



# North Dakota Monthly Climate Summary

September 2016

Volume: 10, No: 9

## Precipitation

North Dakota State Climate Office

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Based on the National Centers for Environmental Information (NCEI), statewide total September precipitation was 3.14", 1.57" greater than the last year (twice as wet), 1.43" greater than the 1981-2010 average, making it the 10th wettest September in the 122-year period of record. It was also the wettest September since 2010. Above-average precipitation was observed all across the state except for a small region in the southeastern parts of the state in Sargent, eastern Dickey, southern Ransom and western Richland counties (Figure 1). The greatest monthly accumulation was 5.93" and was recorded in Grand Forks, Grand Forks County by a CoCoRaHS observer. The least amount of monthly accumulation was 1.21" and recorded in Reeder, Adams County by a National Weather Service (NWS) cooperative (Coop) weather observer. The greatest 24-hr rainfall was 4.85" and was recorded in Grand Forks on September 5 by another CoCoRaHS observer. Based on historical records, statewide September precipitation showed an increasing trend of 0.03" per decade since 1895. The highest and the lowest September precipitation for the state ranged from 4.68" in 1941 to 0.2" in 2012 (Figure 2).

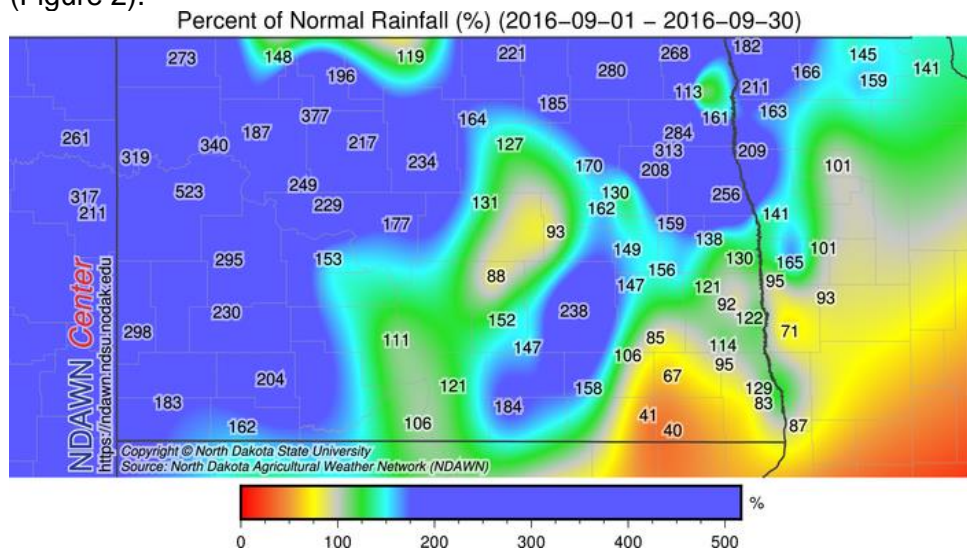


Figure 1. Precipitation Percent of Normal in September 2016 for North Dakota (NDAWN)



