## WeatherViz Planning Doc

## Planned Features:

* Interactive map
* Map weather event/history data onto map GUI using a geospatial library
* Options to show based on:
  + Temperature
  + Precipitation
  + Location (Map with county lines, potentially just use the center of the county)
  + Weather Events
  + Wind Data
  + Time
* Historical data only and Florida only (might do current data if have time)
* Extrapolate data to predict future weather and climate
* Ways to display data:
  + Option to choose to see a certain date or range of days
  + Can timelapse the range of days and let them choose the length of time (month, year) that each frame is

## Language and possible tools/libraries

Database: SQLite (Depending on if we need a local database or if we can just call an API for data)

UI Library: PyQt5 (Written in C++)

Geo Library: TO BE FIGURED OUT (Folium? If not we can manually color in each county with a color and do legend)

Weather Data: [Weather API - OpenWeatherMap](https://openweathermap.org/api)

<https://www.ncdc.noaa.gov/stormevents/>

<https://www.ncei.noaa.gov/access/search/dataset-search?keywords=d559b900-eca6-42a4-9311-0297b2ef98ab>