

Environmental Applications of GIS

Course Objectives

By the end of the class, you will understand and be able to complete the following processes/concepts:

- 1) Spatial analysis theories, techniques and issues associated with ecological and environmental applications
- 2) Hands-on training in the use of these spatial tools while addressing a real problem
- 3) Linking GIS analyses to field assessments and monitoring activities

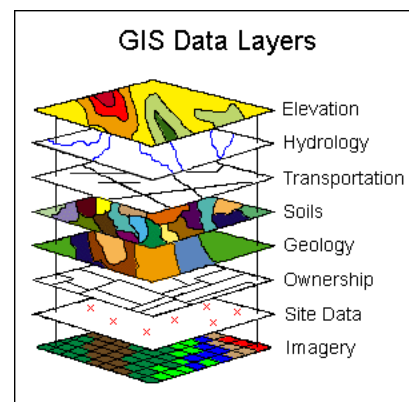
Ecological and environmental assessment of the watersheds will address topics such as wetlands delineation and loss, classifying land use and land cover, impacts of urbanization on the landscape, habitat loss, modifications to the hydrologic cycle, and identifying sources of pollution and areas impacted by pollution. By the end of the course, attendees should be able to import data from GPS, import data from Internet and government sources, conduct raster and vector GIS analyses and use GIS-based ecological/environmental models.



TOPICS COVERED

- ✓ Assessing Fire Damage
- ✓ Merge and Mosaic for a Wildfire Affected Area
- ✓ Working with GPS data
- ✓ Creating an IDW Surface using groundwater quality data
- ✓ Reclassifying Landuse and Determining % Coverage
- ✓ Determining Landuse Change using Map Algebra
- ✓ Using Map Algebra to Find a Suitable Location for a Landfill Habitat Suitability Model Analysis
- ✓ Determine flood hazards for parcels
- ✓ Estimate cumulative rainfall using Doppler radar data
- ✓ Analyze hurricane storm surge inundation
- ✓ Hurricane Loss Estimation Explore a user-defined scenario
- ✓ Using ModelBuilder for Habitat Suitability Model
- ✓ Case study of model integration: Soil Erosion using the Revised Universal Soil Loss Equation (RUSLE)

Questions for GIS	GIS Answers
Can you map that?	Mapping
Where is What?	Spatial DBMS and Geo Query
Where has it changed?	Temporal Analysis
What patterns exist?	Spatial Analysis
Where is it best?	Suitability Model
What effects what?	Statistical/Process Model
What if...?	Simulation/Management Model



Contact Us

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