## WeatherViz Planning Doc

## Planned Features:

* Interactive map
* Map weather event/history data onto map GUI using Rust
* 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 (potentially current data and world-wide)
* 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)s

UI Library: PySide2 (Written in C++)

Geo Library: Follium (Using only the map feature, disabled native interactive map feature

Weather Data:

<https://open-meteo.com/en/docs/historical-weather-api>

## Planned Changes:

Potentially change to loading the map with a tile-server in Rust, will benchmark current option and that option to see which one is faster