UNIVERSITY OF NEW BRUSWICK
DEPARTMENT OF GEODESY AND GEOMATICS ENGINEERING
GGE 3423 (ONLINE): INTRODUCTION TO GIS

LAB ASSIGNMENT 6

Scope:

This assignment is to introduce to the students the basic raster analysis functionality available in ArcMap. An elevation raster as well as other products, such as slope and aspect maps as well as contour lines for the UNB Campus will be generated.

Steps:

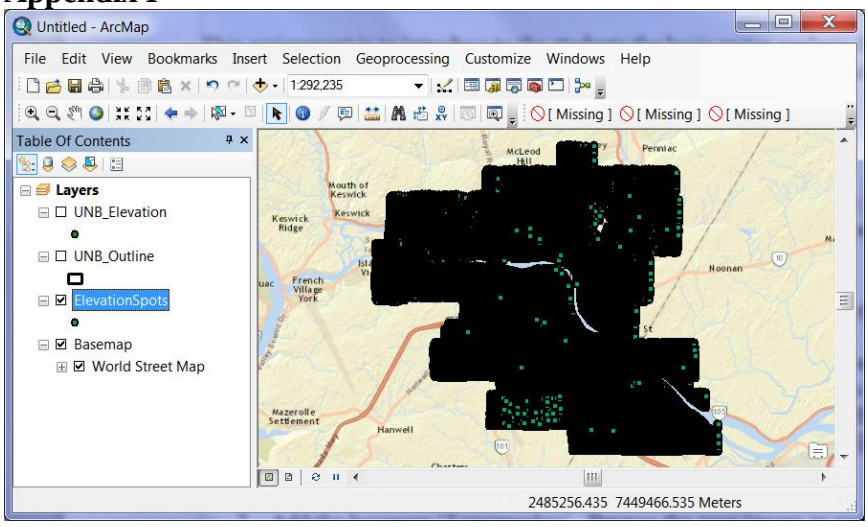
1. Load the elevation points of Fredericton used in Lab 6 (file: spots.csv). Available at LAB_6/Data. Choose SRID: 2953. Export to a new shapefile. Name it *ElevationSpots.shp* and load it on the session.
2. Add the basemap Street and zoom in to UNB Campus. (Appendix I)
3. Create a new shapefile of type polygon and name it *UNB_Outline* (ArcCatalog > New Shapefile > Type: Polygon; SRID: 2953)
4. Use the basemap to digitize a new polygon of UNB campus and save it into *UNB_Outline.shp*. (Editor bar > Start Editing > Create Features into UNB_Outline). (Appendix II)
5. Create a new Feature class with all elevation points within UNB campus (Geoprocessing > Clip > Input Features: *ElevationSpots.shp* Clip Features: *UNB_Outline*). Save it into a new shapefile and name it *UNB_Elevation.shp* (Appendix III)
6. Use shapefile *UNB_Elevation.shp* to create the elevation raster of UNB Campus. Use an output cell size = 25m.
7. Use the elevation raster to create: [1] an aspect map, [2] a slope map, and [3] a contour map of the campus. Experiment with the parameter values, so that the three products are clear to read. Explain the shape/pattern of the contour lines.
8. Create three Map Layouts, one for each product in Step 7. Choose a scale so that the map fits in a Letter size paper; add title, scale bar, and legend. Add a basemap in the background. Make sure to also include details regarding the parameter values chosen to create these products.
9. Export both Map Layouts as PDF documents.

Deliverables:

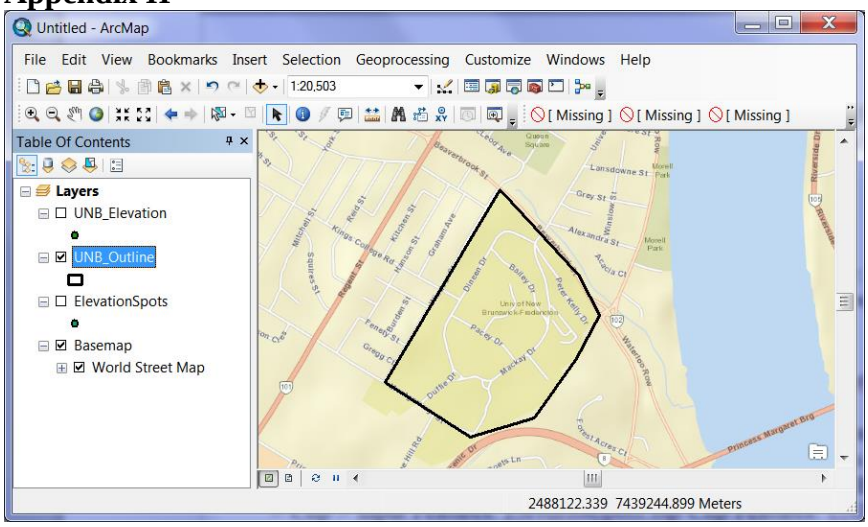
a. The Map Layouts [1],[2],[3] in PDF format.

Upload [1],[2],[3] on D2L > Assignments > Lab_Assignment_6

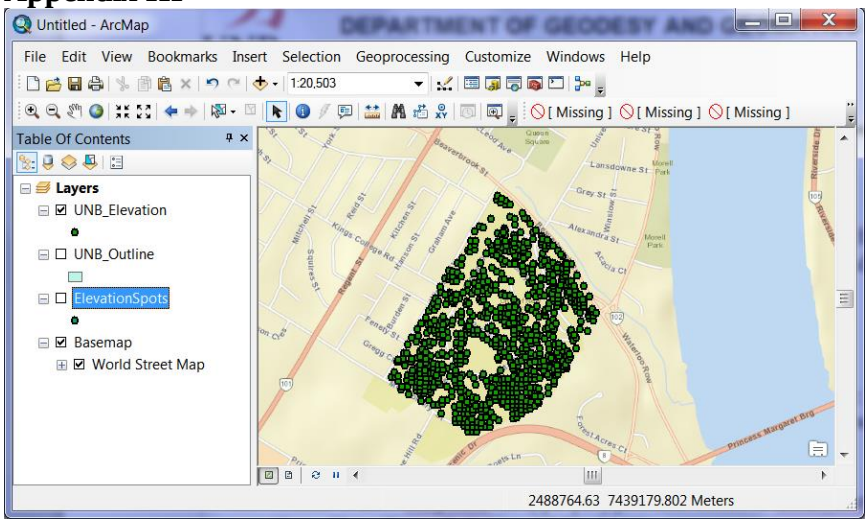
Appendix I



Appendix II



Appendix III



E.Stefanakis, 2017.