ESRI California | Hawaii | Nevada

Regional User Group Conference

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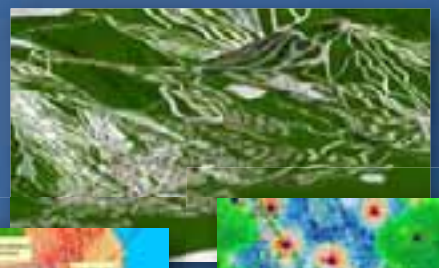
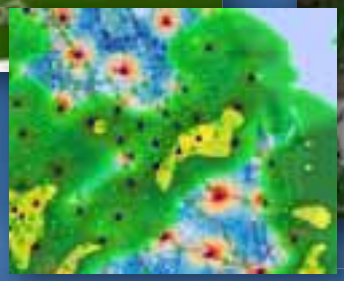
# ArcGIS Desktop – The Road Ahead

*Amadea Azerki*

# Agenda

- An Overview of ArcGIS 10
- Desktop Enhancements
  - User Interface
  - Mapping
  - Editing
  - Analysis
  - Sharing
- Q & A



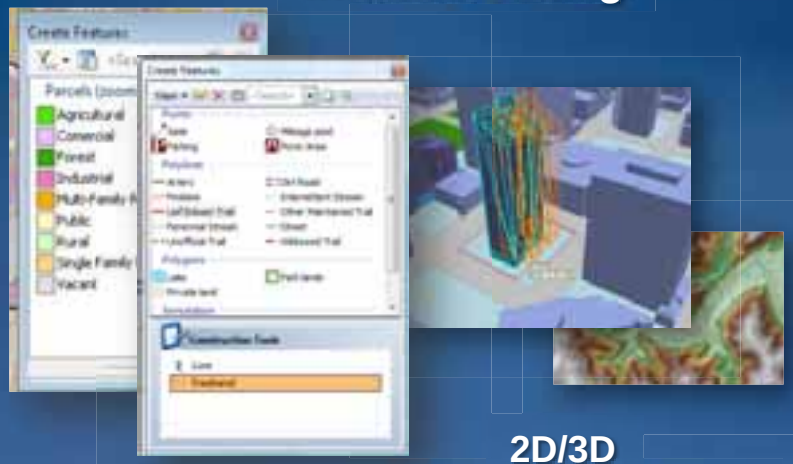


# ArcGIS 10 Overview

***Focuses on Usability and Productivity***

## Simplified Data Management

## Intuitive Editing



## 2D/3D
Desktop, Web, Mobile

## Search

## Collaboration

## Best Practice Templates

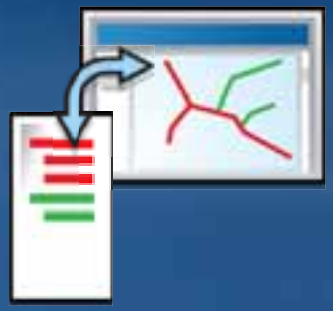
## Streamlined Desktop UI

# ArcGIS 10 Desktop

***Expanding Data Interaction Capabilities***

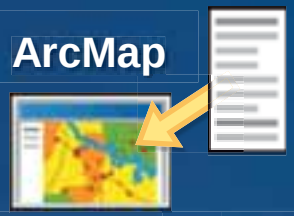
Fast Display

Dynamic TOC



Catalog

ArcMap



Integrated Catalog and Search

Map Packages

Better Tables/ Reports/Graphs

License Checkout

# Advances in Visualization

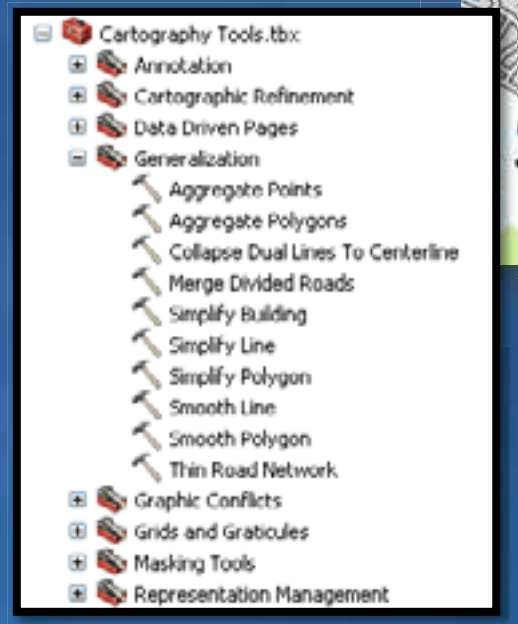
*New Methods for Simplifying and Advancing Cartography*

