

Computer-aided Land Cover Mapping Protocol

Field Guide

Task

Create a land cover type map using MultiSpec software to cluster the spectrally similar pixels of the digital file of your Landsat TM satellite image. Label each cluster according to the land cover type you feel is represented based on your knowledge of the area.

What You Need

- Introduction to the MultiSpec Program and Computer-aided Mapping Tutorial (from the MultiSpec CD)*
- MultiSpec computer software
- Computer capable of running MultiSpec computer software
- 512 x 512 pixel Landsat TM image data of the 15 km x 15 km GLOBE Study Site
- MUC Field Guide or MUC System Table and MUC Glossary of Terms*

What To Do

1. Start the MultiSpec program on the computer.
2. Open the file containing the Landsat TM image of your GLOBE Study Site. It is labeled _____.
3. Create a new project and select *Cluster* from the **Processor** menu.
4. Select the appropriate number of clusters according to the number of groups you wish to classify. The first time you should use the default of 10 clusters, unless your teacher says otherwise. Provide the system with other information as directed in the *Introduction to the MultiSpec Program* and the *Computer-aided Mapping Tutorial* (from the MultiSpec CD).
5. Once the image has been clustered, examine the area included in each cluster.
6. Assign a land cover class to each cluster.
 - a. If you know the land cover type of an area, assign a land cover class from the MUC System to the cluster.
 - b. If you do not know the land cover of an area, use the data from a Land Cover Sample Site within the area to assign the land cover class from the MUC System.
 - If there are no land cover sites within the area of a cluster, perform the *Land Cover Sample Site Protocol* for a site within this area.
 - If there are multiple sites within an area, use only one of these sites to make the land cover class assignment and reserve the others for performing an accuracy assessment.
7. Rename each cluster to correspond with its appropriate MUC class.
8. Save the classified clustered image. Use the **File** menu to save it onto a disk as a TIFF file.