

Manual Land Cover Mapping Protocol

Field Guide

Task

Create a land cover type map by identifying the areas of different land cover in hard copies of your true-color and false-color infrared Landsat TM satellite images.

What You Need

- Manual Mapping: A Tutorial for the Beverly, MA Image*
- True-color and False-color Infrared prints of Landsat TM image of the 15 km x 15 km GLOBE Study Site or color copies of the GLOBE Study Site
- Blank transparencies or plastic sheets
- Tape
- Local topographic maps or transparencies of local topographic maps
- Fine point felt-tipped permanent markers
- MUC Field Guide* or *MUC System Table* and *MUC Glossary of Terms*

What To Do

1. Tape a blank transparency sheet over the false-color infrared satellite image.
2. Mark the corners of the satellite image and label the top of the image on your blank transparency. If it moves, you can put it back where it belongs using these marked corners. This will also allow you to move the transparency to the true-color image.
3. Outline areas of similar land cover using the markers. If you have enough colors, use a different color to represent each area that you feel is a distinctive land cover type.
4. Assign each area a MUC class from the *MUC Field Guide* or *MUC System Table* and *MUC Glossary of Terms*, using your knowledge of the area.
5. If you cannot label an area, discuss the best possible choice of land cover type with your classmates or ask a person in your class who lives near the area to visit it on their way to or from school.
6. If there are any areas left to identify, visit the site and perform the *Land Cover Sample Site Protocol*.
7. Label the map completely. It may help to place the transparency on a blank, white sheet of paper to check for unlabeled areas.
8. See your teacher for instructions on how to submit your map to GLOBE.

Some hints to help with false-color infrared TM images:

- Red represents actively growing green vegetation (pink areas often represent grasslands, bright red represents hardwoods and fields, dark red represents evergreens).
- Black represents water or a cloud shadow.
- Blue–white represents urban areas, exposed rock, sand, and bare soils.