

Assignment 3 – Due October 8th 2023

In this assignment you will demonstrate your ability to load, clip and export a satellite image within your jupyter notebook, for a specific geojson Area of Interest (AoI).

This task contributes to you achieving learning outcomes 1 & 3 for GGS416.

Please complete the following:

1. Obtain and load a satellite image of your choice as a true color composite and display the image (10 points).
2. Manually create a non-rectangular geojson shape for an Area of Interest within your chosen image (do not reuse the automated rectangular code in the class). This demonstrates your ability to find coordinates, construct points, and then put them together as a geojson polygon. A diamond, hexagon or Trapezoid would demonstrate your understanding well (30 points).
3. Use rasterio to:
 - a. Clip the image using this geojson AoI (20 points).
 - b. Update the associated metadata for the new image (20 points).
 - c. Export the final image as a .tif (20 points).

50% of the points for each task are dependent on the code submitted in tandem with these answers. Without the code, it is not possible to establish how you obtained the answers. Providing the code ensures you actually used the methods taught in class. Adding comments to your code to explain how you carried out each step, will make your submission stronger.

Provision of the underlying code also enables the assignment to be evaluated for cheating/plagiarism. Please remember the Mason Honor code applies. All work must be your own. If you fail to work through these questions on your own, you will make it considerably harder to perform in your individual coursework project, later in the semester.

Make sure you either copy and paste your code at the end of your submission document for review, or upload your notebook to GitHub. If you copy and paste the code, it would help to take a screenshot of your code response of each question, so the printing part of the task can be viewed.

Any questions on this assignment should be directed to the MyMason discussion board.