Weather to Go There?

Summary

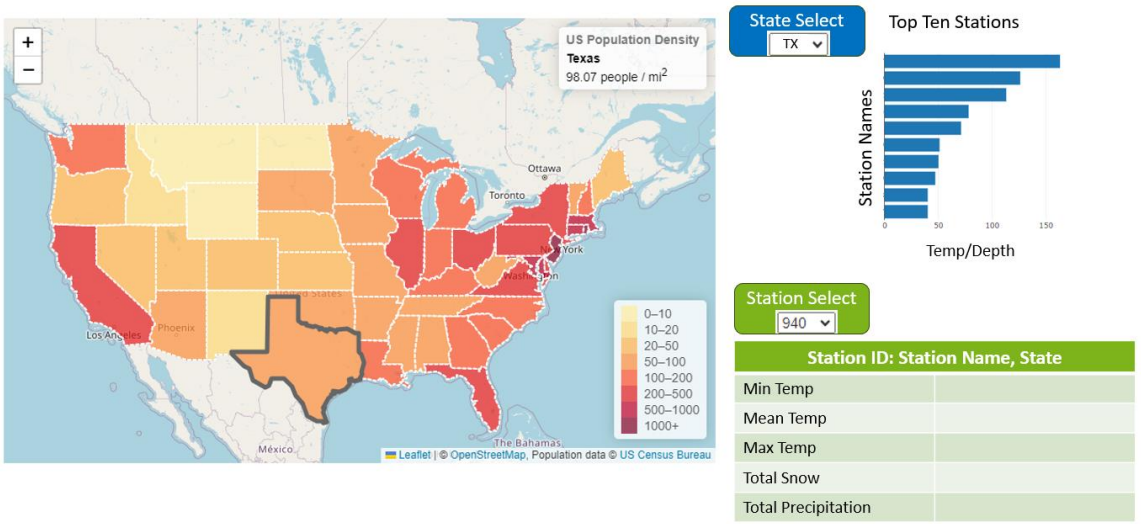
A dashboard page with multiple charts that update from the same data source focused on answering common questions about weather of an area: hottest, coldest, snow amount, rain amount.

Date Source:

NOAA Global Surface Summary of the Day (GSOD)

- Database with over 9000 weather stations' data
- Subset of GSOD#### table elements: Mean temperature (.1 F), Maximum temperature (.1 F), Minimum temperature (.1), Precipitation amount (.01 in), Snow depth (.1 in), year, month, day
- Subset of Station table elements: name, country, state, lat, lon

Visuals: Technology



Note: Map area (US vs. region vs. state) depends on performance of setup

1. Chloropleth map of selected area (US vs. region vs. state): Leaflet
2. Horizontal bar chart with State drop down: Plotly
3. Station Details & Dropdown: HTML,JavaScript

Data Flow:

NOAA GSOD
- Measurement data tables for each year
- Station tables to identify where stations are and name

Python query script(s)
- BiqQuery Python API to run SQL queries for desired data (prototyped in jupyter notebook file)
- create data.js file with json/dictionary format

Logic.js pulls in data
- logic.js references data.js file

Logic.js creates visuals
- Measurement data pulled into maps (leaflet) - heat, cold, severe
- Top 10 measurement pulled into horizontal bar chart (plotly)
- All data for single station selected by user via dropdown (html modifications)

HTML wrapped in Flask
- index.html calls the various libraries (leaflet, etc.) and js files as well as defines where visuals go
- Flask wrapper: https://www.youtube.com/watch?v=d5LGL8k43H4

GitHub link: https://github.com/TechMax14/Project-3.git