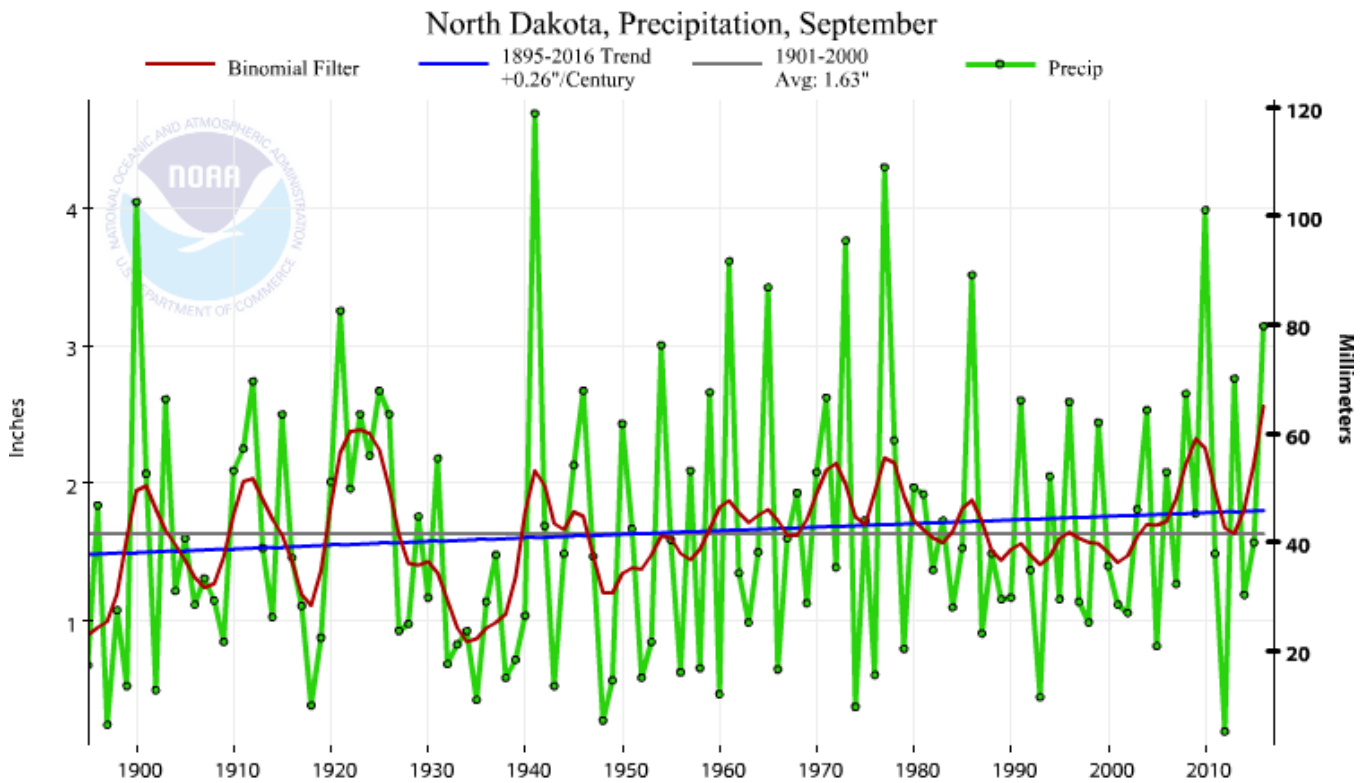
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### September Precipitation Statistics

2016 Amount: 3.14 inches  
 Maximum: 4.68 inches in 1941  
 Minimum: 0.2 inches in 2012

State Normal: 1.71 inches (1981-2010)

Years in Record: 122  
 Monthly Ranking: 10th Wettest  
 Trend: 0.03" per Decade

Figure 2. Historical September Precipitation Time Series for North Dakota.



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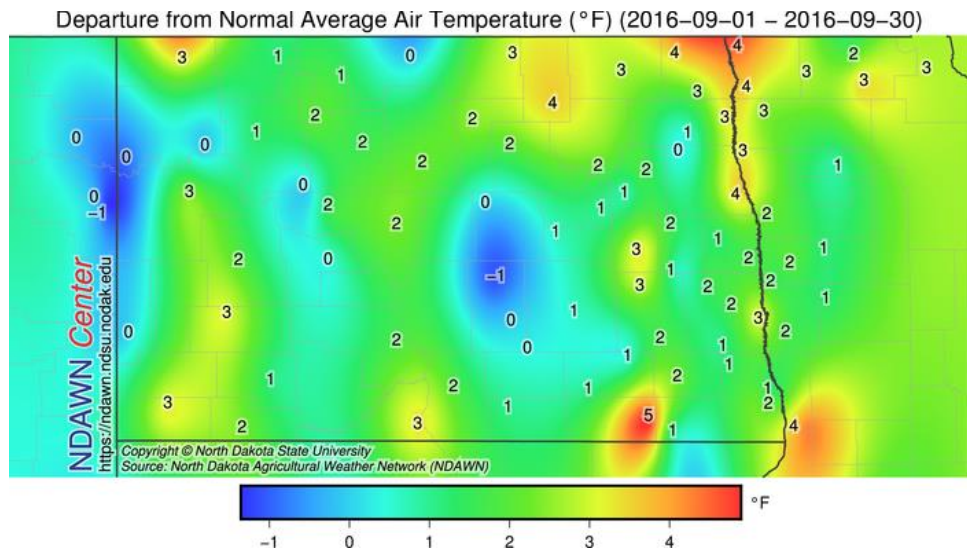
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## Temperature

