

# **Assignment 10: Raster Analysis Practice**

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# 1. Intro-fossgis-umass

## 1.1. Author Attribution

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## 1.2. Module Licensing Information

Version 1.0.



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## 1.3. Reviewed by

Quentin Lewis 04/09/07

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## 2. Raster analysis practice

### 2.1. Introduction

In this assignment you will practice once more what was presented in the Raster Analysis module, but this time, for the area of the neighboring town of Amherst, Massachusetts.

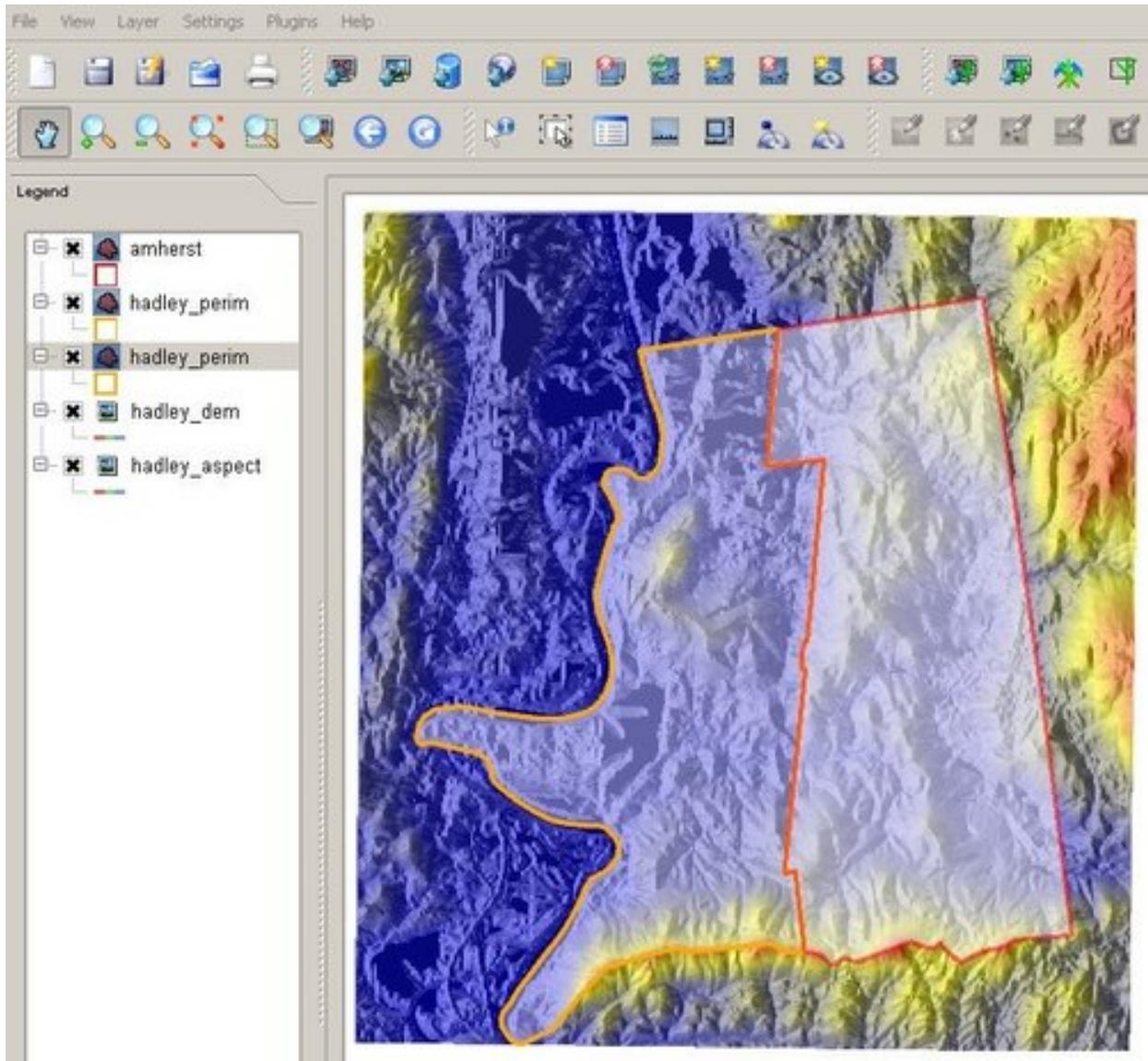
### 2.2. Set up

You will need **the same dataset used in the Site Selection modules:**  
[http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab\\_siteselection/siteselectiondata.zip](http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab_siteselection/siteselectiondata.zip)  
[[http://linuxlab.sbs.umass.edu/introFossgisUmass/datasets/lab\\_siteselection/siteselectiondata.zip](http://linuxlab.sbs.umass.edu/introFossgisUmass/datasets/lab_siteselection/siteselectiondata.zip)] (you probably have this one already) and **a perimeter of the town of Amherst:**  
[http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab\\_siteselection/amherst.zip](http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab_siteselection/amherst.zip)  
[[http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab\\_siteselection/amherst.zip](http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/datasets/lab_siteselection/amherst.zip)]. Download them to a temporary folder on your computer and extract into a directory (always make sure that there are no spaces in the path--this will be particularly important in this assignment, as you will be working in the GRASS shell, which is on a command line. In addition, you might want to create a directory that is easy to type!).

