294	469	596	546	321	122	13	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	5	158	634	1390	2306	3162	3690	3870	3886	-7777
45	0	0	1	82	416	1022	1783	2485	2870	2965	2968	2968
50	0	0	-7777	36	247	705	1311	1858	2112	2155	-7777	2155
55	0	0	-7777	14	127	440	891	1284	1428	1444	-7777	1444
60	0	0	0	4	53	237	537	784	854	858	858	858
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	128	422	891	1487	2033	2354	2476	2489	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LINTON 5 NW, ND US**

GHCND:USC00325211  
Elev: 1841 ft. Lat: 46.302° N Lon: 100.326° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.5	3.1	12.8				0	0	0	0	0	0	1305	1367	1462	1618	0.0	0.0	0.0	26.0	31.0	14.5
2	29.3	7.6	18.4				0	0	0	0	0	0	1023	1079	1163	1304	0.0	0.0	0.0	18.8	28.0	6.5
3	39.5	17.2	28.4				-7777	-7777	0	0	0	0	824	886	980	1136	0.0	0.0	4.0	7.5	28.0	4.0
4	55.7	30.3	43.0				3	1	-7777	0	0	0	364	423	511	660	0.0	0.0	21.0	0.5	17.5	0.0
5	67.8	42.6	55.2				90	60	27	4	-7777	0	85	117	177	308	0.0	0.0	30.5	0.0	1.0	0.0
6	76.5	52.4	64.5				287	231	154	51	5	2	4	9	21	67	0.0	0.0	30.0	0.0	0.0	0.0
7	84.5	57.9	71.2				500	438	347	200	79	47	-7777	-7777	1	8	0.0	5.7	31.0	0.0	0.0	0.0
8	84.0	55.2	69.6				451	391	305	175	80	51	1	3	9	32	0.0	7.7	31.0	0.0	0.0	0.0
9	73.5	44.8	59.2				174	133	85	32	9	4	51	70	112	208	0.0	1.1	29.6	0.0	1.1	0.0
10	58.5	31.9	45.2				30	19	9	2	0	0	335	385	469	615	0.0	0.0	20.0	0.0	16.0	0.0
11	40.1	18.9	29.5				-7777	-7777	-7777	0	0	0	764	824	915	1065	0.0	0.0	7.0	7.0	29.0	1.7
12	25.6	6.4	16.0				0	0	0	0	0	0	1205	1267	1362	1519	0.0	0.0	0.3	23.3	31.0	9.0
Summary	54.8	30.7	42.8	9999	9999	9999	1535	1273	927	464	173	104	5961	6430	7182	8540	0.0	14.5	204.4	83.1	182.6	35.7

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LINTON 5 NW, ND US

GHCND:USC00325211  
Elev: 1841 ft. Lat: 46.302° N Lon: 100.326° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	23	144	471	733	965	915	575	215	18	-7777
45	0	-7777	8	54	322	583	810	761	431	129	3	-7777
50	0	0	-7777	11	192	433	655	605	292	68	-7777	-7777
55	0	0	-7777	3	90	287	500	451	174	30	-7777	0
60	0	0	0	-7777	27	154	347	305	85	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	16	114	285	451	633	583	363	163	23	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	23	167	638	1371	2336	3251	3826	4041	4059	-7777
45	0	-7777	8	62	384	967	1777	2538	2969	3098	3101	-7777
50	0	0	-7777	11	203	636	1291	1896	2188	2256	-7777	-7777
55	0	0	-7777	3	93	380	880	1331	1505	1535	-7777	1535
60	0	0	0	-7777	27	181	528	833	918	927	-7777	927
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	16	130	415	866	1499	2082	2445	2608	2631	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **REGENT, ND US**

GHCND:USC00327465  
Elev: 2441 ft. Lat: 46.420° N Lon: 102.561° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.36	@	@	@	@			
2	0.47	@	@	@	@			
3	0.87	@	@	@	@			
4	1.44	@	@	@	@			
5	2.50	@	@	@	@			
6	3.17	@	@	@	@			
7	2.51	@	@	@	@			
8	1.86	@	@	@	@			
9	1.52	@	@	@	@			
10	1.29	@	@	@	@			
11	0.72	@	@	@	@			
12	0.49	@	@	@	@			
Summary	17.20	9999	9999	9999	9999	9999	9999	9999

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **KILLDEER, ND US**

GHCND:USC00324722  
Elev: 2310 ft. Lat: 47.371° N Lon: 102.760° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	27.2	4.9	16.0	6.5	8.0	7.2	0	0	0	0	0	0	1207	1269	1362	1517	0.0	0.0	0.6	17.6	30.6	11.6
2	31.5	9.7	20.6	7.8	7.1	7.4	0	0	0	0	0	0	963	1019	1103	1243	0.0	0.0	1.9	14.2	27.8	6.8
3	42.0	19.8	30.9	5.7	4.9	5.1	-7777	-7777	-7777	-7777	0	0	747	809	902	1057	0.0	0.0	8.7	6.2	28.4	2.0
4	57.1	29.7	43.4	4.6	2.7	3.4	13	8	4	1	-7777	0	361	416	502	649	0.0	0.1	20.8	0.2	17.6	0.0
5	66.9	40.9	53.9	3.6	3.2	3.1	83	57	28	6	1	-7777	117	153	217	351	0.0	0.1	28.9	0.0	4.1	0.0
6	76.9	49.6	63.3	3.8	3.5	3.5	258	206	137	54	14	7	10	18	39	107	0.0	1.2	29.9	0.0	0.1	0.0
7	83.6	54.9	69.2	5.1	2.8	3.7	442	382	293	161	66	40	1	2	6	30	0.6	7.2	31.0	0.0	0.0	0.0
8	84.8	53.6	69.2	4.2	2.7	3.4	442	382	295	169	74	49	2	4	10	39	0.8	8.9	31.0	0.0	0.0	0.0
9	71.7	43.1	57.4	4.8	2.1	3.3	145	113	73	29	8	4	73	101	151	257	0.0	2.0	28.9	0.0	1.8	0.0
10	57.5	31.3	44.4	4.5	2.4	3.0	21	13	5	-7777	0	0	350	404	488	639	0.0	0.0	22.2	0.7	16.2	0.0
11	40.7	18.1	29.4	7.1	6.0	6.3	-7777	-7777	-7777	0	0	0	768	828	918	1068	0.0	0.0	8.1	8.5	28.5	2.1
12	28.1	7.1	17.6	8.4	7.3	7.8	0	0	0	0	0	0	1159	1221	1314	1469	0.0	0.0	1.0	16.5	31.0	8.6
Summary	55.7	30.2	42.9	5.5	4.4	4.8	1404	1161	835	420	163	100	5758	6244	7012	8426	1.4	19.5	213.0	63.9	186.1	31.1

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

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**Summary of  
Monthly Normals  
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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KILLDEER, ND US**

GHCND:USC00324722  
Elev: 2310 ft. Lat: 47.371° N Lon: 102.760° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	@	@	@	@			
2	0.35	@	@	@	@			
3	0.70	@	@	@	@			
4	1.31	@	@	@	@			
5	2.33	@	@	@	@			
6	3.13	@	@	@	@			
7	2.54	@	@	@	@			
8	1.66	@	@	@	@			
9	1.44	@	@	@	@			
10	1.32	@	@	@	@			
11	0.62	@	@	@	@			
12	0.46	@	@	@	@			
Summary	16.29	9999	9999	9999	9999	9999	9999	9999

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **KILLDEER, ND US**

GHCND:USC00324722  
Elev: 2310 ft. Lat: 47.371° N Lon: 102.760° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	4	34	170	437	697	906	904	524	198	27	-7777
45	0	1	12	91	298	548	752	750	380	108	10	0
50	0	-7777	3	40	173	400	597	595	251	51	2	0
55	0	0	-7777	13	83	258	442	442	145	21	-7777	0
60	0	0	-7777	4	28	137	293	295	73	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	5	33	138	271	433	573	569	329	153	32	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	4	38	208	645	1342	2248	3152	3676	3874	3901	-7777
45	0	1	13	104	402	950	1702	2452	2832	2940	2950	2950
50	0	-7777	3	43	216	616	1213	1808	2059	2110	2112	2112
55	0	0	-7777	13	96	354	796	1238	1383	1404	-7777	1404
60	0	0	-7777	4	32	169	462	757	830	835	-7777	835
Growing Degree Units for Corn (Monthly)												
50/86	1	6	39	177	448	881	1454	2023	2352	2505	2537	2538

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
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U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LINTON, ND US**

GHCND:USC00325210  
Elev: 1690 ft. Lat: 46.267° N Lon: 100.230° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	22.3	1.4	11.8	7.6	8.1	7.7	0	0	0	0	0	0	1337	1399	1492	1647	0.0	0.0	0.3	21.3	30.9	14.3
2	27.7	6.5	17.1	7.5	9.2	8.2	0	0	0	0	0	0	1061	1117	1201	1341	0.0	0.0	1.4	15.8	27.8	9.1
3	39.7	18.7	29.2	6.4	5.2	5.6	-7777	-7777	-7777	-7777	0	0	800	862	955	1110	0.0	0.0	7.2	8.7	27.9	3.0
4	56.6	30.1	43.3	5.0	2.6	3.6	23	16	8	3	-7777	-7777	373	425	508	652	0.0	0.1	21.0	1.1	17.6	0.0
5	68.4	43.1	55.7	3.7	3.3	3.1	128	97	60	22	6	3	105	136	192	309	0.0	0.5	29.3	0.0	4.1	0.0
6	77.3	53.0	65.1	5.0	3.6	4.0	315	262	192	99	43	29	10	18	37	95	0.2	2.9	30.0	0.0	0.2	0.0
7	84.2	58.9	71.5	4.7	2.5	3.3	513	452	362	223	114	81	-7777	1	4	20	0.9	7.3	31.0	0.0	0.0	0.0
8	83.6	55.8	69.7	3.4	2.9	3.0	458	399	313	184	87	59	3	5	12	39	0.5	6.6	31.0	0.0	-7777	0.0
9	72.0	44.6	58.3	3.9	3.2	3.1	168	133	89	39	14	8	69	94	140	240	-7777	1.4	29.3	0.0	2.8	0.0
10	57.5	31.6	44.5	4.3	3.3	3.0	24	16	7	2	-7777	-7777	348	402	486	636	0.0	0.1	22.9	0.8	15.9	0.1
11	39.4	18.4	28.9	7.0	4.6	5.6	-7777	-7777	-7777	0	0	0	783	843	933	1083	0.0	0.0	7.5	9.0	27.7	2.0
12	26.0	6.3	16.2	7.8	6.9	7.1	0	0	0	0	0	0	1204	1266	1359	1514	0.0	0.0	0.5	19.1	31.0	9.0
Summary	54.6	30.7	42.6	5.5	4.6	4.8	1629	1375	1031	572	264	180	6093	6568	7319	8686	1.6	18.9	211.4	75.8	185.9	37.5

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Data derived from 1981-2010 normals.

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1981-2010**

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151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LINTON, ND US**

GHCND:USC00325210

Elev: 1690 ft. Lat: 46.267° N Lon: 100.230° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.32	2.8	1.1	-7777	0.0	0.19	0.29	0.44
2	0.50	2.5	1.5	0.1	0.0	0.22	0.31	0.60
3	0.70	3.6	1.8	0.2	0.0	0.27	0.50	0.95
4	1.14	4.7	2.8	0.8	-7777	0.69	1.06	1.61
5	2.57	9.2	6.2	1.6	0.4	1.24	2.20	3.40
6	2.99	9.3	5.6	1.2	0.6	2.01	2.80	3.91
7	2.73	7.3	5.0	1.8	0.4	1.23	2.47	3.61
8	2.04	6.5	4.0	1.2	0.6	1.10	1.44	2.67
9	1.25	4.6	2.9	0.7	0.1	0.48	1.06	1.60
10	1.61	4.3	2.6	1.0	0.3	0.46	1.03	2.30
11	0.60	2.4	1.5	0.1	0.0	0.12	0.41	0.80
12	0.45	2.8	1.2	0.3	0.1	0.17	0.33	0.61
Summary	16.90	60.0	36.2	9.0	2.5	8.18	13.90	22.50

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Station: **LINTON, ND US**

GHCND:USC00325210  
Elev: 1690 ft. Lat: 46.267° N Lon: 100.230° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	1	26	181	493	754	977	920	552	210	26	-7777
45	-7777	-7777	8	103	351	605	823	765	410	120	9	-7777
50	0	-7777	2	51	225	456	668	611	278	58	2	0
55	0	0	-7777	23	128	315	513	458	168	24	-7777	0
60	0	0	-7777	8	60	192	362	313	89	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	28	141	305	469	635	594	350	154	28	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	28	209	702	1456	2433	3353	3905	4115	4141	-7777
45	-7777	-7777	8	111	462	1067	1890	2655	3065	3185	3194	-7777
50	0	-7777	2	53	278	734	1402	2013	2291	2349	2351	2351
55	0	0	-7777	23	151	466	979	1437	1605	1629	-7777	1629
60	0	0	-7777	8	68	260	622	935	1024	1031	-7777	1031
Growing Degree Units for Corn (Monthly)												
50/86	1	4	32	173	478	947	1582	2176	2526	2680	2708	2709

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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www.ncdc.noaa.gov

Station: **DRAKE 9 NE, ND US**

GHCND:USC00322304  
Elev: 1529 ft. Lat: 48.048° N Lon: 100.310° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.8	-3.0	7.4	7.7	8.7	8.1	0	0	0	0	0	0	1475	1537	1631	1786	0.0	0.0	0.1	24.5	30.9	16.5
2	23.0	2.2	12.6	7.4	8.5	7.9	0	0	0	0	0	0	1187	1243	1327	1467	0.0	0.0	0.5	19.1	27.9	12.5
3	35.1	15.0	25.0	6.3	5.5	5.7	-7777	-7777	-7777	0	0	0	928	990	1083	1238	0.0	0.0	3.9	11.3	29.7	4.5
4	54.3	29.1	41.7	5.6	3.5	4.4	16	10	5	2	-7777	-7777	415	470	555	701	0.0	0.1	19.0	1.6	19.3	0.1
5	66.9	42.0	54.5	3.8	3.3	3.3	105	76	44	15	4	2	122	155	216	342	0.0	0.5	29.0	0.0	3.9	0.0
6	75.6	52.1	63.8	4.4	2.9	3.5	277	226	158	73	27	17	11	20	42	108	0.2	1.8	29.9	0.0	0.0	0.0
7	81.6	56.6	69.1	4.1	2.4	3.0	438	377	288	156	63	40	1	2	6	29	0.3	4.1	31.0	0.0	0.0	0.0
8	81.1	54.3	67.7	3.8	2.5	3.1	397	338	254	137	56	36	3	6	16	54	0.3	5.5	31.0	0.0	-7777	0.0
9	70.2	43.9	57.0	3.8	2.4	2.9	140	108	69	27	8	4	79	106	158	266	0.0	1.1	28.9	0.0	1.9	0.0
10	55.2	30.8	43.0	3.6	2.8	2.8	17	10	4	1	-7777	-7777	389	444	531	683	0.0	-7777	20.3	1.1	17.0	0.1
11	35.7	16.1	25.9	7.5	6.1	6.6	-7777	-7777	-7777	0	0	0	873	933	1023	1173	0.0	0.0	5.1	11.7	28.5	3.3
12	21.3	2.1	11.7	7.5	7.9	7.6	0	0	0	0	0	0	1342	1404	1497	1652	0.0	0.0	0.1	22.9	31.0	13.1
Summary	51.5	28.4	40.0	5.5	4.7	4.9	1390	1145	822	411	158	99	6825	7310	8085	9499	0.8	13.1	198.8	92.2	190.1	50.1

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Station: **DRAKE 9 NE, ND US**

GHCND:USC00322304  
Elev: 1529 ft. Lat: 48.048° N Lon: 100.310° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.40	5.4	1.7	0.0	0.0	0.22	0.33	0.51
2	0.45	4.5	1.2	0.2	0.0	0.16	0.29	0.66
3	0.72	4.9	2.1	0.3	0.1	0.31	0.57	1.00
4	1.11	5.5	2.8	0.5	0.2	0.43	0.87	1.08
5	2.48	8.5	5.6	1.3	0.3	1.50	2.07	3.06
6	3.36	10.5	6.7	2.3	0.6	2.10	3.46	4.10
7	2.76	8.3	5.5	2.0	0.6	1.80	2.46	3.44
8	2.04	7.1	4.6	1.3	0.4	1.04	1.80	2.86
9	1.47	6.4	3.7	0.7	0.2	0.66	1.24	2.20
10	1.31	5.4	2.7	0.8	0.2	0.33	0.91	1.73
11	0.68	4.9	2.3	0.4	0.1	0.21	0.59	0.82
12	0.56	5.6	1.8	0.2	0.0	0.17	0.38	0.74
Summary	17.34	77.0	40.7	10.0	2.7	8.93	14.97	22.20

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GHCND:USC00322304  
Elev: 1529 ft. Lat: 48.048° N Lon: 100.310° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	153	455	716	902	858	514	178	17	-7777
45	0	-7777	3	83	316	566	747	704	373	99	6	0
50	0	0	1	40	197	418	592	549	245	46	1	0
55	0	0	-7777	16	105	277	438	397	140	17	-7777	0
60	0	0	-7777	5	44	158	288	254	69	4	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	118	275	433	577	541	315	129	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	11	164	619	1335	2237	3095	3609	3787	3804	-7777
45	0	-7777	3	86	402	968	1715	2419	2792	2891	2897	2897
50	0	0	1	41	238	656	1248	1797	2042	2088	2089	2089
55	0	0	-7777	16	121	398	836	1233	1373	1390	-7777	1390
60	0	0	-7777	5	49	207	495	749	818	822	-7777	822
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	131	406	839	1416	1957	2272	2401	2419	-7777

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Station: **WISHEK, ND US**

GHCND:USC00329515

Elev: 2037 ft. Lat: 46.261° N Lon: 99.560° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.9	1.4	11.6	6.5	7.1	6.7	0	0	0	0	0	0	1344	1406	1499	1654	0.0	0.0	0.1	23.2	31.0	13.8
2	25.6	6.1	15.8	7.1	7.9	7.4	0	0	0	0	0	0	1096	1152	1236	1376	0.0	0.0	1.0	17.8	27.8	9.6
3	37.5	17.8	27.6	5.9	4.7	5.1	-7777	-7777	-7777	-7777	0	0	848	910	1003	1158	0.0	0.0	5.1	9.9	29.1	2.7
4	54.1	29.6	41.9	4.8	2.9	3.6	16	10	5	1	-7777	-7777	411	465	549	695	0.0	0.0	18.7	1.2	18.3	0.0
5	65.8	41.7	53.8	3.7	3.0	3.1	89	63	35	11	2	1	128	164	229	360	0.0	0.1	28.5	0.0	3.6	0.0
6	74.0	51.3	62.7	3.7	3.4	3.4	247	198	133	56	17	9	18	29	54	126	-7777	0.9	29.8	0.0	-7777	0.0
7	81.0	56.4	68.7	3.9	2.3	2.9	425	365	276	147	58	36	1	2	7	33	0.2	4.1	31.0	0.0	0.0	0.0
8	79.8	54.3	67.1	3.7	2.3	2.9	377	319	236	120	44	26	4	7	18	57	0.1	3.6	31.0	0.0	-7777	0.0
9	69.9	44.2	57.0	3.7	2.2	2.7	143	110	70	27	7	3	82	109	159	266	-7777	0.9	28.9	0.0	1.9	0.0
10	55.4	31.9	43.6	4.1	2.8	3.0	18	11	5	1	-7777	-7777	370	425	512	663	0.0	-7777	20.4	0.9	15.4	0.0
11	37.8	17.8	27.8	6.9	4.6	5.5	-7777	-7777	0	0	0	0	816	876	966	1116	0.0	0.0	5.8	10.4	28.0	2.0
12	24.5	6.0	15.2	6.7	7.0	6.7	0	0	0	0	0	0	1232	1294	1387	1542	0.0	0.0	0.4	21.0	30.9	10.0
Summary	52.3	29.9	41.1	5.1	4.2	4.4	1315	1076	760	363	128	75	6350	6839	7619	9046	0.3	9.6	200.7	84.4	186.0	38.1