The official state average September temperature was 58.6°F, 3.4° cooler than the last year, but 1.8° warmer than the 1981-2010 average, making it the 33rd warmest September in the 122-year period of record. It was also the warmest September since 2015. Above-average temperatures were observed all across the state except for a small pocket in central North Dakota where slight below-average



**Figure 3. Temperature Departure from Normal in September 2016 for North Dakota (NDAWN)**

temperatures were observed. (Fig. 3). The state's highest and lowest daily temperatures ranged from 98° on September 2 in Watford City, McKenzie County to 26° on September 13 in Crosby, Divide County. Based on historical records, the state average September temperature showed an increasing trend of 0.18°F per decade since 1895. The highest and the lowest monthly state September average temperatures ranged from 63.5° in 1897 to 45.5° in 1965 (Figure 4).



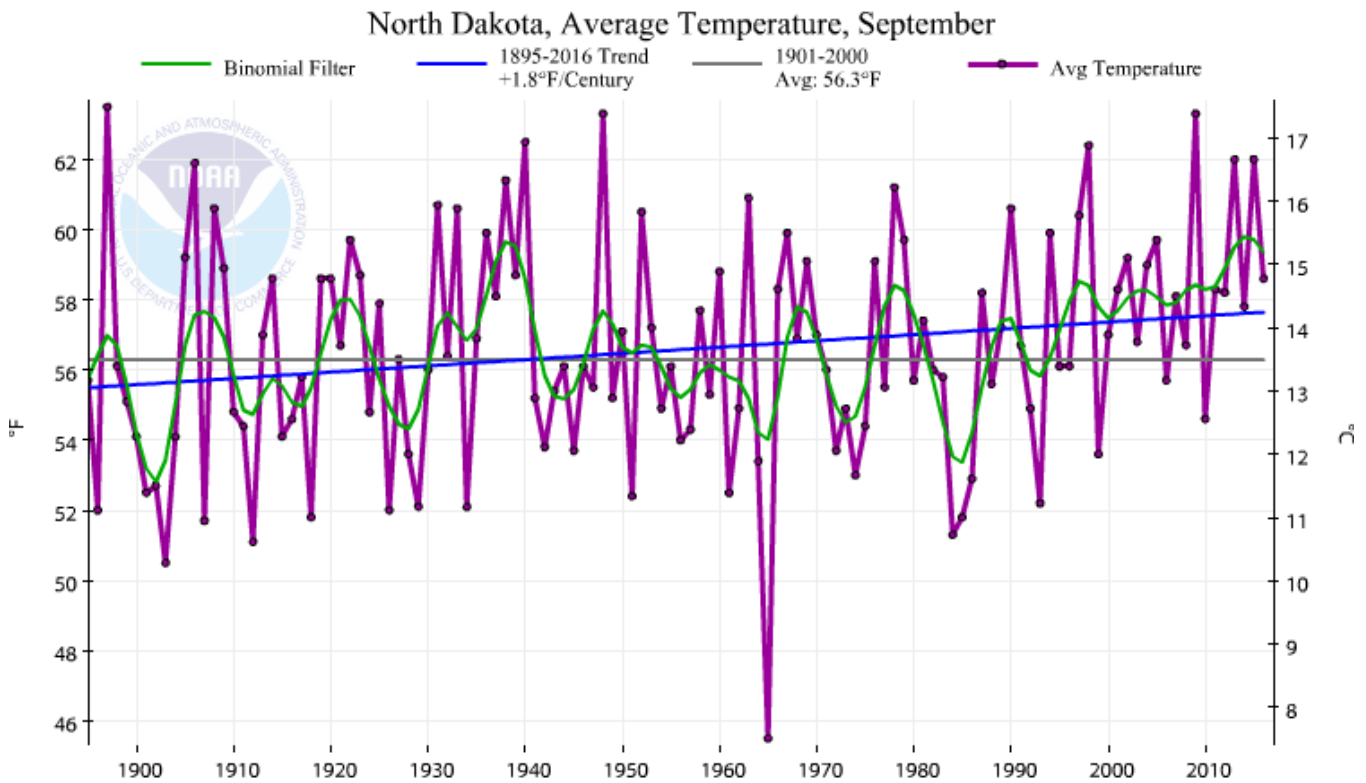
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## September Temperature Statistics

