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Spatial Sciences for Marine Environmental Characterization

Lab Assignment #1

Answer Sheet

1. In which month of 2015 were the bathymetric data collected?

Start Date: 2015-03-27

End Date: 2015-03-31\_

2. Which system was used to collect those data? \_\_\_ NOAA/NOS TIFF multibeam acoustic backscatter mosaic survey image \_\_\_\_

3. What does OLI\_TIRS mean/stand for? \_\_\_\_\_\_  Landsat Operational Land Imager (OLI) /\_\_\_\_ Landsat Thermal Infra-Red Scanner (TIRS)

4. How many images did your search return? \_\_\_4\_\_\_

5. When was the satellite image collected? \_\_\_\_2013 and 2014\_\_\_\_

6. Which band numbers correspond to the blue, green, red, and near infrared portions of the

electromagnetic spectrum? \_\_\_\_

Band 2: Blue

Band 3: Green

Band 4: Red

Band 5: Infrared

7. What is the spatial resolution of the bathymetry and the satellite imagery? \_\_30 x 30 meters\_\_\_\_

8. Associate the dataset with its data type and form:

Data Form Dataset Data Type

Point

Line Bathymetry Vector

Polygon Political Boundaries Raster

9. What is the coordinate system and datum of each dataset?

a. Political boundaries: \_\_\_ WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere \_\_

b. Bathymetry: \_\_\_\_\_ NAD\_1983\_UTM\_zone\_20N

c. Landsat 8 imagery: \_\_\_\_ WGS\_1984\_UTM\_Zone\_20N\_\_\_\_\_\_\_\_

10. Why is the outline of St. Croix not matching the actual shape of the island?

\_\_\_Most likely because the person digitizing was not that exact, or erosion, possibly other projection issues, also the tide and water levels

11. Looking at the false-color composite, what are the colors representing vegetation and built

environment? Briefly explain why.

\_\_\_\_\_\_\_\_\_\_\_\_\_The vegetation is in the red band, because it has high reflectance in the infrared band.

12. Which type of map did you make? \_\_A comparison vegetation map\_

13. Don’t forget to submit your map!