Classifying Land Cover in Minnesota and Wisconsin

Topic: Environmental management

Problem Statement: Land cover has a significant impact on the health of a watershed. In order to monitor land cover change over time in a northeastern Minnesota watershed , an initial land cover map must be created.
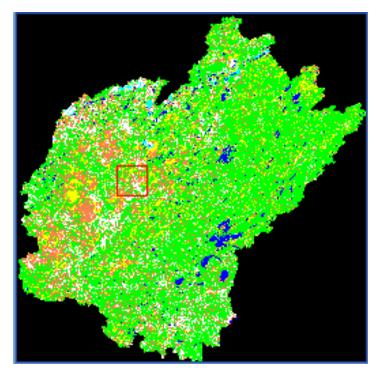
Level: Intermediate

Software: ArcGIS Desktop 9.3, ENVI 4.6

Description: The St. Louis River watershed is the second largest tributary to Lake Superior and is home to a variety of land covers ranging from forest and wetland to land cover typical of industry and mining. The goal of this Learning Unit is to develop a land cover map of the watershed utilizing Landsat TM imagery and instructor-provided shapefiles. Students are guided through an in-depth procedure of image processing and classification in order to create a land cover map of the St. Louis River Watershed that can be utilized in future comparative activities.

Key words: Land cover, land classification, watershed, Landsat TM, radiance, reflectance, compile IDL function, band math, subsetting, mosaic

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