What is Geoprocessing?

Kenneth Smith
Today’s agenda

- Define what Geoprocessing is
- See how to access the functionality
- View examples
- Look at geoprocessing workflow
What is geoprocessing?

Compute

Store & Manage

Visualize
What is geoprocessing?

Compute = Geoprocessing

- Automate GIS Tasks
- Modeling & Analysis
What is geoprocessing?

- The ArcGIS system for managing and manipulating data
  - Solve real-world spatial problems
  - Model processes and systems
  - Ask questions; get results
The geoprocessing language
The geoprocessing framework

Tools

Model Builder

Python Window

```python
Clip_analysis(in_features, clip_features, out_feature_class, (cluster_tolerance))
```

```python
>>> arcpy.Clip_analysis("Sidewalks",
```

- "level 17 ~ 14.5|Building_Footprints_4k"
- "level 17 ~ 4.5|Building_Footprints_DropShadow_Footprints_4k"
- "level 17 ~ 4.5|Building_Footprints_Outline_4k"
```
Geoprocessing examples
Relationship between childhood asthma and air quality from traffic

Home addresses of children with asthma can be geocoded against a streets layer. Major roads are selected and buffered by a distance of 1000 feet. The road buffers and addresses are then overlayed for studying this spatial relationship and its impact on incidence of asthma.
Geoprocessing Demo

Accessing Functionality
Geoprocessing Demo
Performing Analysis
Geoprocessing

Geoprocessing is for everyone that uses ArcGIS. Whether you’re a new or advanced user, geoprocessing is likely an essential part of your day-to-day work with ArcGIS. The fundamental purpose of geoprocessing is to provide tools for performing analysis and managing your geographic data. The modeling and analysis capabilities geoprocessing provides make ArcGIS a complete geographic information system.

Geoprocessing provides a large suite of tools for performing GIS tasks that range from simple buffers and polygon overlays to complex regression analysis and image classification. Geoprocessing also provides methods for automating GIS tasks and developing custom workflows that can be shared with others both within and outside your organization.

Learn more about geoprocessing
Learn more about the role of geoprocessing in ArcGIS
Learn more about what’s new for geoprocessing in ArcGIS 10
To learn more

• There are numerous sessions on geoprocessing
• See the online agenda:
  - Search on “geoprocessing”
• Demo Theaters in Exhibit Hall C
  - Spatial Analysis Demo Theater
  - Mapping & Visualization Demo Theater

Thank you for coming!

Please remember to fill out the evaluation form
Questions