## Map Automation

## Update Symbology or Data

## Time Visualization

## Tools for Generalization



# Advances in Mapping and Mobile Platform

***Improves How You Author and Disseminate Maps***

**Generate Map Books**

**Tablet PC**

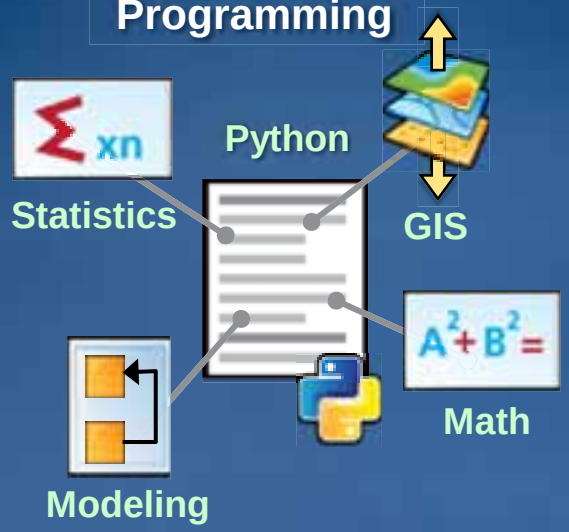
**Customizable Applications**

**Capture Photos**

# Advances in Spatial Analysis

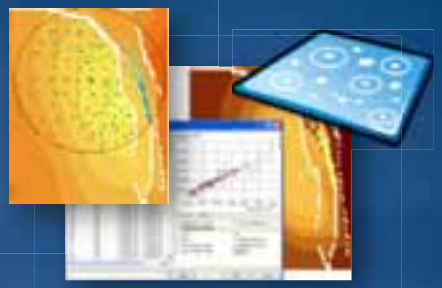
*Extending Methods in Geographic Science*