2016 Amount: 58.6°F  
 Maximum: 63.5°F 1897  
 Minimum: 45.5°F 1965

State Normal: 56.8 (1981-2010)  
 Years in Record: 122  
 Monthly Ranking: 33rd Warmest  
 Trend: 0.18°F per Decade

Figure 4. Historical September Temperature Time Series for North Dakota.



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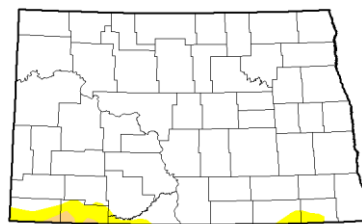
## Notable Impacts

Based on the Drought Monitor (DM) by the end of the month (September 27, 2016), less than 1% of the state was under a drought designation (Figure 5).

**Counties in the moderate drought areas on September 27: Bowman and Adams.**

NWS Storm Prediction Center reported no tornado incidents, but 6 hail events and 14 high wind reports in September for the State. Figure 6 shows the geographical distribution of the storm reports in September 2016. In that figure, blue and green dots represent wind, and hail respectively. NDAWN's highest peak gust in September was 49 mph recorded at the McHenry weather station on September 18, 2016.

### U.S. Drought Monitor North Dakota



September 27, 2016  
(Released Thursday, Sep. 29, 2016)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	96.70	3.30	0.41	0.00	0.00	0.00
Last Week 20160920	92.29	7.71	1.37	0.00	0.00	0.00
3 Months Ago 20160701	82.42	17.58	3.61	0.19	0.00	0.00
Start of Calendar Year 20160101	61.32	38.68	5.47	0.00	0.00	0.00
Start of Water Year 20160101	79.57	20.43	0.00	0.00	0.00	0.00
One Year Ago 20150927	78.57	20.43	0.00	0.00	0.00	0.00

**Intensity:**  
 D0 Abnormally Dry      D3 Extreme Drought  
 D1 Moderate Drought    D4 Exceptional Drought  
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Chris Fenimore  
NCB/NESDIS/NOAA



<http://droughtmonitor.unl.edu/>

Figure 5. Drought Monitor map for North Dakota on September 27, 2016.

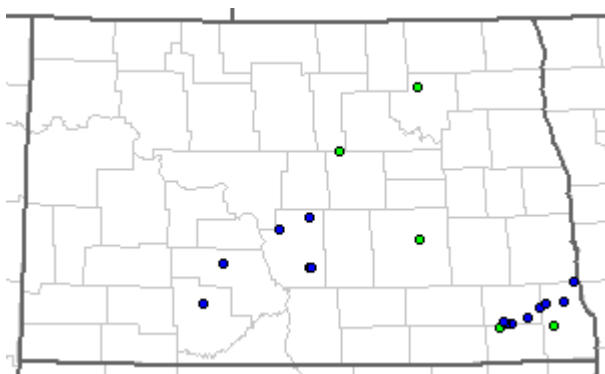
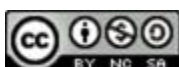


Figure 6. September 2016 North Dakota Storm Events (Blue: Wind; Green: Hail).

Because of the heavy rains, much of the harvest activities were slowed. By the end of September, the ND Ag Statistical Service reported corn 59% mature (well ahead of average) and harvested 3%. Soybean dropping leaves 87% (near average).



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