Determining Ecoroof Locations to Improve Urban Environments in Oregon

Topic: Urban land cover

Problem Statement: Can arguments for ecoroof development in a historically agricultural area be supported by calculating changes in urban and non-urban land cover over time?

Level: Beginning remote sensing

Software: ArcGIS, ENVI, Powerpoint

Description: Students are introduced to fundament concepts of pixel identification, color bands and basic image processing using ENVI: adding layers, stacking layers, and creating geographic subsets. They perform unsupervised classifications to isolate urban land cover for two time periods and export the classified images to ESRI Grid files. In ArcMap, they reclassify the two GRID files and calculate the percentage of urban and non urban land cover. Students can then identify buildings suitable for ecoroof development and calculate total acreage for potential development.

Key words: unsupervised classification, urban land cover, GRID, Landsat

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