

Background

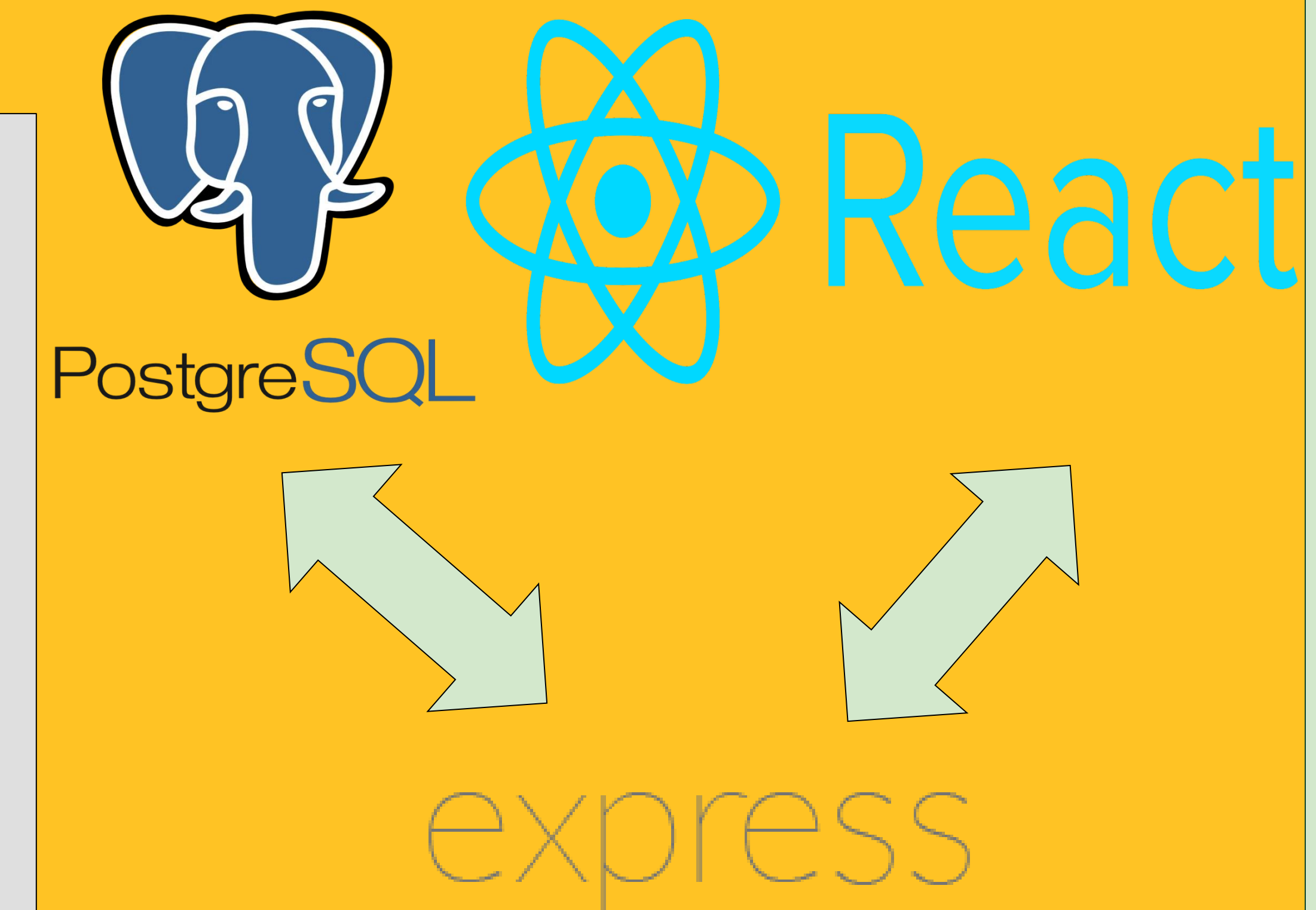
- NDSU Weed Science Team has 60 years of data
- Research data gets manually entered into Access from books
- Data is messy and in an outdated format
- There is no way for people to get information they need while in the field

Requirements and Needs

- Conversion of data to new database
- A display for the database information that is quarriable to anyone
- Exportable data so that it can be easily taken from the site and used without legal concerns
- A front-end that is easily maneuvered with mobile capabilities
- Hosted and controlled by NDSU

