**Final Project Proposal**

MUSA 550 Geospatial Data Science in Python

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For my final project I will be using NOAA’s tide and current dataset. The data is available from 1920 to 2020 and is updated every few hours. Using this data, I will like to map the increase in sea levels along the east and west coast and also compare the two edges.

The final project will be similar to Reuter’s research from 2014 - <https://www.reuters.com/investigates/special-report/waters-edge-the-crisis-of-rising-sea-levels/#gauges-interactive>

The cities I wish to map are a part of the resilient by cities design proposals and the Rockefeller 100 resilient cities. The list is a start but not exhaustive.

* Greater Miami and the Beaches
* Washington, DC
* Seattle
* Honolulu
* Minneapolis
* San Francisco
* Los Angeles
* New Orleans
* Cape May
* Alaska
* Boston
* New York
* Philadelphia
* Chicago (lake levels)
* Galveston Pier 21
* Puerto Rico
* Sewells Point
* Atlantic City
* Baltimore

The dashboard will have the following visuals :

* Location of state/city with station on the US map
* Individual line graphs for change over time – dropdown menu to select city
* A chance for comparative study by different cities
* A comparative study of the west coast and east coast
* Mark flood levels associated within these cities
* Mapping of important hurricanes or tsunamis as vertical lines to see if that made a difference
* Use the trend of change to map projective level rises

The data for tides and currents can be found here - <https://api.tidesandcurrents.noaa.gov/api/prod/>

The data for natural disasters can be found here - <https://www.emdat.be/>

And the package allows to get the data - <https://github.com/GClunies/noaa_coops>