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Station: **WISHEK, ND US**

GHCND:USC00329515

Elev: 2037 ft. Lat: 46.261° N Lon: 99.560° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.47	@	@	@	@			
2	1.28	@	@	@	@			
3	1.03	@	@	@	@			
4	1.45	@	@	@	@			
5	2.78	@	@	@	@			
6	3.63	@	@	@	@			
7	3.04	@	@	@	@			
8	2.30	@	@	@	@			
9	2.03	@	@	@	@			
10	1.60	@	@	@	@			
11	0.66	@	@	@	@			
12	0.62	@	@	@	@			
Summary	20.89	9999	9999	9999	9999	9999	9999	9999

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Elev: 2037 ft. Lat: 46.261° N Lon: 99.560° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	151	433	679	890	838	515	189	21	-7777
45	0	-7777	5	81	296	530	735	683	375	105	7	0
50	0	-7777	1	39	178	384	579	529	247	49	1	0
55	0	0	-7777	16	89	247	425	377	143	18	-7777	0
60	0	0	-7777	5	35	133	276	236	70	5	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	17	114	260	406	566	530	314	129	21	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	17	168	601	1280	2170	3008	3523	3712	3733	-7777
45	0	-7777	5	86	382	912	1647	2330	2705	2810	2817	2817
50	0	-7777	1	40	218	602	1181	1710	1957	2006	2007	2007
55	0	0	-7777	16	105	352	777	1154	1297	1315	-7777	1315
60	0	0	-7777	5	40	173	449	685	755	760	760	760
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	19	133	393	799	1365	1895	2209	2338	2359	2360

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: TROTTERS 3 SSE, ND US

GHCND:USC00328812  
Elev: 2421 ft. Lat: 47.284° N Lon: 103.900° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.2	7.0	16.6	7.0	8.2	7.5	0	0	0	0	0	0	1190	1252	1345	1500	0.0	0.0	0.6	18.1	30.1	10.6
2	31.2	11.3	21.2	7.6	7.6	7.6	-7777	-7777	0	0	0	0	945	1001	1085	1225	0.0	0.0	2.5	13.0	26.6	6.8
3	42.5	20.6	31.6	6.3	5.0	5.5	1	-7777	-7777	-7777	0	0	728	789	882	1037	0.0	0.0	9.6	6.7	26.9	2.1
4	57.3	31.1	44.2	4.1	2.7	3.2	19	12	5	1	-7777	-7777	343	396	480	625	0.0	-7777	21.6	1.0	15.8	0.1
5	67.4	41.5	54.5	3.8	2.7	3.1	96	69	39	12	2	1	113	148	211	339	0.0	0.2	29.4	0.0	3.9	0.0
6	76.4	50.5	63.5	4.1	3.2	3.5	267	216	150	70	27	17	13	23	46	116	0.4	2.1	30.0	0.0	0.1	0.0
7	85.1	56.4	70.8	4.8	2.5	3.6	489	427	337	201	96	65	1	1	4	23	1.4	9.0	31.0	0.0	0.0	0.0
8	84.5	55.0	69.8	4.1	2.7	3.3	460	399	313	185	87	59	3	4	11	38	0.7	9.3	31.0	0.0	0.0	0.0
9	72.2	44.5	58.3	5.0	2.5	3.6	171	135	90	40	13	7	71	94	140	239	0.2	2.3	28.9	0.0	2.1	0.0
10	56.7	32.6	44.7	3.9	2.6	3.1	24	15	7	1	-7777	-7777	345	398	483	632	0.0	0.1	21.3	1.0	13.6	-7777
11	39.8	20.1	29.9	7.5	5.4	6.3	1	-7777	-7777	0	0	0	752	812	901	1051	0.0	0.0	7.3	8.2	25.7	2.1
12	27.5	8.6	18.0	7.8	7.6	7.6	0	0	0	0	0	0	1145	1207	1300	1455	0.0	0.0	0.9	17.3	30.2	8.7
Summary	55.6	31.6	43.6	5.5	4.4	4.8	1528	1273	941	510	225	149	5649	6125	6888	8280	2.7	23.0	214.1	65.3	175.0	30.4

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TROTTERS 3 SSE, ND US**

GHCND:USC00328812

Elev: 2421 ft. Lat: 47.284° N Lon: 103.900° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.34	6.6	1.0	-7777	0.0	0.16	0.30	0.48
2	0.33	5.9	0.9	-7777	0.0	0.13	0.24	0.39
3	0.67	7.5	2.1	0.1	-7777	0.36	0.54	0.71
4	1.24	7.6	3.5	0.5	0.1	0.67	1.13	1.60
5	2.15	11.7	5.3	1.0	0.2	1.25	2.04	2.81
6	2.91	12.1	6.4	1.6	0.6	1.73	2.41	4.28
7	2.08	8.7	4.2	1.5	0.5	1.19	2.01	2.35
8	1.44	7.8	3.8	0.7	0.1	0.81	1.35	1.70
9	1.36	7.0	3.2	0.7	0.2	0.38	0.90	1.80
10	1.26	6.9	2.9	0.8	0.2	0.46	0.89	1.85
11	0.59	6.5	1.9	0.1	-7777	0.23	0.37	0.70
12	0.44	7.3	1.5	0.0	0.0	0.30	0.41	0.58
Summary	14.81	95.6	36.7	7.0	1.9	7.67	12.59	19.25

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TROTTERS 3 SSE, ND US**

GHCND:USC00328812  
Elev: 2421 ft. Lat: 47.284° N Lon: 103.900° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	4.4	6.6	1.7	0.1	-7777	0.0	25.6	17.1	13.4	4.4	2.6	3.6	5.4
2	4.4	6.1	1.4	0.3	0.1	0.0	18.7	11.8	7.9	3.1	1.8	3.1	5.9
3	5.2	5.5	2.0	0.3	0.1	0.0	10.9	6.2	3.7	1.3	1.5	3.9	8.0
4	4.0	2.8	1.4	0.4	0.3	0.0	2.4	1.3	0.8	0.0	0.6	2.6	7.0
5	1.4	0.8	0.5	0.2	0.1	0.0	0.4	0.1	0.1	-7777	0.0	0.0	1.1
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	0.2	0.1	0.0	0.0	0.0	0.2	-7777	0.0	0.0	0.0	0.0	0.0
10	2.8	1.7	0.7	0.3	0.1	-7777	1.8	1.0	0.4	0.1	0.2	0.9	4.2
11	5.0	5.1	1.7	0.4	0.1	0.0	9.7	5.5	2.9	1.1	1.8	3.1	8.5
12	5.6	7.1	2.2	0.2	0.1	0.0	22.7	12.6	8.1	3.8	3.3	5.6	7.9
Summary	33.0	35.9	11.7	2.2	0.9	0.0	92.4	55.6	37.3	13.8	11.8	22.8	48.0

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: TROTTERS 3 SSE, ND US

GHCND:USC00328812  
Elev: 2421 ft. Lat: 47.284° N Lon: 103.900° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	42	192	454	704	953	922	554	214	37	2
45	-7777	1	15	107	313	554	798	767	413	123	15	-7777
50	-7777	-7777	4	50	191	406	643	613	281	60	4	0
55	0	-7777	1	19	96	267	489	460	171	24	1	0
60	0	0	-7777	5	39	150	337	313	90	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	5	39	144	282	428	602	580	342	144	28	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	9	51	243	697	1401	2354	3276	3830	4044	4081	4083
45	-7777	1	16	123	436	990	1788	2555	2968	3091	3106	-7777
50	-7777	-7777	4	54	245	651	1294	1907	2188	2248	2252	2252
55	0	-7777	1	20	116	383	872	1332	1503	1527	1528	1528
60	0	0	-7777	5	44	194	531	844	934	941	-7777	941
Growing Degree Units for Corn (Monthly)												
50/86	1	6	45	189	471	899	1501	2081	2423	2567	2595	2596

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GOLDEN VALLEY, ND US**

GHCND:USC00323529

Elev: 1860 ft. Lat: 47.155° N Lon: 102.071° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	@	@	@	@			
2	0.42	@	@	@	@			
3	0.84	@	@	@	@			
4	1.40	@	@	@	@			
5	2.39	@	@	@	@			
6	3.24	@	@	@	@			
7	2.45	@	@	@	@			
8	1.69	@	@	@	@			
9	1.45	@	@	@	@			
10	1.21	@	@	@	@			
11	0.68	@	@	@	@			
12	0.53	@	@	@	@			
Summary	16.76	9999	9999	9999	9999	9999	9999	9999

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDINA, ND US**

GHCND:USC00325798

Elev: 1811 ft. Lat: 46.893° N Lon: 99.290° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	4.4	1.6	0.1	0.0	0.24	0.40	0.55
2	0.48	4.0	1.7	0.2	0.0	0.14	0.32	0.54
3	0.93	4.9	2.8	0.4	-7777	0.37	0.62	1.30
4	1.07	5.4	3.0	0.5	0.1	0.36	0.92	1.50
5	2.71	7.8	5.5	1.9	0.6	1.40	2.01	3.74
6	3.13	9.5	6.6	2.2	0.7	1.97	2.61	4.01
7	3.24	8.3	6.1	2.1	0.9	2.03	3.19	3.64
8	2.03	5.8	3.8	1.5	0.5	0.95	1.79	2.76
9	1.94	5.8	3.9	1.1	0.4	0.75	1.67	2.85
10	1.43	5.0	3.0	1.0	0.4	0.50	1.08	1.77
11	0.60	3.7	1.9	0.2	0.1	0.10	0.59	0.98
12	0.50	4.2	1.4	0.1	0.0	0.14	0.35	0.79
Summary	18.52	68.8	41.3	11.3	3.7	8.95	15.55	24.43

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MEDINA, ND US**

GHCND:USC00325798

Elev: 1811 ft. Lat: 46.893° N Lon: 99.290° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.4	3.6	2.8	1.1	0.4	-7777	27.0	20.8	14.6	7.5	2.0	5.5	9.0
2	6.0	3.0	2.6	0.7	0.2	0.0	20.2	16.2	12.3	6.3	2.0	5.5	10.0
3	5.9	2.6	2.2	0.6	0.2	0.0	12.7	9.9	7.5	3.0	2.0	4.0	8.5
4	2.8	1.3	1.1	0.5	0.1	0.0	2.5	1.5	0.9	0.0	0.0	1.0	5.6
5	0.5	0.2	0.2	-7777	-7777	0.0	0.2	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	1.2	0.5	0.4	0.2	0.1	0.0	0.5	0.3	0.2	0.0	0.0	0.0	1.5
11	6.7	2.8	2.5	0.9	0.4	0.1	9.9	5.9	4.0	1.0	0.0	3.5	11.0
12	5.8	3.7	2.7	0.7	0.3	0.0	19.1	12.1	9.7	2.6	2.0	4.5	8.0
Summary	35.3	17.7	14.5	4.7	1.7	0.1	92.1	66.8	49.2	20.4	8.0	24.0	53.6

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Data derived from 1981-2010 normals.

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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FOXHOLM 7 N, ND US**

GHCND:USC00323217  
Elev: 1673 ft. Lat: 48.458° N Lon: 101.570° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.3	0.4	10.3	8.3	8.8	8.4	0	0	0	0	0	0	1384	1446	1539	1694	0.0	0.0	-7777	21.7	30.5	15.1
2	25.4	5.1	15.2	7.9	7.6	7.7	0	0	0	0	0	0	1113	1169	1253	1393	0.0	0.0	0.9	17.4	27.3	11.6
3	37.3	16.1	26.7	6.7	5.2	5.7	-7777	-7777	-7777	0	0	0	878	939	1032	1187	0.0	0.0	5.3	9.7	29.4	4.2
4	56.1	29.4	42.7	4.7	3.1	3.7	16	10	5	1	-7777	-7777	383	437	522	669	0.0	0.1	20.1	1.0	18.2	-7777
5	67.5	41.3	54.4	3.5	3.0	2.9	101	73	42	13	3	1	120	154	215	342	0.0	0.4	28.6	0.0	4.4	0.0
6	76.0	51.7	63.9	4.5	2.8	3.5	281	229	160	74	28	18	15	24	44	109	0.3	2.4	29.7	0.0	0.2	0.0
7	83.0	56.2	69.6	4.0	2.1	2.9	453	392	303	167	72	47	1	2	5	25	0.6	5.9	31.0	0.0	0.0	0.0
8	83.1	53.9	68.5	4.2	2.5	3.1	421	362	276	153	66	43	3	5	13	45	0.5	7.5	31.0	0.0	0.1	0.0
9	70.6	43.1	56.8	4.4	2.2	3.0	136	104	66	25	7	3	80	108	160	270	0.0	1.5	28.7	0.0	2.6	0.0
10	55.6	31.4	43.5	4.1	2.4	2.7	16	10	4	-7777	-7777	-7777	373	428	516	667	0.0	0.0	20.7	1.4	15.8	0.0
11	37.7	17.0	27.3	7.9	6.1	6.6	-7777	-7777	0	0	0	0	830	890	979	1129	0.0	0.0	6.2	10.3	27.0	3.6
12	23.4	4.1	13.7	7.7	7.3	7.4	0	0	0	0	0	0	1278	1341	1434	1588	0.0	0.0	0.6	21.4	30.7	12.2
Summary	53.0	29.1	41.0	5.7	4.4	4.8	1424	1180	856	433	176	112	6458	6943	7712	9118	1.4	17.8	202.8	82.9	186.2	46.7

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FOXHOLM 7 N, ND US**

GHCND:USC00323217  
Elev: 1673 ft. Lat: 48.458° N Lon: 101.570° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.51	@	@	@	@			
2	0.48	@	@	@	@			
3	0.89	@	@	@	@			
4	1.15	@	@	@	@			
5	2.25	@	@	@	@			
6	3.23	@	@	@	@			
7	2.75	@	@	@	@			
8	1.90	@	@	@	@			
9	1.41	@	@	@	@			
10	1.24	@	@	@	@			
11	0.72	@	@	@	@			
12	0.66	@	@	@	@			
Summary	17.19	9999	9999	9999	9999	9999	9999	9999

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**Summary of  
Monthly Normals  
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National Climatic Data Center  
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Station: **FOXHOLM 7 N, ND US**

GHCND:USC00323217  
Elev: 1673 ft. Lat: 48.458° N Lon: 101.570° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	17	167	453	716	917	883	509	189	24	1
45	-7777	1	7	91	315	566	762	728	368	103	9	0
50	0	-7777	2	42	194	420	608	574	240	46	2	0
55	0	0	-7777	16	101	281	453	421	136	16	-7777	0
60	0	0	-7777	5	42	160	303	276	66	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	20	133	283	433	585	555	316	136	24	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	3	20	187	640	1356	2273	3156	3665	3854	3878	3879
45	-7777	1	8	99	414	980	1742	2470	2838	2941	2950	2950
50	0	-7777	2	44	238	658	1266	1840	2080	2126	2128	2128
55	0	0	-7777	16	117	398	851	1272	1408	1424	-7777	1424
60	0	0	-7777	5	47	207	510	786	852	856	856	856
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	155	438	871	1456	2011	2327	2463	2487	2488

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ELGIN, ND US**

GHCND:USC00322588

Elev: 2402 ft. Lat: 46.409° N Lon: 101.842° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	3.7	1.1	-7777	0.0	0.17	0.36	0.52
2	0.41	3.3	1.0	0.2	0.1	0.16	0.35	0.45
3	1.10	4.7	2.6	0.6	0.1	0.40	0.89	1.26
4	1.67	5.9	4.2	1.0	0.3	0.83	1.55	2.20
5	2.78	8.3	6.0	1.3	0.6	1.43	2.46	3.86
6	3.29	9.0	6.9	2.3	0.6	2.30	3.67	4.28
7	2.54	6.9	5.1	1.6	0.6	0.83	2.34	3.66
8	1.91	5.0	3.7	1.1	0.4	0.90	1.74	2.54
9	1.46	4.9	3.6	0.9	0.2	0.61	1.06	1.91
10	1.44	4.5	3.3	0.7	0.3	0.52	0.80	1.98
11	0.78	3.9	2.4	0.4	0.1	0.22	0.70	1.10
12	0.42	4.3	1.4	0.1	0.0	0.17	0.38	0.62
Summary	18.17	64.4	41.3	10.2	3.3	8.54	16.30	24.38

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ELGIN, ND US**

GHCND:USC00322588

Elev: 2402 ft. Lat: 46.409° N Lon: 101.842° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.8	3.5	3.4	1.1	0.2	0.0	@	@	@	@	1.0	6.5	10.0
2	7.0	3.0	2.5	0.9	0.3	0.0	@	@	@	@	2.0	6.5	10.5
3	10.8	2.5	2.4	1.3	0.7	0.1	@	@	@	@	5.0	8.0	13.8
4	4.8	1.0	0.9	0.5	0.3	0.1	@	@	@	@	0.0	1.3	9.3
5	0.4	0.1	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.3	-7777	-7777	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
10	2.3	0.4	0.4	0.3	0.2	0.1	@	@	@	@	0.0	0.0	2.0
11	6.1	2.4	2.2	0.9	0.4	0.1	@	@	@	@	0.0	2.0	10.0
12	8.0	4.0	3.6	1.0	0.3	0.0	@	@	@	@	2.0	6.0	15.4
Summary	46.5	16.9	15.5	6.1	2.4	0.4	9999	9999	9999	9999	10.0	30.3	71.0

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT EXPERIMENT STATION, ND US**

