

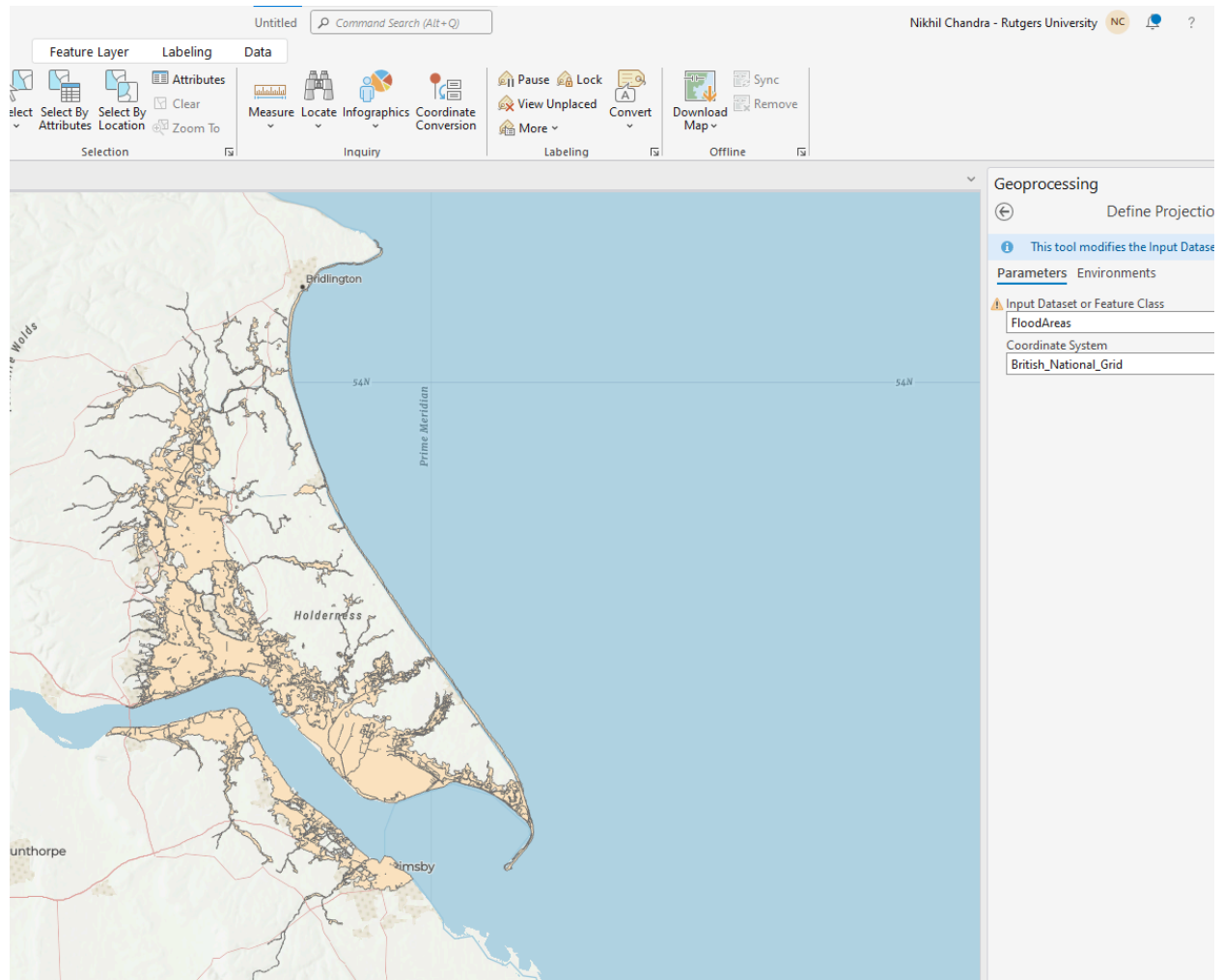
Problem Set 4: Introduction to Map Projections and Coordinate Reference Systems

Assignment 1.1

Why are each of the following four parameters important when choosing a map projection: Map extent, theme or intended purpose, format (print vs. online), and data sources?

- Map extent is used to limit a map to the area of interest. When using certain projections, the small-scale maps are less accurately represented over large areas, so a PCS must minimize distortion for the specific region of interest.
- Theme narrows the map to the topic of interest. This is represented by the ideas represented, such as flight maps, which direct the projection used, such as skipping a map altogether in favor of a globe to draw flight maps. The map's goal dictates which geometric properties (shape, area, distance, direction) must be preserved.
- Print format is more restricting, and forces mappers to use those projections that are flat and fit in large land areas into pages of paper. Mercator projection is widely used in printed maps. Print format requires static projections optimized for fixed scales and layouts
- Online maps are less restricting and allow for a wider variety of projections that better preserve the areas and shapes of landmasses. They can represent dynamic maps, but require a strict standardization process to ensure alignment and accuracy with changes in data. High-resolution output requires minimal distortion at the chosen scale.
- Data sources are important because they dictate our maps and are the basis for our information represented. Mappers must strive to provide accurate information and choose reputable and trustworthy sources always. On another note, mixing data sources with varying coordinate systems can mess up the maps and confuse readers

Assignment 1.2



Assignment 1.3

