

Shoreline File Substitution

Goal: Currently we clip MapPLUTO to a shoreline file provided by the DOF. We are considering substituting either a CSCL shoreline file or a LIDAR shoreline file for the DOF file, but it is necessary to assess the impact.

Result: Either replacement file would increase the area of the clipped file.

Process

I received a polygon shapefile of the CSCL shoreline as well as a polyline shapefile of the LIDAR shoreline. Determining the area of the city using the CSCL shoreline was straightforward: in Arcmap, I clipped the MapPLUTO water included shapefile (version 20v2) to the CSCL polygon and imported it to a Postgres table. Using the Postgres table, I summed the ESRI shape area for an overall area, and produced a breakout by land use code.

The LIDAR shapefile was more difficult to work with as some of the borough boundaries were not closed. I used the borough boundary shapefile to trace the borders that did not exist, digitizing them using the editor toolbar. It was necessary to perform multiple iterations of editing before I was able to produce closed polygons for four boroughs, excluding Queens. The Queens boundaries were messier so Queens area is excluded from the analysis. Again, I clipped the MapPLUTO water included shapefile to the CSCL polygon, this time including only the boroughs that weren't Queens.

To import the LIDAR shapefile into a Postgres table, it was first necessary to run the feature class to feature class geoprocessing tool to disable the Z values. Otherwise, the shapefile has POLYGON Z geometry which cannot be imported into Postgres. Once the conversion was done, the import succeeded and I was able to run the breakout by land use code.

Supporting Documents

[Jupyter Notebook](#)

[Excel Spreadsheet Summarizing Results](#)