GHCND:USC00325993  
Elev: 1768 ft. Lat: 48.180° N Lon: 101.296° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.6	0.8	9.7	8.0	8.6	8.2	0	0	0	0	0	0	1404	1466	1559	1714	0.0	0.0	0.1	23.7	30.9	14.4
2	23.3	5.4	14.4	7.1	8.1	7.5	0	0	0	0	0	0	1138	1194	1278	1418	0.0	0.0	0.5	19.2	27.5	10.7
3	35.1	17.0	26.1	6.5	5.7	5.9	-7777	-7777	-7777	0	0	0	898	959	1052	1207	0.0	0.0	4.2	11.6	29.1	3.8
4	53.3	30.2	41.7	5.0	3.4	4.1	16	10	5	1	-7777	-7777	413	468	553	699	0.0	0.0	17.9	2.0	17.1	-7777
5	65.6	42.2	53.9	3.7	3.0	3.1	97	71	41	13	3	2	132	167	230	357	0.0	0.3	28.5	-7777	3.7	0.0
6	74.2	52.4	63.3	4.5	2.8	3.5	265	216	150	67	24	15	17	27	51	118	-7777	1.5	29.8	0.0	0.0	0.0
7	80.2	56.8	68.5	3.4	2.4	2.8	419	359	271	142	55	34	1	2	8	34	0.2	2.8	31.0	0.0	0.0	0.0
8	80.1	54.4	67.3	3.9	2.5	3.1	384	326	244	129	50	30	5	9	20	59	0.1	4.1	30.9	0.0	0.1	0.0
9	68.6	44.4	56.5	3.9	2.4	2.9	135	104	66	26	7	4	90	119	171	281	-7777	0.9	28.7	-7777	1.9	0.0
10	53.9	31.7	42.8	3.8	2.7	2.9	17	11	5	1	-7777	-7777	395	451	538	689	0.0	0.1	18.7	1.5	15.4	0.1
11	35.6	17.9	26.7	7.3	5.9	6.4	-7777	-7777	-7777	0	0	0	848	908	997	1147	0.0	0.0	4.9	11.9	27.3	3.0
12	21.9	4.9	13.4	7.8	8.1	7.8	0	0	0	0	0	0	1289	1351	1444	1599	0.0	0.0	0.2	22.2	30.9	11.3
Summary	50.9	29.8	40.4	5.4	4.6	4.8	1333	1097	782	379	139	85	6630	7121	7901	9322	0.3	9.7	195.4	92.1	183.9	43.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT EXPERIMENT STATION, ND US**

GHCND:USC00325993

Elev: 1768 ft. Lat: 48.180° N Lon: 101.296° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.71	7.2	2.7	0.1	0.0	0.34	0.53	0.96
2	0.46	6.3	1.4	0.1	0.0	0.22	0.36	0.61
3	0.97	6.2	3.0	0.5	-7777	0.32	0.99	1.34
4	1.26	6.4	2.8	0.6	0.0	0.49	1.03	1.65
5	2.57	9.6	5.0	1.8	0.5	1.45	2.42	3.44
6	3.49	12.1	7.0	2.1	0.7	2.22	3.24	4.49
7	2.55	9.0	5.2	1.8	0.4	1.73	2.19	3.06
8	2.00	9.0	4.9	1.3	0.2	1.06	1.84	2.59
9	1.44	7.6	3.4	0.6	0.2	0.78	1.33	1.81
10	1.41	6.7	3.2	0.8	0.2	0.54	0.92	2.12
11	1.00	6.0	2.8	0.5	0.1	0.24	0.94	1.57
12	0.73	7.2	2.1	0.2	0.0	0.37	0.65	1.02
Summary	18.59	93.3	43.5	10.4	2.3	9.76	16.44	24.66

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www.ncdc.noaa.gov

Station: **MINOT EXPERIMENT STATION, ND US**

GHCND:USC00325993  
Elev: 1768 ft. Lat: 48.180° N Lon: 101.296° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.5	6.9	3.5	0.9	0.3	-7777	27.0	18.5	11.1	6.9	3.8	6.9	11.6
2	5.9	5.5	2.6	0.3	0.1	-7777	20.4	13.8	9.2	4.7	2.8	4.6	7.1
3	8.2	4.5	2.7	0.9	0.3	0.0	15.5	10.1	6.8	3.0	3.3	8.2	11.7
4	3.8	1.5	1.2	0.4	0.1	0.0	3.3	1.9	1.2	0.4	0.0	2.7	5.5
5	1.2	0.5	0.4	0.2	0.1	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.2
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	3.1	1.1	1.0	0.4	0.2	0.1	1.7	0.8	0.3	0.2	0.0	0.3	5.2
11	8.8	4.3	2.8	0.9	0.3	-7777	11.9	6.5	4.0	1.6	3.4	7.5	14.1
12	9.2	6.7	3.4	0.9	0.3	-7777	23.4	14.1	8.5	2.5	4.8	7.6	12.0
Summary	49.8	31.1	17.7	4.9	1.7	0.1	103.7	65.9	41.2	19.3	18.1	37.8	67.4

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Federal Building  
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www.ncdc.noaa.gov

Station: **MINOT EXPERIMENT STATION, ND US**

GHCND:USC00325993  
Elev: 1768 ft. Lat: 48.180° N Lon: 101.296° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	155	439	699	883	844	499	176	22	-7777
45	0	-7777	5	86	304	549	728	690	359	97	9	-7777
50	0	-7777	1	41	187	403	573	536	235	45	2	0
55	0	0	-7777	16	97	265	419	384	135	17	-7777	0
60	0	0	-7777	5	41	150	271	244	66	5	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	108	258	416	564	530	293	115	18	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	171	610	1309	2192	3036	3535	3711	3733	-7777
45	0	-7777	5	91	395	944	1672	2362	2721	2818	2827	-7777
50	0	-7777	1	42	229	632	1205	1741	1976	2021	2023	2023
55	0	0	-7777	16	113	378	797	1181	1316	1333	-7777	1333
60	0	0	-7777	5	46	196	467	711	777	782	-7777	782
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	14	122	380	796	1360	1890	2183	2298	2316	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **UPHAM 3 N, ND US**

GHCND:USC00328913  
Elev: 1424 ft. Lat: 48.615° N Lon: 100.726° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.0	-5.2	5.9	7.7	8.5	8.0	0	0	0	0	0	0	1522	1584	1677	1832	0.0	0.0	0.0	25.6	31.0	18.0
2	23.2	0.0	11.6	7.3	8.6	7.9	0	0	0	0	0	0	1215	1271	1355	1495	0.0	0.0	0.4	19.4	27.9	13.3
3	35.3	13.9	24.6	6.2	6.0	5.9	-7777	-7777	-7777	0	0	0	942	1004	1097	1252	0.0	0.0	3.6	11.4	30.1	5.2
4	55.2	28.3	41.7	5.2	3.3	4.0	16	10	5	1	-7777	-7777	414	468	553	699	0.0	0.1	19.5	1.3	19.8	0.2
5	67.2	40.7	54.0	3.5	2.9	3.0	97	71	40	12	3	2	130	165	228	355	0.0	0.5	28.9	-7777	5.0	0.0
6	75.5	50.5	63.0	4.4	2.8	3.4	257	208	143	64	22	13	17	28	53	124	0.1	1.8	29.8	0.0	-7777	0.0
7	81.1	54.6	67.9	3.4	2.7	2.6	399	339	252	127	45	27	1	3	9	39	0.2	3.3	31.0	0.0	0.0	0.0
8	80.8	52.3	66.5	4.1	2.6	3.2	363	305	225	114	43	26	5	9	22	66	0.4	4.5	31.0	0.0	0.1	0.0
9	69.6	41.0	55.3	3.8	2.6	2.8	112	84	52	18	4	2	103	135	193	309	0.0	0.9	29.0	-7777	4.3	0.0
10	54.9	27.5	41.2	3.8	3.1	2.7	10	6	2	-7777	0	0	437	496	585	738	0.0	-7777	19.3	1.1	21.6	0.1
11	35.4	14.1	24.8	7.1	6.3	6.4	-7777	0	0	0	0	0	907	967	1057	1207	0.0	0.0	4.5	12.2	29.1	4.1
12	20.6	-0.1	10.2	7.0	7.2	7.0	0	0	0	0	0	0	1387	1449	1542	1697	0.0	0.0	0.2	23.9	31.0	14.6
Summary	51.3	26.5	38.9	5.3	4.7	4.7	1254	1023	719	336	117	70	7080	7579	8371	9813	0.7	11.1	197.2	94.9	199.9	55.5

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

@ Denotes mean number of days greater than 0 but less than 0.05; or insufficient data for calculation.

-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **UPHAM 3 N, ND US**

GHCND:USC00328913

Elev: 1424 ft. Lat: 48.615° N Lon: 100.726° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.58	7.2	2.0	0.1	0.0	0.30	0.51	0.87
2	0.50	5.6	1.3	0.1	-7777	0.22	0.33	0.56
3	0.83	6.2	2.3	0.5	0.1	0.32	0.70	1.28
4	1.08	5.6	3.1	0.5	0.1	0.49	0.92	1.31
5	2.23	9.2	4.6	1.4	0.4	1.19	1.79	2.59
6	3.84	12.2	7.1	2.1	1.0	2.65	3.32	4.91
7	2.70	9.8	5.1	1.7	0.7	1.45	2.34	3.54
8	1.97	8.2	4.4	1.1	0.3	1.27	1.71	2.73
9	1.41	7.3	3.5	0.7	0.3	0.87	1.44	2.03
10	1.25	6.5	3.1	0.7	0.2	0.28	1.03	1.41
11	0.87	5.9	2.5	0.4	0.1	0.17	0.74	1.51
12	0.65	7.2	2.1	0.1	0.0	0.35	0.63	0.90
Summary	17.91	90.9	41.1	9.4	3.2	9.56	15.46	23.64

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **UPHAM 3 N, ND US**

GHCND:USC00328913  
Elev: 1424 ft. Lat: 48.615° N Lon: 100.726° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.7	7.0	3.8	0.9	0.3	-7777	30.6	28.2	25.4	14.8	4.6	8.1	14.8
2	5.5	5.5	2.7	0.5	0.1	0.1	27.1	25.4	23.2	17.3	3.1	5.4	7.3
3	6.7	4.4	2.5	0.6	0.3	-7777	22.1	19.2	17.0	11.6	2.2	7.5	10.0
4	4.4	1.9	1.4	0.7	0.2	0.0	4.0	2.8	2.2	0.6	0.0	3.0	7.0
5	1.1	0.4	0.3	0.1	0.1	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.2
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	2.7	1.6	0.9	0.3	0.2	0.1	1.9	0.6	0.3	0.1	0.0	0.5	4.1
11	8.3	4.5	2.9	0.9	0.5	0.1	14.1	10.4	7.0	1.7	1.8	9.0	13.1
12	8.8	6.9	3.6	0.9	0.3	0.0	26.8	22.0	19.3	7.8	4.5	7.6	11.8
Summary	47.3	32.3	18.1	4.9	2.0	0.3	126.9	108.7	94.5	53.9	16.2	41.1	68.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **UPHAM 3 N, ND US**

GHCND:USC00328913  
Elev: 1424 ft. Lat: 48.615° N Lon: 100.726° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	154	441	690	863	823	464	141	12	-7777
45	0	-7777	3	85	304	540	708	668	327	73	3	0
50	0	0	1	40	187	394	553	514	205	31	-7777	0
55	0	0	-7777	16	97	257	399	363	112	10	-7777	0
60	0	0	-7777	5	40	143	252	225	52	2	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	126	277	419	550	516	301	124	16	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	163	604	1294	2157	2980	3444	3585	3597	-7777
45	0	-7777	3	88	392	932	1640	2308	2635	2708	2711	2711
50	0	0	1	41	228	622	1175	1689	1894	1925	-7777	1925
55	0	0	-7777	16	113	370	769	1132	1244	1254	-7777	1254
60	0	0	-7777	5	45	188	440	665	717	719	719	719
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	13	139	416	835	1385	1901	2202	2326	2342	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **OAKES 2 S, ND US**

GHCND:USC00326620

Elev: 1325 ft. Lat: 46.146° N Lon: 98.092° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.9	-1.1	8.9	7.5	7.3	7.3	0	0	0	0	0	0	1429	1491	1584	1739	0.0	0.0	0.2	25.3	31.0	16.4
2	24.8	4.3	14.6	7.3	8.4	7.7	0	0	0	0	0	0	1132	1188	1272	1412	0.0	0.0	1.1	17.6	27.7	10.7
3	36.6	17.8	27.2	5.9	5.0	5.3	-7777	-7777	-7777	0	0	0	862	924	1017	1172	0.0	0.0	4.8	10.3	29.0	3.2
4	55.7	30.5	43.1	5.3	2.7	3.6	20	13	6	2	-7777	-7777	377	430	513	659	0.0	0.1	19.9	1.2	17.3	0.0
5	69.0	42.8	55.9	4.1	3.1	3.2	124	92	55	19	5	2	96	126	182	301	0.0	0.8	29.4	0.0	2.3	0.0
6	77.2	52.9	65.0	4.2	3.0	3.3	310	257	184	89	33	21	9	15	32	88	0.1	2.6	29.9	0.0	0.0	0.0
7	83.4	57.9	70.6	4.3	2.8	3.2	485	424	332	193	85	56	-7777	1	3	18	0.6	5.6	31.0	0.0	0.0	0.0
8	82.0	55.1	68.6	3.5	2.8	2.9	422	362	276	151	61	38	2	4	12	41	0.4	4.3	31.0	0.0	0.0	0.0
9	71.3	44.9	58.1	3.6	3.0	2.9	157	121	78	32	10	6	64	88	135	239	-7777	1.0	29.3	0.0	1.7	0.0
10	56.6	32.3	44.4	3.6	3.1	2.8	22	14	7	1	-7777	-7777	349	404	489	638	0.0	0.0	22.0	0.8	15.3	0.0
11	37.7	17.7	27.7	7.1	5.8	6.1	-7777	-7777	-7777	-7777	0	0	819	879	969	1119	0.0	0.0	6.0	10.1	27.6	2.5
12	23.5	4.4	13.9	6.9	7.2	6.9	0	0	0	0	0	0	1272	1334	1427	1582	0.0	0.0	0.3	21.4	31.0	11.9
Summary	53.1	30.0	41.5	5.3	4.5	4.6	1540	1283	938	487	194	123	6411	6884	7635	9008	1.1	14.4	204.9	86.7	182.9	44.7

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **OAKES 2 S, ND US**

GHCND:USC00326620

Elev: 1325 ft. Lat: 46.146° N Lon: 98.092° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.56	@	@	@	@			
2	0.55	@	@	@	@			
3	1.29	@	@	@	@			
4	1.78	@	@	@	@			
5	2.96	@	@	@	@			
6	3.77	@	@	@	@			
7	3.22	@	@	@	@			
8	2.36	@	@	@	@			
9	2.52	@	@	@	@			
10	2.01	@	@	@	@			
11	0.79	@	@	@	@			
12	0.54	@	@	@	@			
Summary	22.35	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **OAKES 2 S, ND US**

GHCND:USC00326620

Elev: 1325 ft. Lat: 46.146° N Lon: 98.092° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	13	173	496	751	950	885	544	199	21	-7777
45	-7777	-7777	4	97	353	602	795	730	400	112	7	-7777
50	0	0	1	48	226	453	640	575	268	54	1	0
55	0	0	-7777	20	124	310	485	422	157	22	-7777	0
60	0	0	-7777	6	55	184	332	276	78	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	14	132	307	462	614	567	336	138	21	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	14	187	683	1434	2384	3269	3813	4012	4033	-7777
45	-7777	-7777	4	101	454	1056	1851	2581	2981	3093	3100	-7777
50	0	0	1	49	275	728	1368	1943	2211	2265	2266	2266
55	0	0	-7777	20	144	454	939	1361	1518	1540	-7777	1540
60	0	0	-7777	6	61	245	577	853	931	938	-7777	938
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	16	148	455	917	1531	2098	2434	2572	2593	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LANSFORD, ND US**

GHCND:USC00325002  
Elev: 1611 ft. Lat: 48.628° N Lon: 101.377° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.62	@	@	@	@			
2	0.48	@	@	@	@			
3	0.87	@	@	@	@			
4	1.33	@	@	@	@			
5	2.45	@	@	@	@			
6	3.40	@	@	@	@			
7	2.76	@	@	@	@			
8	1.88	@	@	@	@			
9	1.45	@	@	@	@			
10	1.24	@	@	@	@			
11	0.77	@	@	@	@			
12	0.60	@	@	@	@			
Summary	17.85	9999	9999	9999	9999	9999	9999	9999

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PETERSBURG 2 N, ND US**

GHCND:USC00327027  
Elev: 1529 ft. Lat: 48.036° N Lon: 98.010° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	14.5	-4.3	5.1	7.5	8.2	7.7	0	0	0	0	0	0	1547	1609	1702	1857	0.0	0.0	0.0	27.0	31.0	18.2
2	19.9	0.4	10.2	7.1	8.6	7.7	0	0	0	0	0	0	1256	1312	1396	1536	0.0	0.0	0.2	22.1	27.9	13.6
3	31.8	14.0	22.9	5.5	5.3	5.3	-7777	-7777	-7777	0	0	0	995	1057	1150	1305	0.0	0.0	2.1	14.5	29.7	5.3
4	51.7	29.4	40.6	5.5	3.5	4.3	13	8	4	1	-7777	-7777	446	502	588	734	0.0	0.0	16.4	2.0	18.0	-7777
5	65.6	41.7	53.7	3.6	3.6	3.4	97	70	41	13	2	1	139	174	237	364	0.0	0.3	28.3	0.0	4.4	0.0
6	74.3	52.1	63.2	3.7	3.1	3.3	262	212	147	66	21	11	16	27	51	120	0.0	1.1	29.9	0.0	0.0	0.0
7	79.3	56.4	67.8	3.5	2.4	2.7	399	339	251	126	44	25	1	3	8	38	-7777	1.7	31.0	0.0	-7777	0.0
8	78.9	54.2	66.6	3.5	2.7	2.9	362	304	222	109	38	22	5	9	20	61	-7777	2.3	31.0	0.0	0.1	0.0
9	68.5	43.8	56.2	3.3	3.0	2.9	125	95	60	22	5	3	90	120	175	287	0.0	0.4	28.9	0.0	2.4	0.0
10	53.1	31.0	42.1	3.9	3.4	3.0	14	9	4	1	-7777	-7777	415	472	561	712	0.0	-7777	17.9	1.3	16.7	-7777
11	33.7	16.5	25.1	6.9	5.8	6.2	-7777	-7777	0	0	0	0	897	957	1047	1197	0.0	0.0	3.7	13.7	27.9	3.2
12	18.7	1.5	10.1	7.0	7.6	7.2	0	0	0	0	0	0	1392	1454	1547	1702	0.0	0.0	0.0	25.8	31.0	14.0
Summary	49.2	28.1	38.6	5.1	4.8	4.7	1272	1037	729	338	110	62	7199	7696	8482	9913	0.0	5.8	189.4	106.4	189.1	54.3

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PETERSBURG 2 N, ND US**

GHCND:USC00327027

Elev: 1529 ft. Lat: 48.036° N Lon: 98.010° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	3.9	2.2	0.3	0.1	0.20	0.38	0.82
2	0.44	3.4	1.6	0.1	0.0	0.20	0.33	0.58
3	0.72	3.8	2.1	0.3	0.1	0.21	0.58	1.17
4	0.98	4.7	2.8	0.5	0.1	0.36	0.81	1.36
5	2.49	8.9	6.0	1.6	0.4	1.20	2.13	3.63
6	3.76	10.7	7.4	2.5	0.8	2.84	3.43	5.11
7	3.22	9.1	6.3	2.2	0.9	2.09	2.84	4.30
8	2.75	8.3	5.6	1.9	0.5	1.91	2.76	3.26
9	2.08	6.8	4.4	1.4	0.4	1.00	1.62	3.30
10	1.69	6.3	3.8	1.0	0.3	0.43	1.51	2.48
11	0.81	4.0	2.6	0.4	0.0	0.21	0.59	1.29
12	0.73	3.8	2.3	0.2	-7777	0.26	0.63	1.02
Summary	20.22	73.7	47.1	12.4	3.6	10.91	17.61	28.32

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Station: **PETERSBURG 2 N, ND US**

