Weekly Schedule

**1/23 – 1/29 Data Acquisition**

* Create storage structure for data in git repository
* Download raw data from NOAA
  + Precipitation
    - This will take the longest time as the GHCN only allows for 1000 rows per download. To get everything will take a couple hours.
  + Temperature
  + NAO/AO Index
* Update README file in git repository with markup language
  + Keep track of sources and download date, etc.
* Begin ‘Introduction’ section of paper
  + Rough outline

**1/30 – 2/5 Functions and Structure**

* Create the framework for the main program
  + All functions
  + Control flow
  + Install necessary libraries
* Create logic to append data frames with multiple CSV files in a folder directory
  + Recursive function

**2/6 – 2/12 Testing**

* Use a variable’s csv’s to test for any bugs in main program
  + Choose a variable, generate a single merged data frame
  + Interpolate missing values
* Generate a graph, export it
* Export a merged data frame as a CSV
* Generate stats of a variable
* Begin writing ‘Methodology’ section of paper
  + Rough outline

**2/13 – 2/19 Data Cleansing**

* Create empty data frames containing rows with month and year as date objects to join matching CSV date string rows
* Fill in data frames with csv content
* Interpolate missing values if possible
* Edit column names and row date time format as necessary
* Begin writing ‘Data’ section of paper
  + Rough outline

**2/20 – 2/26 Data Analysis**

* Generate statistics on each variable
  + Identify statistically significant variable trends
* Create linear and polynomial regression graphs of select variables
  + Edit graphs to look presentable (good font, coloring, etc.)
* Begin writing ‘Abstract’ section of paper

**2/27 – 3/5 Data Analysis**

* Compare NAO/AO analysis with precipitation and temperature analysis
  + If there happens to be a correlation between NAO phasing and precipitation/ temperature trends, create overlaying graphs to visualize this connection
  + Otherwise, show that there is not a strong connection between the two
  + Alternatively, if there is a strong negative correlation, seek to explain why
* Identify which variables should be explored in a spatial analysis based on their temporal/ statistical analysis

**3/6 – 3/12 Data Analysis (Exploratory)**

* Experiment with other ML models if something interesting begins to show
* Open time for any other ideas that come to mind

**~~3/13 – 3/19 Spring Break~~**

* Spring Break

**3/20 – 3/26 Data Exportation**

* Create CSV’s from data frames, format correctly for ease of importing data to ArcPro
* 2nd draft of all current sections of paper

**3/27 – 4/2 GIS Analysis**

* Spatial Analysis using ArcPro
  + Create polygon ‘zonal’ regions from Maine shapefile mask and polylines
  + Interpolate variables such as snow depth difference, temperature differences
  + Create heatmap of storm frequency differences
* Begin writing ‘Analysis’ section of paper
  + Rough outline

**4/3 – 4/9 Poster Preparation**

* Create outline of poster
  + Sections/ Headings
  + Which graphs to show
  + What text to include
* Begin writing ‘Conclusion’ section of paper
  + Rough outline

**4/10 – 4/16 Poster Preparation**

* Fill in poster with content
  + Intro
  + Methodology/ Data
  + Analysis
  + Conclusion
  + References
  + Acknowledgements

**4/17 – 4/23 (Symposium Day – 4/20)**

* Finishing touches on poster, print Tuesday afternoon (Coordinate with GEO dept. on use of poster printer)
* 2nd draft of remaining sections of paper

**4/24 – 4/29 Finishing up Paper**

* Format refences to Chicago standard
* Final draft of all sections of paper
* Format paper to AMS standards