

Last Interim Progress Report

Date: November 21, 2021

Accomplishments:

- Reworked PM2.5 part 2 studies, ozone studies, and AQI studies, and uploaded to the GitHub project repository.
- Installed GeoPandas, an open-source project for geospatial data, and began plotting maps. GeoPandas is available from <https://geopandas.org>
- Downloaded cartographic boundary shapefiles for the United States and for U.S. counties from the United States Census Bureau. These shapefiles are used in creating maps with GeoPandas. The source is <https://www.census.gov/geographies/mapping-files/time-series/geo/carto-boundary-file.html>
- Added state studies for Vermont and Kentucky to the asthma studies. Cleaned the datasets and completed state exploratory analyses and preliminary map visualizations of asthma incidence by county on state maps of Vermont and Kentucky. Completed a preliminary visualization on the reported incidence of asthma by state (U.S. map).
- Uploaded the modified asthma Jupyter notebook file to the GitHub project repository.
- Uploaded the Last Interim Progress Report to the GitHub project repository.

Current Activities: I am currently working on air quality and asthma visualizations with U.S. maps and joining AQ and asthma datasets.

Challenges: Creating visualizations with U.S. maps using GeoPandas is very challenging. I've made progress; however, I will need to spend more time working on them to obtain better results. I was unable to upload several cleaned datasets to the GitHub project repository because the files were too large. I'll try zipping them, first. If that doesn't work, I'll look at the large file storage options in GitHub.

Work to be Completed: For the next project milestone, I will complete all remaining visualizations and complete the asthma and air quality studies.