GHCND:USC00327027

Elev: 1529 ft. Lat: 48.036° N Lon: 98.010° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.3	4.0	3.5	1.0	0.4	-7777	@	@	@	@	3.5	5.0	11.0
2	7.8	3.5	3.4	1.0	0.3	0.0	@	@	@	@	4.0	7.5	9.0
3	6.4	2.9	2.8	0.8	0.4	-7777	@	@	@	@	4.0	5.5	9.3
4	1.9	0.9	0.8	0.4	0.1	0.0	@	@	@	@	0.0	0.7	4.0
5	0.5	0.2	0.2	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.1	-7777	-7777	-7777	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.2	0.9	0.8	0.3	0.1	0.1	@	@	@	@	0.0	2.0	3.0
11	5.6	3.1	2.8	1.2	0.4	0.0	@	@	@	@	1.5	4.0	6.5
12	10.5	3.7	3.6	1.5	0.4	0.0	@	@	@	@	7.0	9.7	13.0
Summary	43.3	19.2	17.9	6.3	2.1	0.1	9999	9999	9999	9999	20.0	34.4	55.8

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **PETERSBURG 2 N, ND US**

GHCND:USC00327027

Elev: 1529 ft. Lat: 48.036° N Lon: 98.010° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	134	431	696	863	822	487	157	14	-7777
45	0	-7777	2	71	298	546	708	668	348	83	5	0
50	0	-7777	-7777	33	184	400	553	513	223	37	1	0
55	0	0	-7777	13	97	262	399	362	125	14	-7777	0
60	0	0	-7777	4	41	147	251	222	60	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	6	95	258	420	551	519	294	105	12	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	6	140	571	1267	2130	2952	3439	3596	3610	-7777
45	0	-7777	2	73	371	917	1625	2293	2641	2724	2729	2729
50	0	-7777	-7777	33	217	617	1170	1683	1906	1943	1944	1944
55	0	0	-7777	13	110	372	771	1133	1258	1272	-7777	1272
60	0	0	-7777	4	45	192	443	665	725	729	729	729
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	6	101	359	779	1330	1849	2143	2248	2260	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data



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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **ROLETTE 2 SE, ND US**

GHCND:USC00327655

Elev: 1621 ft. Lat: 48.630° N Lon: 99.807° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	15.3	-5.8	4.8				0	0	0	0	0	0	1557	1619	1713	1868	0.0	0.0	0.0	28.0	31.0	18.9
2	20.1	-1.7	9.2				0	0	0	0	0	0	1282	1338	1422	1562	0.0	0.0	0.1	22.9	27.7	14.6
3	33.0	12.1	22.6				-7777	-7777	0	0	0	0	1005	1067	1161	1316	0.0	0.0	2.5	14.1	30.3	5.5
4	54.0	27.1	40.6				9	5	2	-7777	-7777	-7777	443	499	585	734	0.0	0.0	19.3	1.5	21.2	0.1
5	66.3	39.5	52.9				74	50	23	5	-7777	-7777	140	178	243	380	0.0	0.1	29.1	0.0	6.6	0.0
6	75.0	49.0	62.0				225	175	111	41	11	5	15	25	52	131	0.0	0.8	29.9	0.0	0.3	0.0
7	80.5	53.8	67.2				377	318	233	115	40	22	1	3	11	48	0.0	2.8	31.0	0.0	0.0	0.0
8	80.2	51.8	66.0				345	288	208	98	36	23	5	10	22	68	0.4	3.0	31.0	0.0	0.1	0.0
9	68.7	41.5	55.1				103	76	45	16	4	2	100	133	192	313	0.0	0.6	29.0	0.0	3.5	0.0
10	53.1	28.0	40.6				4	2	-7777	-7777	-7777	0	452	512	603	758	0.0	0.0	17.4	2.0	21.4	0.0
11	33.8	14.2	24.0				0	0	0	0	0	0	930	990	1080	1230	0.0	0.0	3.9	13.4	29.7	3.2
12	18.6	-0.5	9.1				0	0	0	0	0	0	1424	1486	1579	1734	0.0	0.0	0.0	25.7	30.9	16.2
Summary	49.9	25.8	37.8	9999	9999	9999	1137	914	622	275	91	52	7354	7860	8663	10142	0.4	7.3	193.2	107.6	202.7	58.5

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ROLETTE 2 SE, ND US**

GHCND:USC00327655

Elev: 1621 ft. Lat: 48.630° N Lon: 99.807° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.48	@	@	@	@			
2	0.48	@	@	@	@			
3	0.85	@	@	@	@			
4	1.33	@	@	@	@			
5	2.72	@	@	@	@			
6	3.53	@	@	@	@			
7	3.10	@	@	@	@			
8	2.26	@	@	@	@			
9	1.76	@	@	@	@			
10	1.27	@	@	@	@			
11	0.79	@	@	@	@			
12	0.78	@	@	@	@			
Summary	19.35	9999	9999	9999	9999	9999	9999	9999

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Station: **ROLETTE 2 SE, ND US**

GHCND:USC00327655

Elev: 1621 ft. Lat: 48.630° N Lon: 99.807° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	6	134	408	660	841	805	456	126	6	-7777
45	0	0	2	70	274	510	686	650	319	60	1	0
50	0	0	-7777	29	159	363	531	496	196	20	-7777	0
55	0	0	-7777	9	74	225	377	345	103	4	0	0
60	0	0	0	2	23	111	233	208	45	-7777	0	0
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	115	261	404	535	508	289	105	10	0

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	0	-7777	6	140	548	1208	2049	2854	3310	3436	3442	-7777
45	0	0	2	72	346	856	1542	2192	2511	2571	2572	2572
50	0	0	-7777	29	188	551	1082	1578	1774	1794	-7777	1794
55	0	0	-7777	9	83	308	685	1030	1133	1137	1137	1137
60	0	0	0	2	25	136	369	577	622	-7777	622	622
Growing Degree Units for Corn (Monthly)												
50/86	0	-7777	8	123	384	788	1323	1831	2120	2225	2235	2235

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **MC CLUSKY, ND US**

GHCND:USC00325710  
Elev: 1926 ft. Lat: 47.482° N Lon: 100.444° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.1	2.1	11.6	7.5	8.1	7.7	0	0	0	0	0	0	1345	1407	1500	1655	0.0	0.0	0.1	22.5	30.7	13.5
2	26.0	6.8	16.4	7.2	7.9	7.4	0	0	0	0	0	0	1081	1137	1221	1361	0.0	0.0	0.7	17.5	27.5	9.5
3	38.3	18.7	28.5	6.3	4.9	5.4	-7777	-7777	-7777	-7777	0	0	822	883	976	1131	0.0	0.0	5.5	8.7	28.0	3.1
4	56.5	32.2	44.4	5.0	3.0	3.8	23	15	8	2	-7777	-7777	342	395	477	621	0.0	0.1	21.3	1.1	14.5	0.0
5	69.1	44.6	56.8	3.8	3.0	3.1	141	106	64	22	6	3	83	111	162	275	0.0	0.5	29.7	0.0	2.2	0.0
6	77.3	54.2	65.7	4.5	3.3	3.7	329	274	198	99	40	25	6	11	26	77	0.2	2.4	30.0	0.0	0.0	0.0
7	83.8	59.4	71.6	3.9	2.5	2.9	515	453	361	218	102	69	-7777	-7777	2	13	0.4	6.2	31.0	0.0	0.0	0.0
8	83.3	57.4	70.3	3.8	2.6	3.1	477	416	328	196	92	62	1	3	7	30	0.4	7.2	31.0	0.0	0.0	0.0
9	72.3	47.2	59.8	4.0	2.5	3.0	192	153	103	45	15	8	50	71	110	203	0.0	1.3	29.3	0.0	0.8	0.0
10	57.1	34.2	45.6	4.1	3.0	3.0	28	19	9	2	-7777	-7777	318	371	454	602	0.0	-7777	22.4	0.8	11.7	-7777
11	37.7	19.5	28.6	7.3	5.4	6.2	-7777	-7777	-7777	0	0	0	792	852	942	1092	0.0	0.0	5.9	9.8	26.8	1.8
12	23.8	6.3	15.0	7.2	7.4	7.2	0	0	0	0	0	0	1238	1300	1393	1548	0.0	0.0	0.1	21.0	30.9	9.7
Summary	53.9	31.9	42.9	5.4	4.5	4.7	1705	1436	1071	584	255	167	6078	6541	7270	8608	1.0	17.7	207.0	81.4	173.1	37.6

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www.ncdc.noaa.gov

Station: **MC CLUSKY, ND US**

GHCND:USC00325710

Elev: 1926 ft. Lat: 47.482° N Lon: 100.444° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.57	5.6	2.2	-7777	0.0	0.28	0.52	0.85
2	0.48	4.3	1.6	0.1	-7777	0.18	0.33	0.55
3	0.72	5.1	2.0	0.4	-7777	0.30	0.63	0.94
4	1.21	5.6	2.9	0.6	0.1	0.58	0.84	1.52
5	2.45	9.2	5.5	1.5	0.4	1.46	2.19	3.04
6	3.23	10.6	6.8	1.9	0.8	1.98	2.67	3.94
7	2.62	9.1	6.1	1.8	0.4	1.65	2.15	3.07
8	2.11	6.7	4.0	1.1	0.4	0.87	1.75	3.26
9	1.58	6.8	3.6	0.9	0.2	0.81	1.47	1.95
10	1.37	5.9	2.8	0.7	0.3	0.28	0.89	2.17
11	0.67	5.2	2.1	0.2	0.0	0.17	0.49	1.28
12	0.55	5.3	1.8	0.1	0.0	0.25	0.46	0.66
Summary	17.56	79.4	41.4	9.3	2.6	8.81	14.39	23.23

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Station: **MC CLUSKY, ND US**

GHCND:USC00325710  
Elev: 1926 ft. Lat: 47.482° N Lon: 100.444° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.9	5.6	3.0	1.2	0.3	0.0	25.1	19.1	14.8	8.5	4.0	8.0	13.6
2	5.6	3.9	2.2	0.7	0.2	0.0	20.7	17.4	10.8	5.1	2.7	5.2	7.0
3	5.8	2.6	1.8	0.6	0.2	-7777	13.5	10.7	7.6	2.6	1.0	4.2	8.9
4	4.1	1.1	0.9	0.5	0.2	0.1	2.1	1.5	1.1	0.6	0.0	2.0	5.9
5	0.3	0.1	0.1	0.1	-7777	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	2.3	0.9	0.7	0.3	0.2	0.0	1.0	0.6	0.4	0.2	0.0	0.3	2.3
11	7.8	4.0	2.6	0.9	0.4	0.0	10.6	6.7	4.1	2.3	0.2	3.8	13.0
12	7.8	5.0	2.8	0.8	0.3	-7777	23.3	15.0	10.2	5.3	2.4	5.0	12.0
Summary	42.6	23.2	14.1	5.1	1.8	0.1	96.4	71.0	49.0	24.6	10.3	28.5	62.7

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MC CLUSKY, ND US**

GHCND:USC00325710  
Elev: 1926 ft. Lat: 47.482° N Lon: 100.444° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	19	199	525	772	980	940	593	232	27	-7777
45	0	-7777	6	113	380	623	824	786	448	135	11	0
50	0	0	1	56	249	474	669	631	311	67	2	0
55	0	0	-7777	23	141	329	515	477	192	28	-7777	0
60	0	0	-7777	8	64	198	361	328	103	9	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	138	315	477	640	604	359	148	21	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	20	219	744	1516	2496	3436	4029	4261	4288	-7777
45	0	-7777	6	119	499	1122	1946	2732	3180	3315	3326	3326
50	0	0	1	57	306	780	1449	2080	2391	2458	2460	2460
55	0	0	-7777	23	164	493	1008	1485	1677	1705	-7777	1705
60	0	0	-7777	8	72	270	631	959	1062	1071	-7777	1071
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	20	158	473	950	1590	2194	2553	2701	2722	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORMAN 5 SSE, ND US**

GHCND:USC00323117

Elev: 1250 ft. Lat: 46.033° N Lon: 97.595° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	19.9	0.0	10.0	7.2	7.4	7.2	0	0	0	0	0	0	1396	1458	1551	1706	0.0	0.0	0.2	24.2	31.0	15.9
2	25.2	5.4	15.3	7.5	8.2	7.7	0	0	0	0	0	0	1111	1167	1251	1391	0.0	0.0	1.1	17.9	27.6	10.7
3	37.8	18.4	28.1	5.9	5.1	5.2	-7777	-7777	-7777	-7777	0	0	834	896	989	1144	0.0	0.0	5.3	9.5	28.1	3.1
4	55.8	32.2	44.0	5.0	3.0	3.7	26	18	10	2	-7777	-7777	356	408	490	632	0.0	-7777	20.0	1.0	15.0	0.0
5	68.4	44.8	56.6	3.9	3.5	3.5	141	108	68	26	7	3	92	121	173	286	0.0	0.4	29.2	0.0	1.8	0.0
6	76.9	54.8	65.9	4.2	2.9	3.3	333	278	203	103	40	25	7	13	28	78	0.1	2.3	30.0	0.0	0.0	0.0
7	83.0	59.7	71.3	3.8	2.6	3.0	507	445	354	212	100	67	-7777	1	2	15	0.4	5.0	31.0	0.0	0.0	0.0
8	81.9	57.0	69.5	3.7	2.5	2.9	449	389	301	173	77	51	1	3	9	35	0.5	4.2	31.0	0.0	-7777	0.0
9	71.6	46.7	59.2	3.7	2.8	2.9	184	146	98	44	15	9	59	82	124	219	-7777	1.0	29.4	0.0	1.4	0.0
10	57.1	33.9	45.5	3.6	3.0	2.8	29	20	10	2	-7777	-7777	324	376	459	607	0.0	-7777	22.0	0.6	12.9	0.0
11	38.7	19.8	29.2	6.8	5.3	5.8	-7777	-7777	-7777	-7777	0	0	773	833	922	1072	0.0	0.0	6.4	9.8	26.7	1.9
12	24.1	6.0	15.0	7.1	7.4	7.1	0	0	0	0	0	0	1238	1300	1393	1548	0.0	0.0	0.4	21.1	30.9	10.5
Summary	53.4	31.6	42.5	5.2	4.5	4.6	1669	1404	1044	562	239	155	6191	6658	7391	8733	1.0	12.9	206.0	84.1	175.4	42.1

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **FORMAN 5 SSE, ND US**

GHCND:USC00323117

Elev: 1250 ft. Lat: 46.033° N Lon: 97.595° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	5.7	1.7	0.2	0.0	0.20	0.54	0.89
2	0.52	5.4	2.2	0.1	0.0	0.24	0.47	0.74
3	1.14	5.8	3.0	0.6	0.1	0.67	1.15	1.62
4	1.76	6.6	3.8	1.1	0.4	0.76	1.29	2.39
5	2.73	8.9	5.4	1.8	0.7	1.66	2.48	3.30
6	4.04	10.3	6.8	2.8	1.1	2.14	3.63	5.38
7	3.30	9.3	6.1	2.3	1.0	2.15	3.24	4.38
8	2.14	7.6	4.9	1.4	0.5	1.44	2.06	2.59
9	2.28	7.5	4.6	1.6	0.5	1.29	2.09	2.83
10	2.10	6.4	4.2	1.4	0.4	0.50	1.64	3.15
11	0.92	5.4	2.5	0.6	0.0	0.23	0.81	1.21
12	0.58	6.0	2.1	0.1	0.0	0.21	0.54	0.87
Summary	22.12	84.9	47.3	14.0	4.7	11.49	19.94	29.35

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www.ncdc.noaa.gov

Station: **FORMAN 5 SSE, ND US**

GHCND:USC00323117

Elev: 1250 ft. Lat: 46.033° N Lon: 97.595° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	21	193	517	775	972	913	575	225	28	-7777
45	-7777	-7777	7	112	373	625	817	758	431	131	11	-7777
50	0	-7777	2	57	245	477	662	603	298	67	3	0
55	0	0	-7777	26	141	333	507	449	184	29	-7777	0
60	0	0	-7777	10	68	203	354	301	98	10	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	2	19	133	309	481	638	590	350	145	23	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	22	215	732	1507	2479	3392	3967	4192	4220	-7777
45	-7777	-7777	7	119	492	1117	1934	2692	3123	3254	3265	-7777
50	0	-7777	2	59	304	781	1443	2046	2344	2411	2414	2414
55	0	0	-7777	26	167	500	1007	1456	1640	1669	-7777	1669
60	0	0	-7777	10	78	281	635	936	1034	1044	-7777	1044
Growing Degree Units for Corn (Monthly)												
50/86	1	3	22	155	464	945	1583	2173	2523	2668	2691	2692

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

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Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LAKE METIGOSHE ST PK, ND US

GHCND:USC00324879

Elev: 2142 ft. Lat: 48.980° N Lon: 100.334° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	5.2	1.9	0.2	0.1	0.33	0.47	0.69
2	0.51	4.1	1.7	0.2	0.1	0.19	0.42	0.68
3	0.78	4.2	2.1	0.6	0.1	0.53	0.67	1.17
4	0.97	3.9	2.4	0.4	0.0	0.45	0.85	1.06
5	2.85	9.0	6.2	2.0	0.5	1.97	2.38	3.39
6	3.91	11.1	8.2	2.2	0.8	2.53	3.63	4.85
7	3.15	9.0	5.9	2.4	0.6	1.76	3.06	4.48
8	2.57	7.8	5.5	1.5	0.6	1.05	2.27	3.80
9	1.83	6.8	4.3	1.1	0.3	1.27	1.73	2.42
10	1.46	4.9	3.1	0.6	0.2	0.32	1.16	2.62
11	0.94	4.5	2.8	0.4	-7777	0.23	0.96	1.55
12	0.59	4.2	1.9	0.2	-7777	0.28	0.55	0.83
Summary	20.11	74.7	46.0	11.8	3.3	10.91	18.15	27.54

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Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: LAKE METIGOSHE ST PK, ND US

GHCND:USC00324879  
Elev: 2142 ft. Lat: 48.980° N Lon: 100.334° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	9.8	5.2	3.4	0.8	0.3	-7777	@	@	@	@	6.0	7.3	13.3
2	8.1	4.1	2.7	0.9	0.3	-7777	@	@	@	@	4.5	6.7	12.0
3	7.7	3.2	2.1	0.9	0.4	0.1	@	@	@	@	3.0	6.0	12.7
4	3.3	1.2	0.9	0.5	0.1	-7777	@	@	@	@	0.0	0.0	6.5
5	1.9	0.5	0.4	0.2	0.2	-7777	@	@	@	@	0.0	0.0	1.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	2.8	1.0	0.8	0.5	0.2	0.0	@	@	@	@	0.0	0.2	4.0
11	8.7	3.8	2.6	1.2	0.4	-7777	@	@	@	@	5.0	10.3	13.0
12	8.7	4.9	3.6	1.1	0.4	-7777	@	@	@	@	5.0	8.5	10.6
Summary	51.0	23.9	16.5	6.1	2.3	0.1	9999	9999	9999	9999	23.5	39.0	73.1

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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **ALMONT, ND US**

