

Evaluating Post-Fire Vegetation Recovery in San Diego County, California



Topic: Natural disasters, environmental management

Problem Statement: How can remote sensing and GIS be used to evaluate post-fire recovery of vegetation?

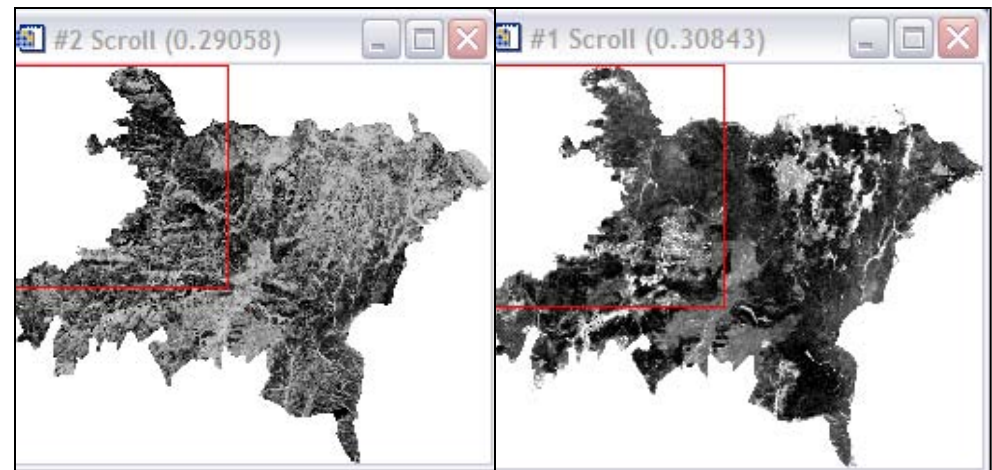
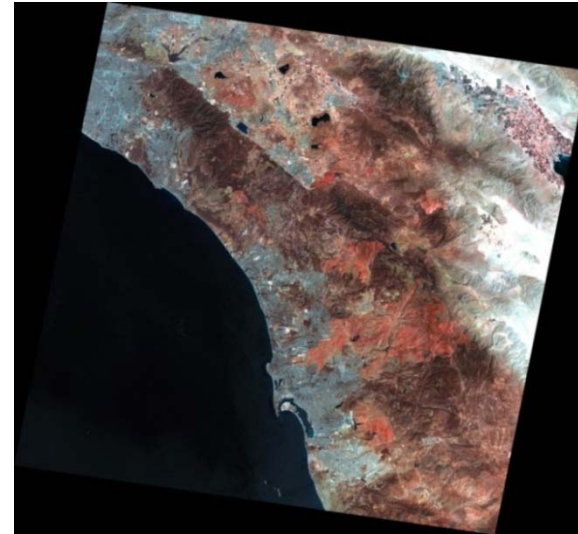
Level: Intermediate to Advanced

Software: ENVI, ArcGIS, Spatial Analyst

Description: This Learning Unit uses data from the October 2003 Paradise Fire in San Diego County, California to:

- (1) determine vegetation loss and burn severity by generating pre- and post-fire Normalized Burn Ratios (NBRs) and an approximated dNBR for the study area;
- (2) monitor post-fire vegetation regeneration through landscape-scale remotely sensed imagery, performing a multi-temporal Normalized Difference Vegetation Index (NDVI) analysis; and
- (3) import the derived datasets into a GIS and, using a DEM for the study area, derive slope and aspect. Analysis of pre- and post-fire recovery of vegetation will use products from derived datasets and Map Algebra in GIS.

Keywords: NBR, NDVI, DEM, Slope, Aspect, Map Algebra, Landsat, Chaparral, Burn Severity



Pre-Fire

Post-Fire