ArcToolBox: Analysis

ArcToolBox

ArcToolBox is available from both ArcCatalog and ArcMap.

A toolbox can contain tools, toolsets, and scripts and is organized according to the collection of geoprocessing commands it contains.
A toolset can contain tools, toolsets, and scripts and is organized according to the geoprocessing commands it contains.
A tool is a single geoprocessing command.
A script is a set of instructions usually stored in a file and interpreted, or compiled, at run time.
A model consists of one process or, more commonly, multiple processes strung together.
Toolsets

- Extract
- Overlay
- Proximity
- Statistics
Extract - clip

- Clip features must have polygon geometry.
- When using ArcMap layers as input, only the currently selected features are used in the CLIP operation.

Extract - split

- Split features must be polygons.
- The Split Field datatype must be character.
Extract - select

Extract - table select
Overlay Procedures
(for all but spatial join tool)

- Determine the spatial reference for processing. All the input feature classes are projected (on the fly) into this spatial reference.
- Crack and cluster the features.
- Discover geometric relationships (overlap) between the input features and the overlap features.
- Assign attributes based on the type of overlay.
- Remove features based on the combinations of attributes and overlay types.

Overlay - erase

- Erase features must be polygons.
Overlay - identity

- Identity features must be polygons.

Overlay - update

- Update features must be polygons
- The Input Features and Update Features field names must match
Overlay - union

- Input features must be polygons

Overlay - intersect
Overlay – symmetrical difference

- Input and update features must be polygons

Overlay – Spatial Join
Proximity - buffer

Proximity – multiple ring buffer
Proximity – create Thiessen polygons

Proximity – near
- generate near table
Proximity – point distance

- Both input and near features (layers) must have point geometry.

Statistics – frequency
Statistics – summary statistics