

Essential Geoprocessing Tasks

GIS II: Data Management

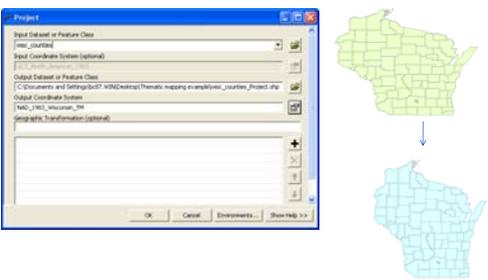


Overview

- Geoprocessing is a catch-all term for the manipulation of geographic data
- Take one or more input geographic datasets, perform some operation, return an output geographic dataset
- Operation can be simple or complex
- We've already seen some examples of geoprocessing

A familiar example

- The Project tool takes an input dataset, transforms its coordinate system, and returns an output dataset.



CEI The Project tool

- Converts a shapefile from one coordinate system to another
- Does not modify the original shapefile
- Only works on shapefiles with a known coordinate system

CEI Proximity: the Buffer tool

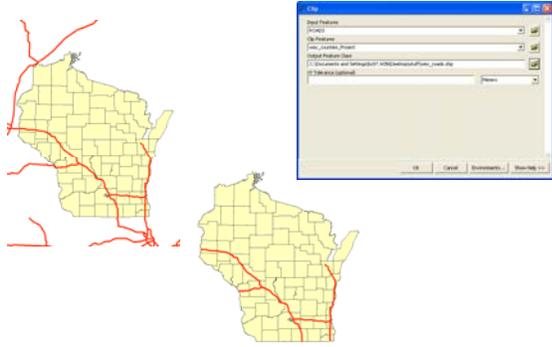
- Used to find the area within a given distance of a set of features
- Input features can be points, lines, or polygons
- Output feature will always be polygons
- Does not modify the original shapefile

CEI Buffer examples

CEI Extraction: the Clip tool

- Used to limit the extent of one shapefile to the extent of another shapefile
- Requires two inputs:
 - Features to clip (may be points, lines, or polygons)
 - Clip features (must be polygons)
- Does not modify either original shapefile

CEI Clip examples



CEI Extraction: the Select tool

- Used to create a new layer based on an attribute query
- Similar functionality to the "Select by attributes"
- Does not modify original shapefile

