1. What motivated you to choose this topic for your capstone project?

Personal interest in climate science

1. Can you describe the dataset you worked with? Where did you source it from?

There are multiple data sources currently in use. One comes directly from the ArcGIS system that includes all of the land cover/land use data needed. This was combined with another layer from ArcGIS that added county division, as well as population data. Then another study conducted by the Florida Climate Center, to predict the sea level rise. All of this was combined with a population growth study for Florida, in order to get a proper estimate of growth. The data was all combined into a GeoDataFrame.

7. Which algorithms or models did you consider? Why did you choose the one(s) you   
used?

A few models are currently under consideration. Firstly a random forest model, as well as GNN and XGBoost models. A DNN model was the first attempted, but accuracy was only about 48%, which was better than guessing against the three classifiers, but it could be improved. The next attempt was a random forest model, but we are currently in the process of improving the model, as current attempts have shown overfitting of the test data.

12. Which tools, libraries, or frameworks did you use for this project?

Many python tools are used, the most important have been Geopandas, MatPlotLin, and tensorflow.

15. What were the key findings or outcomes from your project?

So far, findings have shown valuable input regarding the vulnerability of florida to sea level rise.

19. Who are the end-users of your project, and how can they benefit from it?

The end users are Florida residents, who can see how their homes are vulnerable to sea level rise. This will allow them to understand the risks associated, and help inform the decision to flee.