GHCND:USC00320127  
Elev: 1916 ft. Lat: 46.725° N Lon: 101.505° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.4	3.2	14.3	7.8	7.6	7.6	0	0	0	0	0	0	1262	1324	1417	1572	0.0	0.0	0.7	18.8	30.7	12.5
2	30.3	8.4	19.3	7.7	8.3	7.8	0	0	0	0	0	0	998	1054	1138	1278	0.0	0.0	2.3	14.4	27.3	8.1
3	41.9	19.0	30.5	6.6	5.2	5.6	1	-7777	-7777	0	0	0	761	823	916	1071	0.0	0.0	9.5	7.5	28.0	2.8
4	58.7	30.0	44.3	5.0	2.8	3.6	23	16	8	1	-7777	-7777	343	395	477	621	0.0	0.2	22.6	1.0	16.8	0.1
5	69.8	41.5	55.7	3.3	2.8	2.7	119	87	51	16	4	2	99	129	186	306	0.0	0.6	29.7	0.0	5.0	0.0
6	77.7	50.9	64.3	4.2	3.0	3.4	289	237	167	78	29	19	10	18	38	99	0.4	2.6	30.0	0.0	0.2	0.0
7	85.3	55.9	70.6	4.9	2.5	3.5	484	423	333	198	95	65	-7777	1	4	25	1.7	9.1	31.0	0.0	0.0	0.0
8	84.1	54.2	69.1	3.7	2.8	3.0	441	381	295	170	75	50	2	5	11	41	0.5	7.8	31.0	0.0	0.1	0.0
9	73.3	43.4	58.4	4.3	2.4	3.0	161	125	80	33	11	6	61	85	130	232	0.1	1.6	29.4	0.0	3.1	0.0
10	58.4	31.2	44.8	4.2	3.0	2.9	22	14	6	1	-7777	-7777	338	392	477	628	0.0	0.3	23.0	0.8	16.3	0.1
11	40.6	17.9	29.3	7.8	4.9	6.0	-7777	-7777	0	0	0	0	773	833	922	1072	0.0	0.0	7.9	7.9	27.2	2.2
12	27.8	6.0	16.9	7.7	6.6	7.0	0	0	0	0	0	0	1181	1243	1336	1491	0.0	0.0	1.4	17.6	30.8	9.5
Summary	56.1	30.1	43.1	5.6	4.3	4.7	1540	1283	940	497	214	142	5828	6302	7052	8436	2.7	22.2	218.5	68.0	185.5	35.3

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Station: **ALMONT, ND US**

GHCND:USC00320127  
Elev: 1916 ft. Lat: 46.725° N Lon: 101.505° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.31	4.5	1.6	-7777	0.0	0.11	0.27	0.47
2	0.38	3.9	1.4	0.2	0.0	0.17	0.26	0.44
3	0.71	4.9	1.9	0.4	0.1	0.32	0.66	0.94
4	1.49	5.8	3.4	0.6	0.1	0.85	1.18	1.96
5	2.35	8.4	5.3	1.7	0.5	1.23	2.06	3.34
6	3.34	9.7	6.2	2.1	0.7	2.27	2.94	4.70
7	2.65	7.8	5.4	1.8	0.6	1.13	2.37	3.44
8	2.01	6.5	4.0	1.3	0.4	0.66	1.83	2.57
9	1.38	5.4	3.1	0.6	0.2	0.79	1.19	1.64
10	1.20	4.3	2.7	0.6	0.2	0.49	0.87	1.27
11	0.60	4.1	2.0	0.2	0.0	0.09	0.43	1.04
12	0.45	4.4	1.3	0.0	0.0	0.16	0.45	0.67
Summary	16.87	69.7	38.3	9.5	2.8	8.27	14.51	22.48

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **ALMONT, ND US**

GHCND:USC00320127  
Elev: 1916 ft. Lat: 46.725° N Lon: 101.505° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	33	199	489	729	948	903	552	214	27	-7777
45	-7777	1	11	112	345	579	793	748	409	120	10	-7777
50	0	-7777	3	55	218	431	638	594	274	56	3	0
55	0	0	1	23	119	289	484	441	161	22	-7777	0
60	0	0	-7777	8	51	167	333	295	80	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	2	6	39	162	318	455	605	579	359	164	33	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	37	236	725	1454	2402	3305	3857	4071	4098	-7777
45	-7777	1	12	124	469	1048	1841	2589	2998	3118	3128	-7777
50	0	-7777	3	58	276	707	1345	1939	2213	2269	2272	2272
55	0	0	1	24	143	432	916	1357	1518	1540	-7777	1540
60	0	0	-7777	8	59	226	559	854	934	940	940	940
Growing Degree Units for Corn (Monthly)												
50/86	2	8	47	209	527	982	1587	2166	2525	2689	2722	2724

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TOWNER 2 NE, ND US**

GHCND:USC00328792  
Elev: 1480 ft. Lat: 48.371° N Lon: 100.391° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.4	-3.9	6.7	7.9	8.9	8.3	0	0	0	0	0	0	1496	1557	1650	1806	0.0	0.0	-7777	24.9	30.9	17.5
2	22.8	0.5	11.6	7.2	9.0	8.0	0	0	0	0	0	0	1214	1270	1354	1494	0.0	0.0	0.5	19.4	27.9	13.3
3	34.6	14.0	24.3	6.3	6.1	6.0	-7777	-7777	-7777	0	0	0	952	1014	1107	1262	0.0	0.0	3.4	11.6	29.6	5.2
4	54.4	28.1	41.3	5.5	3.2	4.0	15	9	4	1	-7777	-7777	427	482	567	714	0.0	-7777	18.8	1.4	20.7	0.1
5	67.3	40.0	53.7	4.0	3.4	3.3	89	63	35	11	2	1	131	167	232	363	0.0	0.5	29.1	-7777	5.6	0.0
6	75.9	49.7	62.8	4.3	3.3	3.5	251	202	137	59	20	13	17	28	53	125	-7777	1.8	29.9	0.0	0.3	0.0
7	82.3	54.5	68.4	4.1	2.1	2.8	416	356	268	139	52	31	1	3	8	34	0.3	4.5	31.0	0.0	0.0	0.0
8	81.9	52.1	67.0	4.0	3.0	3.2	376	318	236	121	46	28	4	8	19	59	0.4	5.5	31.0	0.0	0.2	0.0
9	70.6	41.6	56.1	4.2	2.4	2.9	124	94	59	21	5	3	91	121	176	288	-7777	0.9	28.9	0.0	3.6	0.0
10	55.7	28.9	42.3	4.4	3.1	3.1	14	9	4	1	-7777	0	408	464	553	704	0.0	-7777	20.5	1.3	19.6	0.1
11	36.1	14.7	25.4	7.9	6.3	6.7	-7777	-7777	0	0	0	0	888	948	1038	1188	0.0	0.0	5.4	11.7	29.1	4.0
12	21.3	0.6	11.0	7.5	7.7	7.5	0	0	0	0	0	0	1365	1427	1520	1675	0.0	0.0	0.2	22.8	30.9	14.2
Summary	51.7	26.7	39.2	5.6	4.9	4.9	1285	1051	743	353	125	76	6994	7489	8277	9712	0.7	13.2	198.7	93.1	198.4	54.4

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TOWNER 2 NE, ND US**

GHCND:USC00328792

Elev: 1480 ft. Lat: 48.371° N Lon: 100.391° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.50	4.1	2.2	0.1	0.0	0.17	0.46	0.75
2	0.54	3.7	1.5	0.2	0.1	0.17	0.35	0.72
3	0.89	3.4	2.1	0.4	0.1	0.35	0.57	1.39
4	1.02	3.7	2.5	0.6	0.1	0.40	0.70	1.12
5	2.34	6.1	4.3	1.6	0.4	1.52	1.80	3.18
6	3.17	8.6	6.2	2.6	0.7	2.07	2.78	4.39
7	2.69	6.5	4.8	2.1	0.6	1.24	2.45	3.50
8	1.88	5.9	3.9	1.3	0.4	0.86	1.46	2.43
9	1.52	4.5	3.2	1.0	0.2	0.65	1.43	2.21
10	1.26	3.5	2.6	0.9	0.2	0.19	0.68	1.38
11	0.79	3.3	2.2	0.4	-7777	0.18	0.54	1.19
12	0.59	3.8	2.0	0.2	0.0	0.18	0.51	0.90
Summary	17.19	57.1	37.5	11.4	2.8	7.98	13.73	23.16

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**Summary of  
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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **TOWNER 2 NE, ND US**

GHCND:USC00328792  
Elev: 1480 ft. Lat: 48.371° N Lon: 100.391° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.4	3.9	3.2	1.0	0.2	-7777	29.0	25.1	21.1	12.6	4.0	8.0	11.1
2	6.0	3.2	2.8	0.8	0.3	0.0	24.1	19.4	14.8	11.5	2.0	5.0	8.0
3	4.7	2.2	1.8	0.7	0.3	0.0	15.7	12.6	10.8	5.4	0.7	5.0	7.2
4	3.0	1.1	0.9	0.5	0.3	-7777	3.6	2.8	2.1	0.6	0.0	0.0	4.5
5	0.5	0.1	0.1	0.1	-7777	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
10	2.4	0.8	0.6	0.4	0.2	-7777	1.1	0.6	0.4	0.0	0.0	0.0	3.3
11	5.7	2.5	2.0	0.9	0.4	-7777	10.3	7.7	6.0	2.9	0.5	2.8	11.0
12	7.3	3.4	2.8	1.3	0.3	0.0	21.2	17.8	13.5	4.8	2.0	6.0	10.0
Summary	38.1	17.3	14.3	5.7	2.0	0.0	105.3	86.1	68.8	37.8	9.2	26.8	55.1

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **TOWNER 2 NE, ND US**

GHCND:USC00328792  
Elev: 1480 ft. Lat: 48.371° N Lon: 100.391° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	145	432	684	880	836	487	166	14	-7777
45	0	-7777	3	78	296	534	725	682	348	90	4	0
50	0	-7777	1	37	178	388	570	527	223	40	1	0
55	0	0	-7777	15	89	251	416	376	124	14	-7777	0
60	0	0	-7777	4	35	137	268	236	59	4	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	11	119	277	421	561	529	316	136	21	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	-7777	9	154	586	1270	2150	2986	3473	3639	3653	-7777
45	0	-7777	3	81	377	911	1636	2318	2666	2756	2760	2760
50	0	-7777	1	38	216	604	1174	1701	1924	1964	1965	1965
55	0	0	-7777	15	104	355	771	1147	1271	1285	-7777	1285
60	0	0	-7777	4	39	176	444	680	739	743	743	743
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	12	131	408	829	1390	1919	2235	2371	2392	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HALLIDAY, ND US**

GHCND:USC00323846  
Elev: 2060 ft. Lat: 47.354° N Lon: 102.337° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.46	@	@	@	@			
2	0.44	@	@	@	@			
3	0.83	@	@	@	@			
4	1.38	@	@	@	@			
5	2.46	@	@	@	@			
6	3.40	@	@	@	@			
7	2.65	@	@	@	@			
8	1.68	@	@	@	@			
9	1.42	@	@	@	@			
10	1.32	@	@	@	@			
11	0.67	@	@	@	@			
12	0.46	@	@	@	@			
Summary	17.17	9999	9999	9999	9999	9999	9999	9999

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **SYKESTON, ND US**

GHCND:USC00328608

Elev: 1634 ft. Lat: 47.465° N Lon: 99.398° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	3.2	1.4	0.3	-7777	0.19	0.37	0.98
2	0.60	2.5	1.4	0.3	0.1	0.18	0.41	0.63
3	0.95	3.8	2.3	0.4	0.1	0.31	0.94	1.37
4	1.24	4.6	3.2	0.7	0.2	0.51	0.96	1.60
5	2.45	7.5	5.3	1.6	0.4	1.20	1.89	3.52
6	3.53	9.6	6.7	2.2	0.7	2.14	3.09	4.59
7	3.52	8.1	6.5	2.0	0.8	2.19	3.13	4.70
8	1.95	6.4	4.4	1.3	0.3	1.03	1.81	2.30
9	1.83	5.5	3.9	1.0	0.4	0.85	1.43	2.41
10	1.79	4.8	3.7	1.2	0.3	0.59	1.63	2.83
11	0.75	3.6	2.3	0.3	-7777	0.14	0.72	1.15
12	0.58	3.5	1.4	0.1	0.1	0.16	0.37	0.71
Summary	19.80	63.1	42.5	11.4	3.4	9.49	16.75	26.79

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
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**Summary of  
 Monthly Normals  
 1981-2010**

National Climatic Data Center  
 Federal Building  
 151 Patton Avenue  
 Asheville, North Carolina 28801  
 www.ncdc.noaa.gov

Station: **SYKESTON, ND US**

GHCND:USC00328608  
 Elev: 1634 ft. Lat: 47.465° N Lon: 99.398° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.5	3.3	2.4	0.7	0.2	-7777	18.1	13.3	10.7	4.5	2.3	5.0	9.8
2	4.1	2.4	1.6	0.6	0.1	0.0	15.8	12.6	9.1	3.2	1.5	2.1	6.0
3	5.2	2.2	1.5	0.7	0.2	-7777	11.0	7.8	6.0	1.7	1.5	3.0	9.0
4	3.3	1.3	1.0	0.5	0.3	-7777	2.1	1.2	0.9	0.4	0.0	0.0	5.5
5	0.3	0.1	0.1	-7777	0.0	0.0	0.2	0.1	-7777	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.1	-7777	-7777	0.0	0.0	0.1	-7777	0.0	0.0	0.0	0.0	0.0
10	1.8	0.8	0.5	0.3	0.1	0.0	0.7	0.3	0.2	0.0	0.0	0.0	2.5
11	6.5	2.5	2.0	1.0	0.2	-7777	8.5	4.9	3.5	1.2	1.0	5.0	8.9
12	8.4	3.1	2.5	0.8	0.3	-7777	16.1	10.1	7.3	3.9	1.5	6.3	12.0
Summary	36.2	15.8	11.6	4.6	1.4	0.0	72.6	50.3	37.7	14.9	7.8	21.4	53.7

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 -7777 indicates a non-zero growing degree day value that would round to zero  
 Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>  
 Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **ROLLA 1 NE, ND US**

GHCND:USC00327664

Elev: 1834 ft. Lat: 48.881° N Lon: 99.586° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	15.5	-3.4	6.0	7.7	7.9	7.7	0	0	0	0	0	0	1517	1579	1672	1827	0.0	0.0	0.1	25.5	31.0	17.9
2	20.0	0.7	10.4	6.6	7.9	7.1	0	0	0	0	0	0	1250	1306	1390	1530	0.0	0.0	0.3	21.4	27.8	13.6
3	30.4	12.1	21.3	5.5	5.0	5.1	-7777	-7777	-7777	0	0	0	1046	1108	1201	1356	0.0	0.0	1.9	16.4	30.3	5.8
4	49.1	25.9	37.5	5.4	3.7	4.3	7	4	2	-7777	0	0	532	589	677	825	0.0	0.0	14.1	3.0	22.5	0.2
5	62.0	38.1	50.0	3.8	3.3	3.3	53	37	19	5	1	-7777	207	252	327	469	0.0	0.1	26.4	0.1	7.3	0.0
6	70.0	48.7	59.4	4.4	2.9	3.5	171	131	82	31	8	4	41	61	102	200	0.0	0.5	29.4	0.0	0.2	0.0
7	75.1	54.1	64.6	3.7	2.0	2.7	302	245	166	68	18	9	5	10	24	81	-7777	0.6	31.0	0.0	0.0	0.0
8	75.0	51.8	63.4	4.0	2.7	3.2	272	219	148	61	17	9	12	21	43	110	0.0	1.3	30.9	0.0	0.1	0.0
9	64.3	41.7	53.0	3.7	3.1	3.2	77	56	31	9	2	1	137	176	241	369	0.0	0.1	27.6	-7777	2.9	0.0
10	50.0	29.1	39.6	4.0	3.0	3.2	9	6	3	-7777	0	0	488	547	637	789	0.0	0.0	15.3	2.3	19.5	0.1
11	32.2	15.3	23.7	6.6	5.9	6.1	-7777	-7777	-7777	0	0	0	937	997	1087	1237	0.0	0.0	3.0	14.8	28.3	3.6
12	18.6	1.1	9.9	7.3	7.9	7.5	0	0	0	0	0	0	1399	1461	1554	1709	0.0	0.0	0.1	25.1	30.9	14.2
Summary	46.8	26.3	36.6	5.2	4.6	4.7	891	698	451	174	46	23	7571	8107	8955	10502	0.0	2.6	180.1	108.6	200.8	55.4

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **ROLLA 1 NE, ND US**

GHCND:USC00327664

Elev: 1834 ft. Lat: 48.881° N Lon: 99.586° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.45	6.9	1.5	0.1	-7777	0.24	0.37	0.61
2	0.40	4.9	1.3	0.0	0.0	0.18	0.35	0.50
3	0.80	5.3	1.8	0.2	0.1	0.32	0.75	1.09
4	1.04	5.2	2.7	0.6	0.2	0.41	0.82	1.32
5	2.49	9.3	5.7	1.6	0.5	1.48	2.33	3.15
6	3.66	11.6	7.6	2.6	0.7	2.46	3.58	4.49
7	2.98	8.5	5.4	2.1	0.7	1.12	2.75	4.35
8	2.45	8.6	5.4	1.2	0.4	1.22	2.06	3.52
9	1.71	7.4	4.1	0.9	0.3	1.05	1.31	2.27
10	1.31	6.2	3.2	0.7	0.2	0.33	0.90	1.83
11	0.84	6.1	2.5	0.3	0.1	0.15	0.61	1.30
12	0.52	6.2	1.6	0.1	0.0	0.30	0.46	0.74
Summary	18.65	86.2	42.8	10.4	3.2	9.26	16.29	25.17

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Station: **ROLLA 1 NE, ND US**

GHCND:USC00327664

Elev: 1834 ft. Lat: 48.881° N Lon: 99.586° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	5	97	334	580	763	725	397	120	12	-7777
45	-7777	-7777	1	50	214	433	607	570	265	60	4	0
50	0	0	-7777	21	117	293	453	418	156	25	1	0
55	0	0	-7777	7	53	171	302	272	77	9	-7777	0
60	0	0	-7777	2	19	82	166	148	31	3	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	75	204	331	459	435	227	79	9	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	6	103	437	1017	1780	2505	2902	3022	3034	-7777
45	-7777	-7777	1	51	265	698	1305	1875	2140	2200	2204	2204
50	0	0	-7777	21	138	431	884	1302	1458	1483	1484	1484
55	0	0	-7777	7	60	231	533	805	882	891	-7777	891
60	0	0	-7777	2	21	103	269	417	448	451	-7777	451
Growing Degree Units for Corn (Monthly)												
50/86	-7777	-7777	5	80	284	615	1074	1509	1736	1815	1824	-7777

