Know before you go

Metis Engineering Project Summer 2022

Easy access conditions info

Data:

- Sailing & Boating
- Paddleboarding
- Kayaking
- Windsurfing
- Kit Boarding
- Open Water Swimming

Scrape location data

Use **Requests, Selenium, BeautifulSoup, and MongoDB** to get and store location info for tides stations in **California, Oregon, and Washington**

Get tide, weather, and air quality info for each location

Use Requests to retrieve info in JSON format and store it using Pymongo and MongoDB

```
{'_id': ObjectId('62f0397dc868aa58a7094f79'),
 'station_name': 'Cape Disappointment',
 'station_id': '9440581',
 'lat': '46.2810',
 'long': '-124.0463',
 'response': [{'wind_cdir': 'N',
   'rh': 60,
   'pod': 'd',
   'timestamp_utc': '2022-08-07T23:00:00',
   'pres': 1012.5,
   'solar_rad': 682.645,
   'ozone': 308.3,
   'weather': {'icon': 'c01d', 'code': 800, 'description': 'Clear Sky'},
   'wind_gust_spd': 8.59,
   'timestamp_local': '2022-08-07T16:00:00',
   'snow_depth': 0,
   'clouds': 0,
   'ts': 1659913200,
   'wind_spd': 5.81,
   'pop': 0,
   'wind_cdir_full': 'north',
   'slp': 1014.5,
   'dni': 853.55,
   'dewpt': 15.5,
   'snow': 0,
   'uv': 5.4,
   'wind_dir': 2,
   'clouds_hi': 0,
   'precip': 0,
   'vis': 31.296,
   'dhi': 108.54,
   'app_temp': 23.8,
   'datetime': '2022-08-07:23',
```
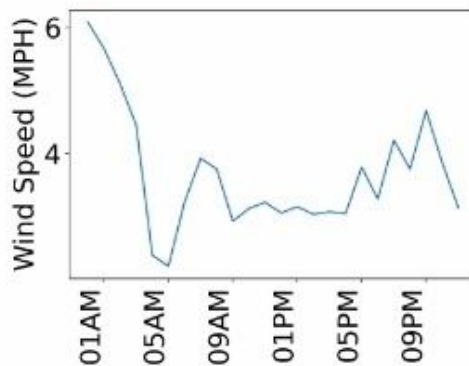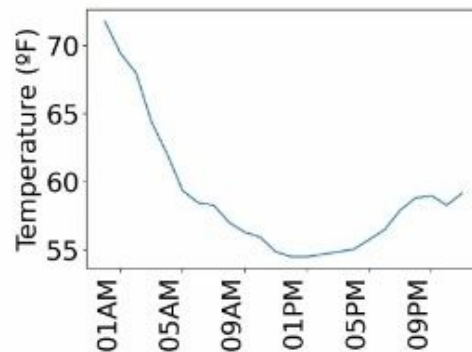
Conditions on the Water

Air Quality Index (AQI) on 2022-08-08 at Columbia River entrance (N. Jetty) is FAIR

View tidal predictions for this location here
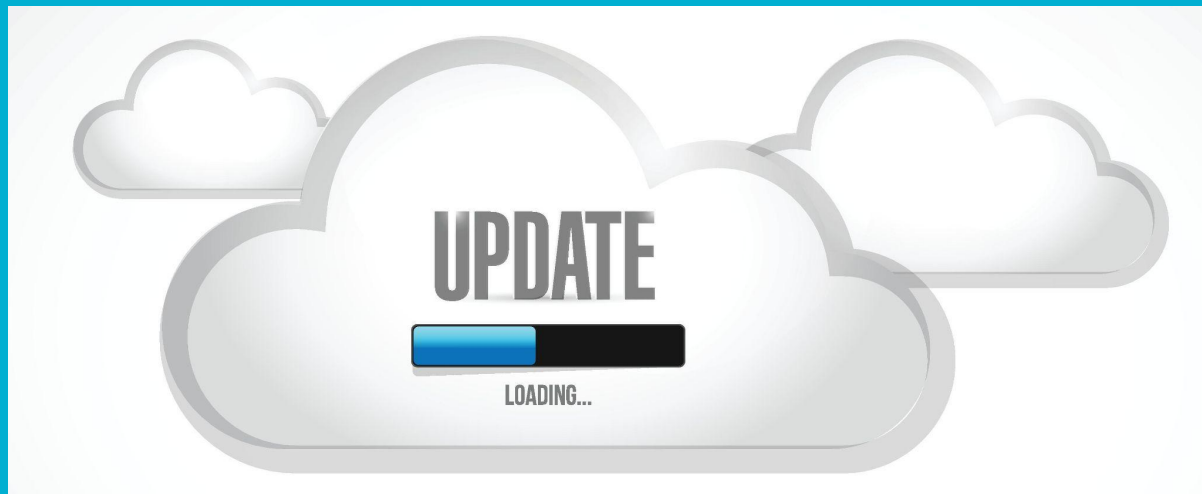
Wind

Temperature

Update the Data Daily

Use Cron to schedule daily execution of a Python script to refresh data for the Streamlit app to use

Next Steps

- Improve tides data display in the app

- Deploy to the web

- Select location by clicking on the map

- Simple model to build recommend locations within a given search area