**GIS410: Intro to Remote Sensing**

**Lab 7: Advanced RS Topics**

**Due: Thursday, Aprl 15th at 11:59 PM**

**100 points**

## **PART 1: OBJECT-BASED CLASSIFICATION**

Q 1: : Explain how the spectral detail, spatial detail and minimum segment size settings are used to fine tune the image segmentation process (8 points)

Q 2: Describe the difference between a traditional supervised classification and the object oriented classification you ran in this exercise. (8 points)

Include a screenshot of your final raster for the ESRI training (5 points)

## **PART 2: WORKING WITH THERMAL IMAGERY**

Q1: How does the date of the image relate to what you see when you compare the two thermal images? (5 points)

Fill in the cells in the following table (8 points)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Minimum | Maximum | Mean | St. Dev |
| June 2009 Thermal |  |  |  |  |
| November 2010 Thermal |  |  |  |  |

Q2: What do the DN values represent in band 6? (5 points)

Q3: Which month has the broadest range of DN values? Why? (5 points)

Q4: Why does there seem to be an edge around the lakes? (5 points)

Fill in the cells in the following table (16 points)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Point | June 2009 Thermal DN Value | Temperature in degrees Celsius | November 2010 Thermal  DN Value | Temperature in degrees Celsius |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

## **PART 3: LIDAR**

Q1: What is the resolution of the output elevation rasters? (5 points)

Q2: What is the resolution of WMFirstRet5? (5 points)

Q3: What are the differences in information contained in the WMDiff, Wmground and WMFirstReturn images? (10 points)

Include a screenshot of your derived hillshade image (5 points)

Include a screenshot of your derived slope image (5 points)

Include a screenshot of your derived contour image (5 points)