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HANKINSON, ND US**

GHCND:USC00323908

Elev: 1070 ft. Lat: 46.067° N Lon: 96.900° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.5	-0.8	10.4	6.9	7.5	7.1	0	0	0	0	0	0	1384	1446	1539	1694	0.0	0.0	0.2	23.6	31.0	16.4
2	26.7	4.5	15.6	6.9	8.6	7.6	0	0	0	0	0	0	1103	1159	1243	1383	0.0	0.0	1.5	16.7	28.0	11.2
3	38.4	18.4	28.4	5.2	4.5	4.6	-7777	-7777	-7777	0	0	0	825	887	980	1135	0.0	0.0	4.7	7.9	29.1	2.6
4	55.6	31.6	43.6	5.1	2.4	3.5	24	16	9	2	-7777	0	366	418	501	644	0.0	0.0	19.8	0.8	16.0	0.0
5	69.5	44.6	57.1	3.7	3.1	3.1	148	114	73	27	6	3	85	113	164	273	0.0	0.4	29.3	0.0	2.2	0.0
6	77.6	54.6	66.1	3.8	2.4	2.9	340	286	210	107	42	26	8	13	27	74	0.2	2.6	30.0	0.0	0.0	0.0
7	83.7	59.4	71.6	3.3	2.2	2.6	513	451	360	216	101	68	-7777	-7777	2	13	0.6	6.4	31.0	0.0	0.0	0.0
8	82.0	56.0	69.0	3.2	2.5	2.8	434	374	287	162	73	48	1	2	9	39	0.2	4.9	31.0	0.0	0.0	0.0
9	72.0	46.0	59.0	3.2	2.3	2.4	177	139	91	37	10	6	57	79	122	217	0.1	1.0	29.4	0.0	1.0	0.0
10	57.9	33.1	45.5	3.8	2.8	2.6	25	16	7	2	-7777	-7777	319	372	457	606	0.0	0.1	23.2	0.4	14.0	0.0
11	39.8	19.9	29.8	6.6	5.5	5.8	-7777	-7777	-7777	-7777	0	0	755	815	905	1055	0.0	0.0	6.6	8.7	26.8	1.9
12	25.2	5.7	15.5	6.8	7.3	6.9	0	0	0	0	0	0	1226	1288	1381	1536	0.0	0.0	0.9	19.9	30.7	11.4
Summary	54.2	31.1	42.6	4.9	4.3	4.3	1661	1396	1037	553	232	151	6129	6592	7330	8669	1.1	15.4	207.6	78.0	178.8	43.5

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HANKINSON, ND US**

GHCND:USC00323908

Elev: 1070 ft. Lat: 46.067° N Lon: 96.900° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	15	179	532	783	978	899	571	222	32	1
45	-7777	-7777	5	102	388	633	823	744	426	125	12	-7777
50	0	0	1	53	255	484	668	589	291	59	3	-7777
55	0	0	-7777	24	148	340	513	434	177	25	-7777	0
60	0	0	-7777	9	73	210	360	287	91	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	3	16	127	323	484	638	574	347	152	26	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	16	195	727	1510	2488	3387	3958	4180	4212	4213
45	-7777	-7777	5	107	495	1128	1951	2695	3121	3246	3258	-7777
50	0	0	1	54	309	793	1461	2050	2341	2400	2403	-7777
55	0	0	-7777	24	172	512	1025	1459	1636	1661	-7777	1661
60	0	0	-7777	9	82	292	652	939	1030	1037	-7777	1037
Growing Degree Units for Corn (Monthly)												
50/86	1	4	20	147	470	954	1592	2166	2513	2665	2691	2692

**M** indicates the value is missing**-7777** indicates a non-zero growing degree day value that would round to zero**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **HEART BUTTE DAM, ND US**

GHCND:USC00324091  
Elev: 2133 ft. Lat: 46.592° N Lon: 101.808° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.5	3.0	14.2	7.7	7.6	7.6	0	0	0	0	0	0	1263	1325	1418	1573	0.0	0.0	0.9	18.7	30.9	12.7
2	30.0	7.3	18.7	7.3	8.0	7.5	0	0	0	0	0	0	1018	1074	1158	1298	0.0	0.0	2.3	14.6	27.7	8.7
3	40.5	17.9	29.2	6.4	5.3	5.7	-7777	-7777	-7777	-7777	0	0	800	862	955	1110	0.0	0.0	8.5	9.1	29.0	3.2
4	56.1	29.5	42.8	4.7	3.1	3.7	19	12	6	1	-7777	-7777	385	438	522	667	0.0	0.1	20.3	1.4	17.6	-7777
5	67.1	41.7	54.4	3.4	2.8	2.9	104	77	45	15	3	2	123	157	218	343	0.0	0.3	28.6	-7777	4.0	0.0
6	76.4	51.8	64.1	4.2	2.9	3.5	287	236	167	80	29	19	14	23	44	107	0.3	2.3	29.9	0.0	-7777	0.0
7	84.1	57.3	70.7	4.5	2.5	3.3	487	426	337	201	96	66	1	2	5	24	1.2	8.1	31.0	0.0	0.0	0.0
8	83.3	54.9	69.1	3.9	2.5	3.1	440	381	296	170	77	51	3	6	14	44	0.6	7.8	31.0	0.0	0.0	0.0
9	72.3	44.1	58.2	4.1	2.4	3.0	163	128	85	36	11	6	67	92	139	240	0.0	2.1	29.0	0.0	1.7	0.0
10	57.7	31.4	44.5	4.1	2.7	2.9	25	16	7	1	-7777	-7777	349	402	486	635	0.0	0.2	22.1	1.0	15.5	-7777
11	40.4	18.5	29.5	7.3	5.0	5.8	1	-7777	0	0	0	0	767	827	916	1066	0.0	0.0	7.7	8.2	27.8	1.9
12	28.1	6.4	17.3	7.6	7.0	7.2	0	0	0	0	0	0	1170	1232	1325	1480	0.0	0.0	1.7	17.0	30.8	9.0
Summary	55.1	30.3	42.7	5.4	4.3	4.7	1526	1276	943	504	216	144	5960	6440	7200	8587	2.1	20.9	213.0	70.0	185.0	35.5

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**Summary of  
Monthly Normals  
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National Climatic Data Center  
Federal Building  
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Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HEART BUTTE DAM, ND US**

GHCND:USC00324091  
Elev: 2133 ft. Lat: 46.592° N Lon: 101.808° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.49	5.3	1.7	0.1	0.0	0.28	0.35	0.74
2	0.41	5.2	1.7	0.1	0.0	0.16	0.28	0.49
3	0.86	6.4	2.2	0.4	0.0	0.41	0.81	1.09
4	1.49	7.2	4.1	0.7	0.2	0.70	1.32	2.05
5	2.51	10.3	5.4	1.2	0.5	1.37	2.25	3.41
6	2.86	10.7	6.0	1.6	0.7	1.85	2.98	3.55
7	2.46	9.0	4.8	1.8	0.7	1.25	1.78	2.89
8	1.58	6.6	3.5	0.8	0.2	0.71	1.40	2.14
9	1.32	6.8	3.4	0.7	0.2	0.65	0.98	1.54
10	1.13	5.7	2.6	0.3	0.1	0.35	0.73	1.33
11	0.72	5.0	2.2	0.3	-7777	0.06	0.57	1.10
12	0.44	5.5	1.4	0.1	0.0	0.20	0.39	0.56
Summary	16.27	83.7	39.0	8.1	2.6	7.99	13.84	20.89

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Station: **HEART BUTTE DAM, ND US**

GHCND:USC00324091  
Elev: 2133 ft. Lat: 46.592° N Lon: 101.808° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.6	4.7	2.6	0.6	0.1	0.0	24.0	15.3	10.0	4.3	2.5	5.8	10.5
2	5.3	4.5	2.6	0.4	-7777	0.0	18.7	11.8	7.0	4.0	2.3	4.4	8.3
3	5.5	4.0	2.7	0.8	0.2	-7777	12.6	8.3	5.6	2.1	1.5	4.5	9.0
4	4.0	1.6	1.2	0.4	0.2	-7777	3.6	2.5	1.6	0.8	0.0	2.8	6.7
5	0.4	0.2	0.2	0.1	0.0	0.0	0.2	-7777	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	-7777	-7777	-7777	-7777	0.0	0.1	-7777	-7777	0.0	0.0	0.0	0.0
10	1.7	0.8	0.7	0.3	-7777	0.0	1.2	0.7	0.2	-7777	0.0	0.0	2.2
11	6.4	3.6	2.5	0.8	0.3	-7777	10.5	6.4	3.8	1.0	0.4	2.9	10.7
12	6.1	4.6	2.6	0.7	0.1	-7777	17.2	9.4	6.3	2.2	3.3	5.0	9.0
Summary	36.2	24.0	15.1	4.1	0.9	0.0	88.1	54.4	34.5	14.4	10.0	25.4	56.4

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **HEART BUTTE DAM, ND US**

GHCND:USC00324091  
Elev: 2133 ft. Lat: 46.592° N Lon: 101.808° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	4	32	172	453	723	951	902	549	214	32	1
45	-7777	1	11	96	315	573	796	747	407	123	12	-7777
50	0	-7777	3	46	195	426	641	592	275	62	3	0
55	0	0	-7777	19	104	287	487	440	163	25	1	0
60	0	0	-7777	6	45	167	337	296	85	7	0	0
Growing Degree Units for Corn (Monthly)												
50/86	3	6	36	137	279	439	604	568	341	158	34	4

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	5	37	209	662	1385	2336	3238	3787	4001	4033	4034
45	-7777	1	12	108	423	996	1792	2539	2946	3069	3081	-7777
50	0	-7777	3	49	244	670	1311	1903	2178	2240	2243	2243
55	0	0	-7777	19	123	410	897	1337	1500	1525	1526	1526
60	0	0	-7777	6	51	218	555	851	936	943	943	943
Growing Degree Units for Corn (Monthly)												
50/86	3	9	45	182	461	900	1504	2072	2413	2571	2605	2609

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CENTER 4 SE, ND US**

GHCND:USC00321456  
Elev: 1991 ft. Lat: 47.064° N Lon: 101.212° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	25.6	4.6	15.1	7.7	8.2	7.9	0	0	0	0	0	0	1237	1299	1392	1547	0.0	0.0	0.5	18.8	30.3	12.2
2	29.6	9.5	19.5	7.6	7.8	7.6	0	0	0	0	0	0	992	1048	1132	1273	0.0	0.0	2.0	14.8	26.7	7.9
3	41.1	19.9	30.5	6.3	5.1	5.5	1	-7777	-7777	-7777	0	0	760	822	915	1070	0.0	0.0	8.3	7.3	26.6	2.5
4	57.0	32.6	44.8	4.6	3.3	3.7	26	18	10	3	1	-7777	332	384	466	609	0.0	0.1	21.5	0.9	14.2	0.1
5	68.3	43.2	55.8	3.3	2.9	2.7	120	89	53	18	4	2	97	128	185	305	0.0	0.4	29.6	0.0	3.3	0.0
6	77.0	52.2	64.6	4.0	2.9	3.3	297	245	174	82	29	18	9	17	36	94	0.3	2.1	29.9	0.0	0.1	0.0
7	83.9	57.1	70.5	4.1	2.3	3.0	481	419	329	192	87	57	-7777	1	4	22	0.9	7.0	31.0	0.0	0.0	0.0
8	82.9	55.9	69.4	3.9	3.0	3.3	448	388	302	175	79	53	2	4	11	38	0.5	6.9	31.0	0.0	0.0	0.0
9	71.7	45.7	58.7	4.1	2.3	2.8	171	133	87	38	13	8	60	82	126	227	0.1	1.7	29.2	0.0	1.7	0.0
10	57.2	33.3	45.2	3.8	2.9	3.0	26	17	8	2	-7777	-7777	328	381	466	614	0.0	0.1	22.0	0.8	13.4	0.0
11	40.0	19.6	29.8	7.1	5.0	5.8	-7777	-7777	-7777	0	0	0	756	816	906	1056	0.0	0.0	7.0	8.6	25.8	2.2
12	27.4	7.7	17.5	7.6	7.5	7.4	0	0	0	0	0	0	1161	1223	1316	1471	0.0	0.0	1.1	17.6	30.5	8.8
Summary	55.1	31.8	43.4	5.3	4.4	4.7	1570	1309	963	510	213	138	5734	6205	6955	8326	1.8	18.3	213.1	68.8	172.6	33.7

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **CENTER 4 SE, ND US**

GHCND:USC00321456  
Elev: 1991 ft. Lat: 47.064° N Lon: 101.212° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.44	@	@	@	@			
2	0.58	@	@	@	@			
3	0.78	@	@	@	@			
4	1.43	@	@	@	@			
5	2.60	@	@	@	@			
6	3.34	@	@	@	@			
7	2.83	@	@	@	@			
8	1.96	@	@	@	@			
9	1.77	@	@	@	@			
10	1.51	@	@	@	@			
11	0.80	@	@	@	@			
12	0.47	@	@	@	@			
Summary	18.51	9999	9999	9999	9999	9999	9999	9999

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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
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151 Patton Avenue  
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www.ncdc.noaa.gov

Station: **CENTER 4 SE, ND US**

GHCND:USC00321456  
Elev: 1991 ft. Lat: 47.064° N Lon: 101.212° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	34	207	491	738	945	911	562	221	32	2
45	-7777	1	11	119	348	588	790	756	418	128	13	-7777
50	0	-7777	3	60	221	440	635	601	284	64	3	0
55	0	0	1	26	120	297	481	448	171	26	-7777	0
60	0	0	-7777	10	53	174	329	302	87	8	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	31	142	301	456	607	582	343	149	29	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	41	248	739	1477	2422	3333	3895	4116	4148	4150
45	-7777	1	12	131	479	1067	1857	2613	3031	3159	3172	-7777
50	0	-7777	3	63	284	724	1359	1960	2244	2308	2311	2311
55	0	0	1	27	147	444	925	1373	1544	1570	-7777	1570
60	0	0	-7777	10	63	237	566	868	955	963	-7777	963
Growing Degree Units for Corn (Monthly)												
50/86	1	5	36	178	479	935	1542	2124	2467	2616	2645	2647

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **GRASSY BUTTE 2 ENE, ND US**

GHCND:USC00323705  
Elev: 2671 ft. Lat: 47.401° N Lon: 103.207° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	24.2	6.5	15.4	7.0	8.2	7.5	0	0	0	0	0	0	1229	1291	1384	1539	0.0	0.0	0.4	19.7	29.8	10.7
2	29.2	10.6	19.9	7.5	7.5	7.5	0	0	0	0	0	0	983	1039	1123	1263	0.0	0.0	1.6	14.7	27.0	6.7
3	40.7	20.0	30.3	6.5	5.1	5.5	-7777	-7777	-7777	-7777	0	0	765	826	919	1074	0.0	0.0	9.0	8.2	26.8	2.6
4	56.6	30.5	43.6	4.5	2.7	3.4	18	11	5	1	-7777	-7777	361	415	498	644	0.0	-7777	20.9	1.1	16.7	0.1
5	67.2	40.9	54.1	3.8	2.6	3.0	89	62	34	9	1	1	118	154	218	348	0.0	0.2	29.2	0.1	5.1	0.0
6	75.1	49.6	62.3	4.2	3.2	3.5	238	190	128	56	19	13	17	29	57	135	0.4	1.9	29.9	0.0	0.4	0.0
7	83.7	55.2	69.4	4.6	2.2	3.3	449	388	300	170	77	51	1	2	7	32	1.0	7.5	31.0	0.0	0.0	0.0
8	83.1	54.1	68.6	4.2	2.5	3.2	425	366	282	157	69	45	4	7	15	46	0.6	7.4	31.0	0.0	0.1	0.0
9	71.2	44.1	57.7	4.7	2.3	3.3	154	119	78	31	9	5	74	100	148	252	0.0	1.4	29.2	0.0	2.2	0.0
10	55.4	32.6	44.0	3.9	2.6	3.0	23	15	7	1	-7777	-7777	364	418	503	652	0.0	-7777	20.6	1.4	14.3	0.1
11	38.1	19.9	29.0	7.1	5.4	6.1	1	-7777	-7777	0	0	0	781	840	930	1080	0.0	0.0	5.7	9.1	26.3	1.9
12	25.7	8.0	16.9	7.5	7.7	7.5	0	0	0	0	0	0	1182	1244	1337	1492	0.0	0.0	0.6	18.8	30.3	8.5
Summary	54.2	31.0	42.6	5.5	4.3	4.7	1397	1151	834	425	175	115	5879	6365	7139	8557	2.0	18.4	209.1	73.1	179.0	30.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRASSY BUTTE 2 ENE, ND US**

GHCND:USC00323705  
Elev: 2671 ft. Lat: 47.401° N Lon: 103.207° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.37	6.6	1.6	0.0	0.0	0.15	0.33	0.50
2	0.36	5.9	1.1	0.1	0.0	0.13	0.25	0.44
3	0.79	7.7	2.2	0.1	-7777	0.23	0.60	1.15
4	1.27	8.2	3.6	0.7	0.3	0.72	1.02	1.76
5	2.46	11.1	6.4	1.3	0.4	1.44	2.11	2.98
6	3.23	12.0	7.2	2.0	0.8	2.12	2.64	3.69
7	2.33	8.0	4.6	1.7	0.4	1.05	1.76	3.05
8	1.64	7.3	3.8	0.9	0.2	0.87	1.60	2.13
9	1.43	6.0	3.2	0.7	0.1	0.67	1.00	1.85
10	1.23	6.7	3.1	0.6	0.2	0.52	0.82	1.50
11	0.62	6.8	1.9	0.2	-7777	0.23	0.39	0.86
12	0.49	6.8	1.5	0.1	0.0	0.26	0.48	0.65
Summary	16.22	93.1	40.2	8.4	2.4	8.39	13.00	20.56

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Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRASSY BUTTE 2 ENE, ND US**

GHCND:USC00323705  
Elev: 2671 ft. Lat: 47.401° N Lon: 103.207° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	5.7	6.6	2.4	0.3	0.0	0.0	23.4	18.0	14.0	7.3	3.2	3.9	8.2
2	6.0	5.7	2.0	0.4	0.1	0.0	19.8	14.2	10.1	4.7	3.1	4.2	8.7
3	5.1	5.2	2.0	0.3	0.1	0.0	14.8	10.0	7.1	3.0	2.2	4.0	6.7
4	4.0	2.8	1.3	0.4	0.1	-7777	2.8	0.9	0.5	0.3	1.1	3.2	5.3
5	1.3	1.0	0.5	0.1	0.0	0.0	0.3	-7777	0.0	0.0	0.0	0.0	2.0
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.3	0.1	0.1	-7777	-7777	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	3.4	2.0	0.9	0.3	0.2	-7777	2.2	1.1	0.8	0.1	0.7	1.5	6.1
11	5.8	5.3	1.9	0.6	0.2	0.0	10.2	5.7	3.7	1.5	1.0	3.1	9.5
12	7.6	6.5	2.7	0.5	0.2	0.0	19.2	14.1	8.6	3.4	3.6	6.8	8.6
Summary	39.2	35.2	13.8	2.9	0.9	0.0	92.7	64.0	44.8	20.3	14.9	26.7	55.1

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U.S. Department of Commerce  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **GRASSY BUTTE 2 ENE, ND US**

GHCND:USC00323705  
Elev: 2671 ft. Lat: 47.401° N Lon: 103.207° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	5	40	181	442	671	913	886	532	202	30	1
45	-7777	1	13	100	303	521	758	731	390	116	13	-7777
50	0	-7777	3	47	181	375	603	577	260	57	4	0
55	0	0	-7777	18	89	238	449	425	154	23	1	0
60	0	0	-7777	5	34	128	300	282	78	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	34	137	277	404	574	558	329	132	21	1

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	47	228	670	1341	2254	3140	3672	3874	3904	3905
45	-7777	1	14	114	417	938	1696	2427	2817	2933	2946	-7777
50	0	-7777	3	50	231	606	1209	1786	2046	2103	2107	2107
55	0	0	-7777	18	107	345	794	1219	1373	1396	1397	1397
60	0	0	-7777	5	39	167	467	749	827	834	-7777	834
Growing Degree Units for Corn (Monthly)												
50/86	1	5	39	176	453	857	1431	1989	2318	2450	2471	2472