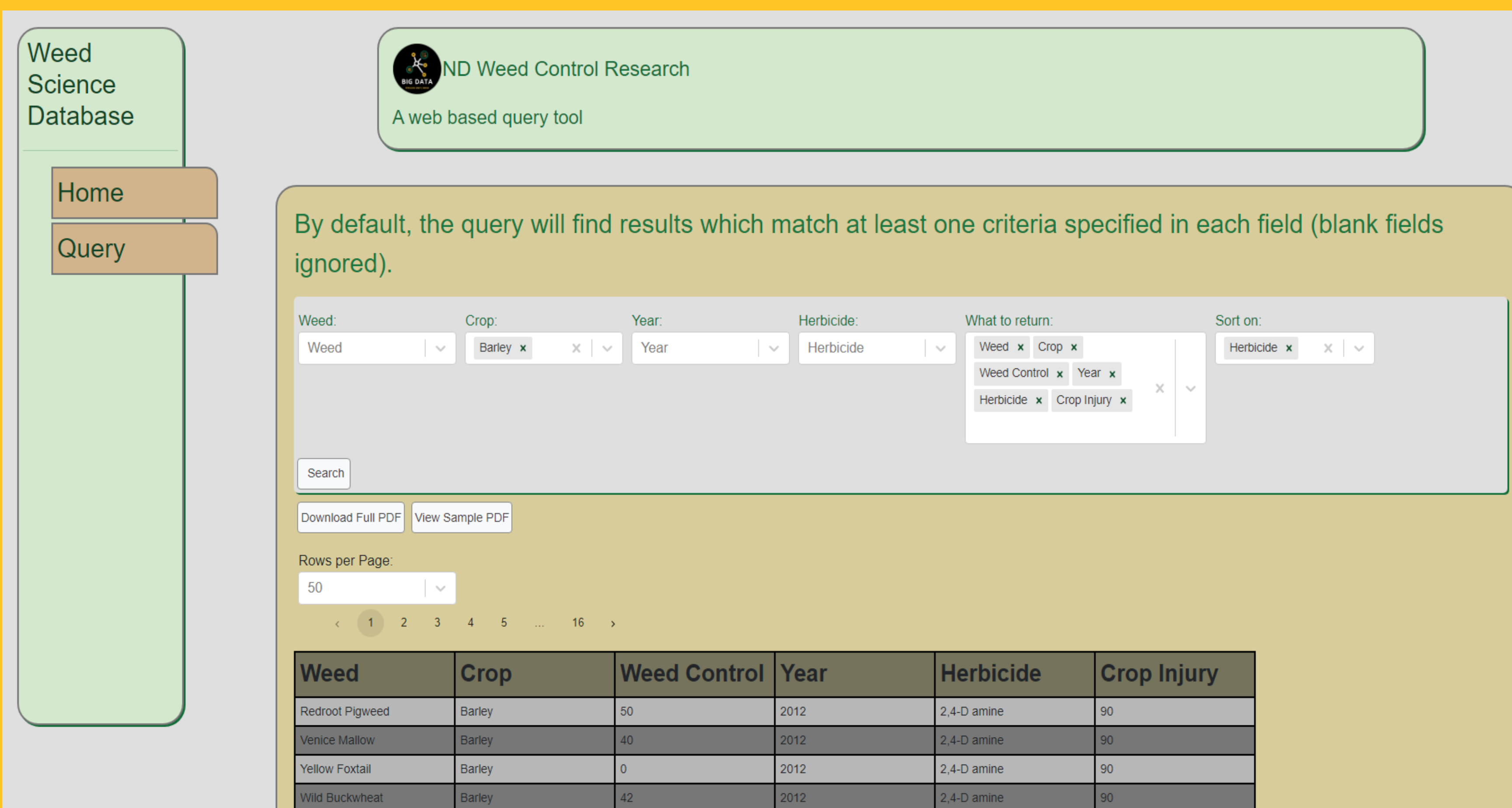
Development and Tools

- The database was developed with PostgreSQL, after originally being a Microsoft Access database
- React allowed us to use many tools within its framework, combining HTML, CSS, and JavaScript to create the front-end
- Express connected everything together so that information could easily travel between the database and the front-end sent query



Design Process

- Split into two technical groups for the front-end and back-end development
- Front-end working on site design, pages, and query capabilities later on using React
- Back-end created a new database into PostgreSQL and querying later on



Weed	Crop	Weed Control	Year	Herbicide	Crop Injury
Kochia	Barley	93	2013	Metribuzin	25
Kochia	Barley	93	2013	2,4-De LV	25
Kochia	Barley	93	2013	Dicamba	25
Kochia	Barley	96	2013	2,4-De LV	25
Kochia	Barley	96	2013	Dicamba	25
Kochia	Barley	96	2013	Metribuzin	25
Kochia	Barley	96	2013	2,4-De LV	25
Kochia	Barley	96	2013	Dicamba	25
Kochia	Barley	60	2013	2,4-De LV	0
Kochia	Barley	60	2013	Dicamba	0
Kochia	Barley	60	2013	Metribuzin	0
Kochia	Barley	60	2013	Dicamba	0
Kochia	Barley	70	2013	2,4-De LV	0
Kochia	Barley	70	2013	Dicamba	0
Kochia	Barley	70	2013	Metribuzin	0
Kochia	Barley	70	2013	Dicamba	0
Kochia	Barley	93	2013	2,4-De LV	0
Kochia	Barley	93	2013	Dicamba	0
Kochia	Barley	93	2013	Metribuzin	0
Kochia	Barley	93	2013	Dicamba	0
Kochia	Barley	90	2013	2,4-De LV	4
Kochia	Barley	90	2013	Dicamba	4
Kochia	Barley	90	2013	Bromoxynil&Pyrasulfotole	4
Kochia	Barley	90	2013	Dicamba	4
Kochia	Barley	97	2013	2,4-De LV	4
Kochia	Barley	97	2013	Dicamba	4
Kochia	Barley	97	2013	Bromoxynil&Pyrasulfotole	4
Kochia	Barley	97	2013	Dicamba	4
Kochia	Barley	98	2013	2,4-De LV	4
Kochia	Barley	98	2013	Dicamba	4
Kochia	Barley	98	2013	Bromoxynil&Pyrasulfotole	4
Kochia	Barley	98	2013	Dicamba	4
Kochia	Barley	74	2013	2,4-De LV	0
Kochia	Barley	74	2013	Dicamba	0

Future Possibilities

- Expansion of current database into the last 60 years instead of only the last 11
- Extension to other platforms for exporting the data
- Creating authentication for database entry to continue past the most recent entered information directly from the front-end site
- Styling as the team sees fit and eventually making it a known part of the NDSU Pipeline of websites and databases for research/fieldwork