### 2.3. Assignment Deliverables

#### 1. Display

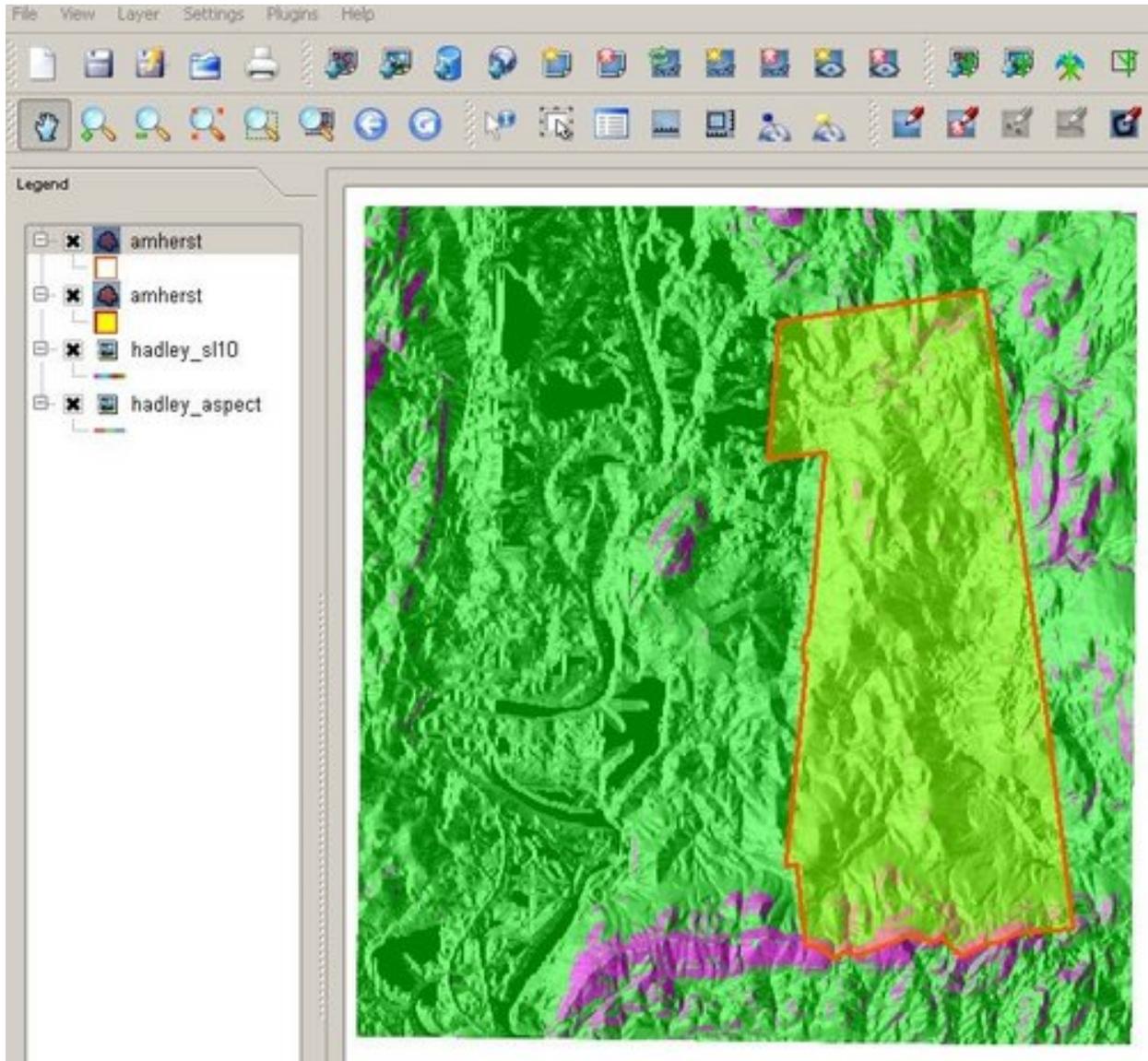
A screenshot of the transparent Hadley\_DEM over an aspect layer (this is the way to display the topography in 3D) with just a WHITE color outline of the town of Amherst. This image shows the outlines of the towns of Hadley (left) and Amherst (right):



## 2. Reclass

A screenshot of the classified slope layer into areas flatter than 10 degrees of slope and areas of higher slope. If you cannot come up with the GRASS shell statement, click here: [http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/images/3/3f/2\\_raster\\_assignment\\_STATEMENT.jpg](http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/images/3/3f/2_raster_assignment_STATEMENT.jpg) [[http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/images/3/3f/2\\_raster\\_assignment\\_STATEMENT.jpg](http://linuxlab.sbs.umass.edu/beginning-fossgis-umass/images/3/3f/2_raster_assignment_STATEMENT.jpg)]

The next image shows the classified slope layer into areas under and over 10 degrees slope, displayed with the Amherst outline:



3. Clipping

Provide a screenshot of the Hadley\_DEM clipped to the town of Amherst.

4. Attribute extraction

Provide a screenshot of the polygons that represent ONLY the Amherst hilly areas (over 10 degrees slope), displayed over the DEM.

5. A list of possible applications of this layer.

6. A note about any problems you may have encountered while completing this assignment.

Please email a .pdf of the assignment to your instructor. You can create the .pdf by pasting the screenshots into an Open Office, Microsoft Word, etc file. If you do not have a .pdf creator, you can download a print to .pdf program,

such as PDFCreator: <http://sourceforge.net/projects/pdfcreator/> [<http://sourceforge.net>