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STEELE, ND US**

GHCND:USC00328366

Elev: 1883 ft. Lat: 46.892° N Lon: 99.932° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	21.1	1.6	11.3	7.3	7.7	7.3	0	0	0	0	0	0	1353	1415	1508	1663	0.0	0.0	0.2	23.3	30.9	13.9
2	26.0	5.8	15.9	7.2	8.2	7.5	0	0	0	0	0	0	1095	1151	1235	1375	0.0	0.0	1.0	17.8	27.8	9.6
3	38.1	18.0	28.1	6.2	5.0	5.3	-7777	-7777	-7777	0	0	0	836	897	990	1145	0.0	0.0	5.9	9.8	28.4	2.7
4	56.0	30.7	43.3	5.0	3.1	3.8	19	13	6	1	-7777	-7777	369	423	506	651	0.0	0.1	20.9	1.4	16.4	0.0
5	67.5	42.5	55.0	3.2	3.2	2.9	111	83	49	16	4	2	111	145	204	326	0.0	0.3	29.1	0.0	3.8	0.0
6	75.6	52.3	64.0	4.2	3.2	3.5	280	229	160	75	26	15	12	20	41	106	0.1	1.3	30.0	0.0	-7777	0.0
7	82.6	57.5	70.0	4.0	2.1	2.8	467	406	316	178	75	47	-7777	1	4	21	0.3	4.7	31.0	0.0	0.0	0.0
8	82.2	55.1	68.6	3.5	2.9	3.1	426	367	282	156	64	40	3	6	14	43	0.1	5.6	31.0	0.0	-7777	0.0
9	71.3	44.9	58.1	3.8	2.5	2.9	162	128	85	38	12	7	70	95	143	245	-7777	1.1	29.3	0.0	2.0	0.0
10	56.9	31.7	44.3	4.3	2.8	3.0	21	13	6	1	-7777	-7777	353	407	493	643	0.0	0.1	22.0	1.1	15.2	-7777
11	38.3	17.9	28.1	7.1	5.1	5.8	-7777	-7777	0	0	0	0	807	867	957	1107	0.0	0.0	7.2	10.0	28.0	2.1
12	24.1	5.8	14.9	7.5	7.5	7.3	0	0	0	0	0	0	1241	1303	1396	1551	0.0	0.0	0.3	20.8	30.9	10.4
Summary	53.3	30.3	41.8	5.3	4.4	4.6	1486	1239	904	465	181	111	6250	6730	7491	8876	0.5	13.2	207.9	84.2	183.4	38.7

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Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STEELE, ND US**

GHCND:USC00328366

Elev: 1883 ft. Lat: 46.892° N Lon: 99.932° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.53	5.3	1.7	-7777	0.0	0.23	0.41	0.72
2	0.47	4.3	2.1	0.1	0.0	0.17	0.33	0.55
3	1.04	5.4	2.7	0.6	0.2	0.45	0.96	1.47
4	1.33	6.2	3.3	0.4	0.1	0.57	1.13	1.81
5	2.65	9.7	5.9	2.0	0.5	1.33	2.10	3.71
6	3.11	11.3	7.6	2.4	0.7	1.63	2.72	3.91
7	3.19	9.6	6.7	2.1	0.7	1.81	2.80	3.65
8	2.14	6.4	4.1	1.3	0.4	1.22	1.69	2.73
9	1.92	6.5	3.6	0.9	0.4	0.82	1.68	2.49
10	1.66	6.3	3.9	1.0	0.4	0.58	1.16	2.71
11	0.81	4.6	2.4	0.4	0.0	0.19	0.67	1.49
12	0.53	5.1	2.1	-7777	0.0	0.26	0.49	0.77
Summary	19.38	80.7	46.1	11.2	3.4	9.26	16.14	26.01

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www.ncdc.noaa.gov

Station: **STEELE, ND US**

GHCND:USC00328366

Elev: 1883 ft. Lat: 46.892° N Lon: 99.932° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.5	4.9	2.9	1.0	0.2	0.0	@	@	@	@	4.7	8.3	12.5
2	5.6	3.3	2.9	1.1	0.3	0.0	@	@	@	@	2.9	5.6	7.7
3	7.9	2.9	2.5	0.8	0.2	-7777	@	@	@	@	3.4	6.4	13.0
4	2.0	1.0	0.9	0.2	0.1	-7777	@	@	@	@	0.0	0.0	3.0
5	0.1	0.1	0.1	-7777	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	0.8	0.8	0.5	0.1	-7777	0.0	@	@	@	@	0.0	0.0	1.8
11	6.2	2.3	2.2	0.8	0.3	-7777	@	@	@	@	0.0	2.5	10.0
12	9.0	4.4	3.5	1.1	0.3	0.0	@	@	@	@	3.9	6.5	12.5
Summary	40.1	19.7	15.5	5.1	1.4	0.0	9999	9999	9999	9999	14.9	29.3	60.5

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**Summary of  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **STEELE, ND US**

GHCND:USC00328366

Elev: 1883 ft. Lat: 46.892° N Lon: 99.932° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	21	180	470	718	932	888	545	201	24	-7777
45	0	-7777	6	100	330	569	776	733	402	111	8	0
50	0	-7777	2	48	207	421	621	578	270	53	2	0
55	0	0	-7777	19	111	280	467	426	162	21	-7777	0
60	0	0	-7777	6	49	160	316	282	85	6	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	22	135	287	441	603	567	338	145	26	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	22	202	672	1390	2322	3210	3755	3956	3980	-7777
45	0	-7777	6	106	436	1005	1781	2514	2916	3027	3035	3035
50	0	-7777	2	50	257	678	1299	1877	2147	2200	2202	2202
55	0	0	-7777	19	130	410	877	1303	1465	1486	-7777	1486
60	0	0	-7777	6	55	215	531	813	898	904	904	904
Growing Degree Units for Corn (Monthly)												
50/86	-7777	2	24	159	446	887	1490	2057	2395	2540	2566	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
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Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT, ND US**

GHCND:USW00024012  
Elev: 2579 ft. Lat: 46.799° N Lon: 102.797° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	26.4	6.2	16.3	7.3	7.6	7.3	0	0	0	0	0	0	1200	1262	1355	1510	0.0	0.0	1.0	18.1	30.5	10.6
2	30.8	10.1	20.5	8.2	7.7	7.8	-7777	0	0	0	0	0	967	1023	1107	1247	0.0	0.0	3.1	13.8	26.9	7.5
3	41.1	18.8	30.0	6.7	5.2	5.7	-7777	-7777	-7777	0	0	0	777	839	931	1086	0.0	0.0	9.0	8.6	28.2	2.5
4	55.4	29.2	42.3	4.8	2.7	3.5	14	9	4	1	-7777	0	395	450	535	682	0.0	0.1	20.0	1.3	18.6	0.1
5	66.1	40.1	53.1	4.1	2.8	3.1	78	55	30	9	2	1	137	176	244	378	0.0	0.3	28.6	-7777	5.0	0.0
6	75.4	49.1	62.2	4.5	3.1	3.6	236	188	125	54	19	12	18	30	58	137	0.2	2.1	29.9	0.0	0.3	0.0
7	83.6	54.9	69.2	4.6	2.5	3.4	442	382	294	165	73	47	1	2	8	34	1.1	7.5	31.0	0.0	0.0	0.0
8	83.2	53.6	68.4	4.1	2.8	3.3	419	360	276	157	69	44	4	7	16	52	0.5	7.9	31.0	0.0	-7777	0.0
9	71.2	43.1	57.2	4.6	2.7	3.5	149	117	77	32	10	5	84	112	162	268	0.1	1.8	28.8	0.0	2.4	0.0
10	56.5	31.2	43.8	4.3	2.8	3.2	22	14	6	1	-7777	-7777	367	421	507	657	0.0	0.1	20.8	1.3	16.0	0.2
11	40.0	18.9	29.5	7.2	5.1	6.0	1	-7777	-7777	0	0	0	767	827	916	1066	0.0	0.0	7.4	8.2	27.1	2.2
12	28.1	7.7	17.9	7.9	7.4	7.5	0	0	0	0	0	0	1150	1212	1305	1460	0.0	0.0	1.5	17.1	30.8	9.1
Summary	54.8	30.2	42.5	5.7	4.4	4.8	1361	1125	812	419	173	109	5867	6361	7144	8577	1.9	19.8	212.1	68.4	185.8	32.2

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-7777 indicates a non-zero growing degree day value that would round to zero

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT, ND US**

GHCND:USW00024012  
Elev: 2579 ft. Lat: 46.799° N Lon: 102.797° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.30	5.2	0.9	-7777	0.0	0.10	0.23	0.44
2	0.33	4.3	0.8	0.1	0.0	0.06	0.22	0.42
3	0.69	6.4	1.6	0.3	0.1	0.19	0.60	0.92
4	1.47	7.8	3.5	0.7	0.3	0.74	1.18	2.00
5	2.32	10.9	5.5	1.2	0.3	1.35	1.85	2.69
6	3.20	12.2	6.6	2.2	0.6	2.11	2.77	4.14
7	2.44	9.5	4.8	1.6	0.5	1.51	1.94	3.64
8	1.54	6.8	3.1	0.9	0.3	0.71	1.17	1.84
9	1.47	6.6	3.3	0.7	0.2	0.59	1.38	2.13
10	1.23	6.2	2.4	0.8	0.2	0.30	0.63	1.33
11	0.54	5.7	1.4	0.2	-7777	0.12	0.31	0.76
12	0.24	4.9	0.6	0.0	0.0	0.12	0.21	0.35
Summary	15.77	86.5	34.5	8.7	2.5	7.90	12.49	20.66

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Station: **DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT, ND US**

GHCND:USW00024012  
Elev: 2579 ft. Lat: 46.799° N Lon: 102.797° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	6.0	5.8	2.1	0.4	0.2	0.0	19.3	13.9	8.6	3.1	1.8	5.4	9.5
2	5.0	4.8	1.9	0.4	0.1	0.0	14.7	7.9	4.3	1.5	1.3	3.9	7.2
3	5.6	4.9	2.0	0.5	0.2	0.0	9.9	7.0	3.8	1.0	1.6	3.5	10.2
4	5.9	3.0	1.6	0.6	0.4	0.1	4.1	2.4	1.5	0.6	1.5	3.7	10.0
5	0.5	0.3	0.2	0.1	0.0	0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.5	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
10	1.6	1.1	0.5	0.1	0.1	0.0	1.0	0.4	0.2	0.0	0.0	0.4	1.9
11	5.8	5.1	1.8	0.6	0.1	0.0	10.0	4.7	2.4	0.4	0.9	4.6	10.1
12	4.6	5.6	1.9	0.2	-7777	0.0	17.0	8.1	4.4	0.7	2.2	3.7	5.9
Summary	35.5	30.8	12.2	3.0	1.2	0.1	76.5	44.7	25.4	7.3	9.3	25.2	54.8

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151 Patton Avenue  
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Station: **DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT, ND US**

GHCND:USW00024012  
Elev: 2579 ft. Lat: 46.799° N Lon: 102.797° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	7	33	157	414	668	906	880	518	200	34	2
45	-7777	1	11	83	278	518	752	725	379	114	14	-7777
50	-7777	-7777	3	38	163	372	596	571	251	55	4	-7777
55	0	-7777	-7777	14	78	236	442	419	149	22	1	0
60	0	0	-7777	4	30	125	294	276	77	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	2	8	37	127	259	404	570	552	325	145	32	3

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	9	42	199	613	1281	2187	3067	3585	3785	3819	3821
45	-7777	1	12	95	373	891	1643	2368	2747	2861	2875	-7777
50	-7777	-7777	3	41	204	576	1172	1743	1994	2049	2053	-7777
55	0	-7777	-7777	14	92	328	770	1189	1338	1360	1361	1361
60	0	0	-7777	4	34	159	453	729	806	812	-7777	812
Growing Degree Units for Corn (Monthly)												
50/86	2	10	47	174	433	837	1407	1959	2284	2429	2461	2464

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **LEEDS, ND US**

GHCND:USC00325078

Elev: 1529 ft. Lat: 48.288° N Lon: 99.432° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	17.0	-3.1	6.9	7.6	8.2	7.8	0	0	0	0	0	0	1489	1551	1644	1799	0.0	0.0	-7777	26.0	31.0	17.2
2	21.9	1.0	11.5	7.2	8.5	7.7	0	0	0	0	0	0	1219	1275	1359	1499	0.0	0.0	0.3	19.9	27.8	12.8
3	33.9	13.4	23.7	5.3	5.6	5.3	-7777	-7777	0	0	0	0	972	1034	1127	1282	0.0	0.0	2.7	11.8	30.3	5.5
4	53.1	27.4	40.2	5.0	3.7	4.0	12	7	3	1	-7777	-7777	454	510	596	743	0.0	0.0	17.8	1.8	21.3	0.1
5	66.5	39.7	53.1	3.6	3.2	3.1	88	64	36	10	2	1	147	185	250	379	0.0	0.4	28.5	0.0	6.3	0.0
6	75.3	50.7	63.0	4.2	2.8	3.2	256	207	142	65	22	13	16	27	52	125	0.1	2.0	30.0	0.0	0.1	0.0
7	80.6	55.0	67.8	3.5	2.4	2.7	398	338	251	127	45	25	1	3	10	40	0.2	3.0	31.0	0.0	0.0	0.0
8	80.3	51.4	65.8	4.0	2.3	2.9	343	286	207	99	35	20	7	12	26	73	0.2	4.2	31.0	0.0	0.1	0.0
9	69.4	41.5	55.5	3.8	3.0	3.1	111	83	50	18	5	2	98	129	186	304	0.0	0.8	29.0	0.0	3.1	0.0
10	54.3	29.7	42.0	4.1	3.3	3.1	13	8	3	-7777	-7777	-7777	416	473	561	714	0.0	0.1	19.4	1.5	18.4	0.1
11	35.0	15.9	25.5	7.2	5.6	6.1	-7777	-7777	-7777	0	0	0	887	946	1036	1186	0.0	0.0	4.3	12.6	28.3	3.1
12	20.5	1.4	10.9	7.2	7.7	7.3	0	0	0	0	0	0	1365	1427	1520	1675	0.0	0.0	0.0	24.2	31.0	13.5
Summary	50.6	27.0	38.8	5.2	4.7	4.7	1221	993	692	320	109	61	7071	7572	8367	9819	0.5	10.5	194.0	97.8	197.7	52.3

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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-7777 indicates a non-zero growing degree day value that would round to zero

Data value inconsistencies may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units (as shown).

Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LEEDS, ND US**

GHCND:USC00325078

Elev: 1529 ft. Lat: 48.288° N Lon: 99.432° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.55	3.9	1.5	0.2	0.1	0.27	0.37	0.83
2	0.54	3.3	1.7	0.1	0.1	0.19	0.40	0.73
3	0.96	4.8	2.5	0.5	0.1	0.42	0.72	1.33
4	1.32	5.3	3.2	0.5	-7777	0.46	1.08	1.69
5	2.59	8.7	5.6	1.6	0.5	1.37	2.18	3.11
6	3.23	10.1	6.2	2.0	0.8	2.44	3.01	4.04
7	3.16	8.5	6.4	2.4	0.7	1.88	3.00	3.72
8	2.32	7.9	4.9	1.5	0.5	1.26	1.56	3.37
9	1.50	6.5	3.7	0.6	0.3	0.86	1.37	2.13
10	1.61	6.2	3.1	0.9	0.3	0.60	1.30	2.28
11	1.10	4.2	2.3	0.6	0.1	0.26	0.71	1.73
12	0.55	3.9	1.7	0.2	0.0	0.28	0.50	0.77
Summary	19.43	73.3	42.8	11.1	3.5	10.29	16.20	25.73

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**Summary of  
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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LEEDS, ND US**

GHCND:USC00325078

Elev: 1529 ft. Lat: 48.288° N Lon: 99.432° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.3	3.4	2.3	1.0	0.4	0.1	@	@	@	@	2.8	4.7	10.5
2	4.9	3.0	2.6	0.5	0.1	0.0	@	@	@	@	1.5	4.5	7.0
3	5.9	2.6	2.2	0.9	0.5	0.0	@	@	@	@	1.0	5.5	8.3
4	2.3	1.0	0.8	0.4	0.2	-7777	@	@	@	@	0.0	0.0	3.3
5	0.6	0.2	0.1	0.1	-7777	0.0	@	@	@	@	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
9	-7777	-7777	-7777	0.0	0.0	0.0	@	@	@	@	0.0	0.0	0.0
10	1.6	0.8	0.7	0.3	0.1	-7777	@	@	@	@	0.0	0.0	3.0
11	5.2	2.8	2.4	1.1	0.4	-7777	@	@	@	@	1.0	4.0	7.0
12	5.5	3.5	2.9	0.7	0.2	0.0	@	@	@	@	2.3	4.5	6.5
Summary	34.3	17.3	14.0	5.0	1.9	0.1	9999	9999	9999	9999	8.6	23.2	45.6

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **LEEDS, ND US**

GHCND:USC00325078

Elev: 1529 ft. Lat: 48.288° N Lon: 99.432° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	6	128	417	690	862	801	467	158	15	-7777
45	-7777	-7777	2	69	285	540	707	646	328	84	5	0
50	0	0	-7777	32	172	393	552	492	206	37	1	0
55	0	0	-7777	12	88	256	398	343	111	13	-7777	0
60	0	0	0	3	36	142	251	207	50	3	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	106	266	416	546	500	296	117	15	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	1	7	135	552	1242	2104	2905	3372	3530	3545	-7777
45	-7777	-7777	2	71	356	896	1603	2249	2577	2661	2666	2666
50	0	0	-7777	32	204	597	1149	1641	1847	1884	1885	1885
55	0	0	-7777	12	100	356	754	1097	1208	1221	-7777	1221
60	0	0	0	3	39	181	432	639	689	692	-7777	692
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	9	115	381	797	1343	1843	2139	2256	2271	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT INTERNATIONAL AIRPORT, ND US**

GHCND:USW00024013  
Elev: 1667 ft. Lat: 48.255° N Lon: 101.273° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	20.9	3.5	12.2	7.8	8.1	7.9	0	0	0	0	0	0	1327	1389	1482	1637	0.0	0.0	0.1	21.9	30.5	13.8
2	25.4	8.6	17.0	6.9	7.5	7.1	0	0	0	0	0	0	1064	1120	1204	1344	0.0	0.0	0.5	17.7	27.0	8.5
3	37.1	19.4	28.3	6.4	5.1	5.6	1	-7777	-7777	-7777	0	0	830	891	984	1139	0.0	0.0	5.3	10.2	27.6	2.6
4	54.9	31.8	43.4	4.9	3.3	3.9	19	12	5	1	-7777	-7777	368	421	505	651	0.0	-7777	19.5	1.6	15.0	0.0
5	66.7	43.0	54.8	3.5	3.1	3.1	108	79	46	15	4	2	112	145	205	329	0.0	0.4	29.0	-7777	3.1	0.0
6	75.1	52.7	63.9	4.1	2.9	3.4	279	227	158	73	27	17	12	20	41	106	0.1	1.8	29.9	0.0	0.0	0.0
7	81.5	57.9	69.7	3.6	2.2	2.8	456	394	304	169	71	45	-7777	1	4	24	0.2	4.2	31.0	0.0	0.0	0.0
8	81.2	55.7	68.5	4.0	2.8	3.3	420	360	275	153	67	44	3	5	13	47	0.2	5.4	31.0	0.0	0.0	0.0
9	69.7	45.9	57.8	4.4	2.3	3.2	157	122	80	33	10	6	73	98	146	249	-7777	1.1	28.7	0.0	1.2	0.0
10	55.0	33.8	44.4	3.8	2.5	2.9	24	15	7	1	-7777	-7777	352	406	491	640	0.0	0.1	19.8	1.1	12.2	0.0
11	36.9	19.9	28.4	7.2	5.7	6.2	1	-7777	-7777	0	0	0	799	858	948	1098	0.0	0.0	5.4	10.8	26.2	1.9
12	23.6	7.2	15.4	7.5	7.5	7.4	0	0	0	0	0	0	1227	1289	1382	1537	0.0	0.0	0.3	21.2	30.5	9.5
Summary	52.3	31.6	42.0	5.3	4.4	4.7	1465	1209	875	445	179	114	6167	6643	7405	8801	0.5	13.0	200.5	84.5	173.3	36.3

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT INTERNATIONAL AIRPORT, ND US**

GHCND:USW00024013  
Elev: 1667 ft. Lat: 48.255° N Lon: 101.273° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.51	6.6	1.7	0.1	0.0	0.24	0.38	0.72
2	0.40	4.8	1.2	0.1	0.0	0.12	0.27	0.53
3	0.84	6.0	2.0	0.3	-7777	0.21	0.61	1.28
4	1.14	6.8	2.9	0.5	0.2	0.39	0.96	1.30
5	2.50	9.7	5.7	1.4	0.5	1.10	2.03	3.45
6	3.58	11.3	7.3	2.0	0.8	2.42	3.14	4.39
7	2.43	9.9	5.2	1.5	0.6	1.63	2.11	3.23
8	2.04	8.1	4.4	1.1	0.2	0.98	1.91	2.61
9	1.46	6.8	3.3	0.8	0.2	0.70	1.31	1.66
10	1.16	6.3	2.7	0.7	0.2	0.37	0.62	1.35
11	0.75	5.4	2.1	0.4	0.1	0.21	0.76	1.12
12	0.38	6.6	0.9	0.1	0.0	0.13	0.33	0.50
Summary	17.19	88.3	39.4	9.0	2.8	8.50	14.43	22.14

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National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT INTERNATIONAL AIRPORT, ND US**

GHCND:USW00024013  
Elev: 1667 ft. Lat: 48.255° N Lon: 101.273° W

Snow (in.)													
	Totals	Mean Number of Days										Snow Probabilities Probability that snow will be equal to or less than the indicated amount	
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	10.8	7.4	2.7	1.0	0.5	0.2	26.6	20.0	14.9	9.5	3.6	7.8	15.8
2	5.0	5.5	2.3	0.4	0.2	0.0	21.2	14.2	10.5	4.9	3.1	5.3	7.0
3	7.0	4.4	2.2	0.9	0.3	-7777	14.9	9.2	7.0	3.8	1.8	6.8	11.3
4	4.8	1.9	1.1	0.4	0.2	0.1	2.9	1.9	1.4	0.5	0.3	3.0	6.1
5	0.5	0.3	0.1	0.1	-7777	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.1
6	-7777	-7777	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.1	0.2	0.1	0.0	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	2.1	1.1	0.9	0.3	0.1	0.1	1.6	0.7	0.4	0.2	0.0	0.2	2.2
11	8.2	5.4	2.6	1.0	0.3	-7777	12.8	7.5	4.8	1.9	1.8	6.4	14.3
12	7.6	7.7	2.8	0.8	0.3	0.1	23.0	14.9	9.9	4.2	3.9	5.5	10.7
Summary	46.1	33.9	14.8	4.9	1.9	0.5	103.3	68.6	49.0	25.0	14.5	35.0	67.5

"9999," Empty, or blank, cells indicate an average greater than 0 but less than 0.05.

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Data derived from 1981-2010 normals.

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1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **MINOT INTERNATIONAL AIRPORT, ND US**

GHCND:USW00024013  
Elev: 1667 ft. Lat: 48.255° N Lon: 101.273° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	22	180	466	717	920	882	536	207	29	1
45	-7777	1	7	100	327	567	766	727	394	119	12	-7777
50	0	-7777	2	48	203	419	611	572	264	59	3	0
55	0	0	1	19	108	279	456	420	157	24	1	0
60	0	0	-7777	5	46	158	304	275	80	7	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	18	121	275	430	593	557	313	127	20	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	25	205	671	1388	2308	3190	3726	3933	3962	3963
45	-7777	1	8	108	435	1002	1768	2495	2889	3008	3020	-7777
50	0	-7777	2	50	253	672	1283	1855	2119	2178	2181	2181
55	0	0	1	20	128	407	863	1283	1440	1464	1465	1465
60	0	0	-7777	5	51	209	513	788	868	875	-7777	875
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	19	140	415	845	1438	1995	2308	2435	2455	-7777

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
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**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **WALHALLA 1 SW, ND US**

GHCND:USC00329155

Elev: 938 ft. Lat: 48.913° N Lon: 97.918° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.75	4.7	2.2	0.2	0.1	0.32	0.55	1.09
2	0.86	3.5	2.6	0.4	0.1	0.50	0.68	0.90
3	0.71	3.3	2.1	0.1	0.0	0.31	0.57	1.09
4	1.05	3.2	2.4	0.6	0.2	0.49	0.85	1.42
5	2.73	5.5	4.2	1.5	0.4	1.54	2.51	3.52
6	3.72	8.7	7.0	2.2	0.6	2.71	3.61	4.28
7	3.07	7.7	6.7	2.0	0.8	1.89	2.55	4.28
8	2.49	5.4	4.1	1.5	0.6	1.58	2.09	3.25
9	1.85	4.7	3.8	1.2	0.4	1.01	1.85	2.44
10	1.74	4.3	3.6	1.2	0.4	0.56	1.63	2.45
11	1.19	3.4	2.8	0.6	0.1	0.48	0.79	1.87
12	0.76	3.6	2.3	0.2	0.0	0.41	0.65	0.94
Summary	20.92	58.0	43.8	11.7	3.7	11.80	18.33	27.53

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: **PARK RIVER, ND US**

GHCND:USC00326857  
Elev: 971 ft. Lat: 48.400° N Lon: 97.750° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	18.3	0.3	9.3	7.5	7.7	7.5	0	0	0	0	0	0	1416	1478	1571	1726	0.0	0.0	0.1	25.0	30.9	15.6
2	24.6	5.2	14.9	6.2	7.4	6.7	0	0	0	0	0	0	1123	1179	1263	1403	0.0	0.0	0.7	18.1	27.5	11.5
3	35.9	17.1	26.5	5.2	5.4	5.2	-7777	-7777	-7777	0	0	0	884	946	1039	1194	0.0	0.0	2.5	9.4	28.5	3.5
4	56.1	31.4	43.8	5.8	2.6	4.1	27	19	10	3	-7777	-7777	364	417	498	640	0.0	0.1	20.4	1.2	16.2	0.0
5	69.9	43.3	56.6	3.8	3.2	3.2	138	105	65	24	6	3	88	117	171	285	0.0	0.6	29.9	0.0	3.0	0.0
6	77.6	53.9	65.7	4.4	2.7	3.3	330	275	199	98	36	22	7	13	27	76	0.0	2.5	30.0	0.0	0.0	0.0
7	82.7	58.4	70.5	3.8	2.1	2.7	482	420	329	187	79	51	-7777	-7777	2	15	0.2	5.1	31.0	0.0	0.0	0.0
8	80.8	55.8	68.3	4.2	2.3	3.0	414	354	268	144	58	36	1	3	11	42	0.4	4.0	31.0	0.0	0.0	0.0
9	71.5	46.9	59.2	3.6	2.6	2.8	178	140	93	39	12	7	52	74	117	213	0.1	0.7	29.6	0.0	0.9	0.0
10	56.2	34.5	45.4	4.3	3.0	3.1	24	16	8	2	1	-7777	324	377	462	611	0.0	0.1	22.1	0.9	11.6	0.0
11	36.8	20.3	28.5	6.9	5.4	6.0	-7777	-7777	0	0	0	0	794	853	943	1093	0.0	0.0	4.3	10.0	25.6	1.2
12	21.9	5.6	13.7	6.8	7.4	6.9	0	0	0	0	0	0	1279	1341	1434	1589	0.0	0.0	0.2	22.4	30.8	11.6
Summary	52.7	31.1	41.9	5.2	4.3	4.5	1593	1329	972	497	192	119	6332	6798	7538	8887	0.7	13.1	201.8	87.0	175.0	43.4

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Complete documentation available from: <http://www1.ncdc.noaa.gov/pub/data/normals/1981-2010/readme.txt>

Data derived from 1981-2010 normals.



U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **PARK RIVER, ND US**

GHCND:USC00326857

Elev: 971 ft. Lat: 48.400° N Lon: 97.750° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.61	5.8	2.4	0.2	0.0	0.28	0.51	0.82
2	0.60	4.4	2.3	0.1	0.0	0.20	0.47	0.70
3	1.08	5.7	2.8	0.7	0.1	0.49	1.01	1.66
4	1.30	4.6	2.9	0.6	0.1	0.44	1.21	1.83
5	2.77	8.2	5.2	1.6	0.5	1.83	2.71	3.51
6	3.46	10.3	6.8	2.7	0.7	2.88	3.25	4.36
7	3.37	9.7	6.2	2.2	0.8	1.43	2.65	4.99
8	2.49	8.7	5.1	1.7	0.7	1.77	2.23	2.87
9	1.84	6.3	3.7	1.1	0.3	0.70	1.69	2.53
10	1.84	7.0	3.6	1.2	0.3	0.46	1.85	2.80
11	0.72	5.0	2.8	0.3	0.1	0.25	0.55	0.96
12	0.76	4.8	2.2	0.1	0.0	0.38	0.71	0.91
Summary	20.84	80.5	46.0	12.5	3.6	11.11	18.84	27.94

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Station: **PARK RIVER, ND US**

GHCND:USC00326857  
Elev: 971 ft. Lat: 48.400° N Lon: 97.750° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	8	188	518	772	947	877	576	222	23	-7777
45	-7777	-7777	3	108	374	622	792	722	430	128	8	-7777
50	0	0	1	56	243	474	637	567	293	60	2	0
55	0	0	-7777	27	138	330	482	414	178	24	-7777	0
60	0	0	-7777	10	65	199	329	268	93	8	0	0
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	7	135	324	482	615	560	348	135	13	-7777

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	-7777	2	10	198	716	1488	2435	3312	3888	4110	4133	-7777
45	-7777	-7777	3	111	485	1107	1899	2621	3051	3179	3187	-7777
50	0	0	1	57	300	774	1411	1978	2271	2331	2333	2333
55	0	0	-7777	27	165	495	977	1391	1569	1593	-7777	1593
60	0	0	-7777	10	75	274	603	871	964	972	972	972
Growing Degree Units for Corn (Monthly)												
50/86	-7777	1	8	143	467	949	1564	2124	2472	2607	2620	-7777

**M** indicates the value is missing

**-7777** indicates a non-zero growing degree day value that would round to zero

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)  
Derived from 1981-2010 serially complete daily data

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

## Summary of Monthly Normals 1981-2010

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK MUNICIPAL AIRPORT, ND US**

GHCND:USW00024011  
Elev: 1650 ft. Lat: 46.782° N Lon: 100.757° W

Temperature (°F)																						
Mean							Cooling Degree Days						Heating Degree Days				Mean Number of Days					
							Base (above)						Base (below)									
Month	Daily Max	Daily Min	Mean	Long Term Max Std. Dev.	Long Term Min Std. Dev.	Long Term Avg Std. Dev.	55	57	60	65	70	72	55	57	60	65	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
1	23.4	2.2	12.8	7.4	7.8	7.5	0	0	0	0	0	0	1308	1370	1463	1618	0.0	0.0	0.3	20.8	30.8	13.4
2	28.3	7.9	18.1	7.4	8.0	7.5	0	0	0	0	0	0	1033	1089	1173	1313	0.0	0.0	1.9	16.3	27.4	8.8
3	40.4	19.4	29.9	6.3	4.9	5.3	-7777	-7777	-7777	-7777	0	0	778	840	933	1088	0.0	0.0	7.8	8.0	28.9	2.4
4	57.0	30.7	43.8	4.5	2.6	3.3	19	12	6	1	-7777	-7777	353	407	491	636	0.0	0.1	21.4	1.0	17.1	0.0
5	68.4	42.6	55.5	3.2	2.9	2.7	114	84	49	16	3	2	99	130	188	310	0.0	0.4	29.5	-7777	3.5	0.0
6	77.3	52.0	64.7	4.4	3.2	3.6	298	245	174	83	31	20	9	15	34	93	0.3	2.5	30.0	0.0	-7777	0.0
7	84.7	57.4	71.1	4.1	2.5	3.0	497	436	345	204	95	63	-7777	1	3	17	1.0	8.0	31.0	0.0	0.0	0.0
8	83.5	55.5	69.5	3.9	2.6	3.1	451	391	305	177	81	53	2	4	11	38	0.7	7.7	31.0	0.0	0.0	0.0
9	72.1	45.0	58.5	4.2	2.7	3.1	168	131	86	38	13	8	61	85	130	231	0.1	1.7	29.2	0.0	1.7	0.0
10	57.5	32.2	44.8	4.0	3.1	2.8	22	13	6	1	-7777	-7777	336	390	475	626	0.0	0.1	22.6	0.8	15.3	0.1
11	39.6	18.8	29.2	7.3	4.9	5.8	-7777	-7777	-7777	0	0	0	774	834	924	1074	0.0	0.0	7.4	8.8	27.3	1.9
12	26.2	6.1	16.2	7.6	7.3	7.3	0	0	0	0	0	0	1204	1266	1359	1514	0.0	0.0	0.8	18.8	30.8	9.6
Summary	54.9	30.8	42.8	5.4	4.4	4.6	1569	1312	971	520	223	146	5957	6431	7184	8558	2.1	20.5	212.9	74.5	182.8	36.2

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Data derived from 1981-2010 normals.

U.S. Department of Commerce  
National Oceanic & Atmospheric Administration  
National Environmental Satellite, Data, and Information  
Service

**Summary of  
Monthly Normals  
1981-2010**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: **BISMARCK MUNICIPAL AIRPORT, ND US**

GHCND:USW00024011  
Elev: 1650 ft. Lat: 46.782° N Lon: 100.757° W

Precipitation (in.)								
	Totals	Mean Number of Days				Precipitation Probabilities Probability that precipitation will be equal to or less than the indicated amount		
	Means	Daily Precipitation				Monthly Precipitation vs. Probability Levels		
Month	Mean	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.25	.50	.75
1	0.43	7.5	1.3	0.1	0.0	0.23	0.36	0.60
2	0.51	7.0	1.6	-7777	-7777	0.24	0.40	0.59
3	0.87	7.9	2.5	0.3	0.0	0.43	0.73	1.19
4	1.26	7.4	3.4	0.5	0.1	0.67	0.93	1.62
5	2.40	10.1	5.4	1.4	0.4	1.17	1.97	3.34
6	3.17	11.2	6.2	2.1	0.7	1.80	2.94	3.93
7	2.89	9.7	5.6	1.7	0.5	1.53	2.49	3.14
8	2.28	8.2	4.3	1.4	0.5	1.00	1.83	2.87
9	1.59	7.5	3.3	0.9	0.3	0.94	1.27	1.89
10	1.25	6.6	2.9	0.7	0.2	0.43	0.92	1.73
11	0.71	7.0	1.9	0.3	0.0	0.14	0.69	0.92
12	0.49	7.6	1.3	-7777	0.0	0.23	0.48	0.69
Summary	17.85	97.7	39.7	9.4	2.7	8.81	15.01	22.51

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151 Patton Avenue  
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Station: **BISMARCK MUNICIPAL AIRPORT, ND US**

GHCND:USW00024011  
Elev: 1650 ft. Lat: 46.782° N Lon: 100.757° W

Snow (in.)													
	Totals	Mean Number of Days									Snow Probabilities Probability that snow will be equal to or less than the indicated amount		
	Means	Snowfall >= Thresholds					Snow Depth >= Thresholds				Monthly Snow vs. Probability Levels Values derived from the incomplete gamma distribution.		
Month	Snowfall Mean	0.1	1.0	3.0	5.0	10.0	1	3	5	10	.25	.50	.75
1	8.9	9.7	2.6	0.7	0.3	-7777	24.7	17.0	10.6	4.9	3.7	5.9	13.8
2	8.1	8.1	2.7	0.7	0.1	0.0	19.5	13.4	8.4	2.8	4.7	7.7	10.4
3	9.1	6.4	2.5	1.0	0.4	0.1	12.5	8.0	4.7	0.9	2.9	6.4	12.4
4	4.2	2.5	1.0	0.5	0.2	0.1	2.6	1.5	1.1	0.3	0.2	2.0	5.3
5	0.4	0.4	0.1	-7777	-7777	0.0	0.2	-7777	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.2	0.1	0.1	-7777	0.0	0.0	-7777	0.0	0.0	0.0	0.0	0.0	0.0
10	2.2	1.4	0.6	0.2	0.1	0.0	0.7	0.2	0.1	0.1	0.0	0.7	2.8
11	8.8	6.6	2.3	0.9	0.4	-7777	10.0	5.8	3.5	0.8	1.7	6.5	12.5
12	9.3	10.0	2.7	0.6	0.3	0.1	20.0	12.4	7.6	2.2	4.8	7.8	12.7
Summary	51.2	45.2	14.6	4.6	1.8	0.3	90.2	58.3	36.0	12.0	18.0	37.0	69.9

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**Summary of  
Monthly Normals  
1981-2010**

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www.ncdc.noaa.gov

Station: **BISMARCK MUNICIPAL AIRPORT, ND US**

GHCND:USW00024011  
Elev: 1650 ft. Lat: 46.782° N Lon: 100.757° W

Growing Degree Units (Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	2	26	182	483	739	962	914	558	209	25	-7777
45	-7777	-7777	8	100	340	590	807	759	414	117	9	-7777
50	0	-7777	2	47	213	441	652	604	280	55	2	0
55	0	0	-7777	19	114	298	497	451	168	22	-7777	0
60	0	0	-7777	6	49	174	345	305	86	6	-7777	0
Growing Degree Units for Corn (Monthly)												
50/86	1	4	31	142	299	456	618	581	345	153	28	2

Growing Degree Units (Accumulated Monthly)												
Base	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	1	3	29	211	694	1433	2395	3309	3867	4076	4101	-7777
45	-7777	-7777	8	108	448	1038	1845	2604	3018	3135	3144	-7777
50	0	-7777	2	49	262	703	1355	1959	2239	2294	2296	2296
55	0	0	-7777	19	133	431	928	1379	1547	1569	-7777	1569
60	0	0	-7777	6	55	229	574	879	965	971	-7777	971
Growing Degree Units for Corn (Monthly)												
50/86	1	5	36	178	477	933	1551	2132	2477	2630	2658	2660

**M** indicates the value is missing

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**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
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Derived from 1981-2010 serially complete daily data