## Integrated Scientific Programming




## Fuzzy Overlay Modeling

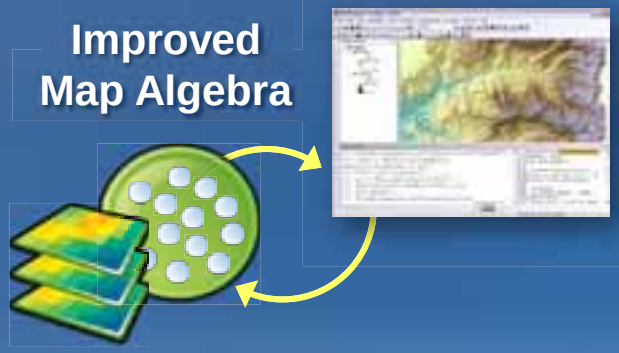
## Ecological Sampling



## Raster Performance

## Time - Aware Analysis

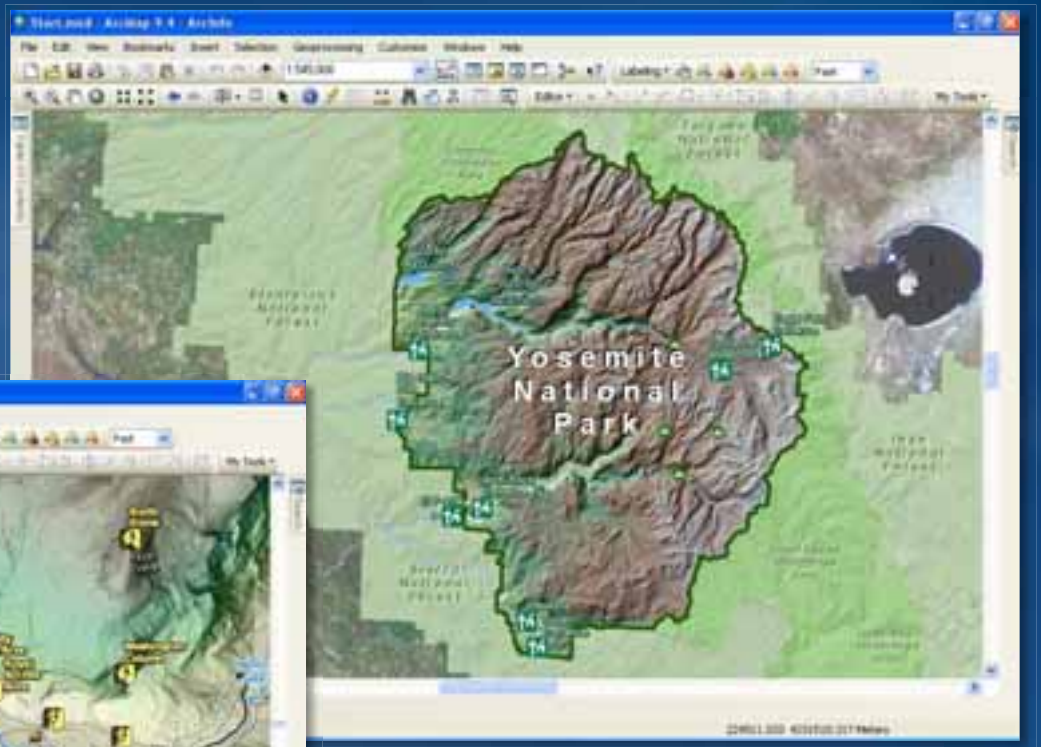
## Improved Map Algebra



# ArcMap User Interface Enhancements

*Intuitive Experience to Streamline Workflows*

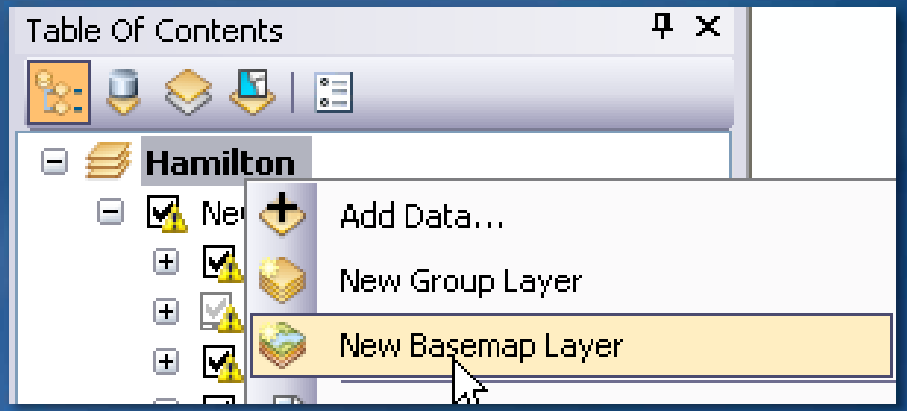
- New Drop - Down Menus
- Dockable Windows
- Where is ArcCatalog?
- Where is ArcToolbox?
- Utilize Search



# Basemap Layers

- Special Kind of Group Layer
  - Draws Continuously During Navigation
  - Uses a High Performance Drawing Engine

- Quickly Create Basemap Layers
  - Add Layers via Drag and Drop
  - Copy/Paste in TOC




- A Data Frame Can Have Multiple Basemap Layers
  - At Any Position in TOC
  - Ideally Limit Number of Basemap Layers to Just a Few

# Maplex Enhancements

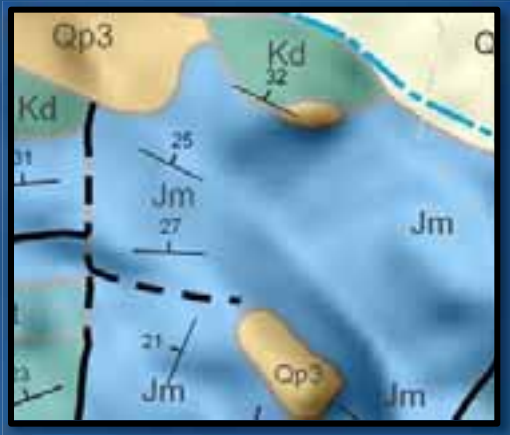
*Advanced Labeling*

- Opening a Map Without Maplex
  - Retains Label Properties
  - No Need to Drop to Graphics

- Maplex Labels Supported in Optimized Map Services

Single Sided Boundaries

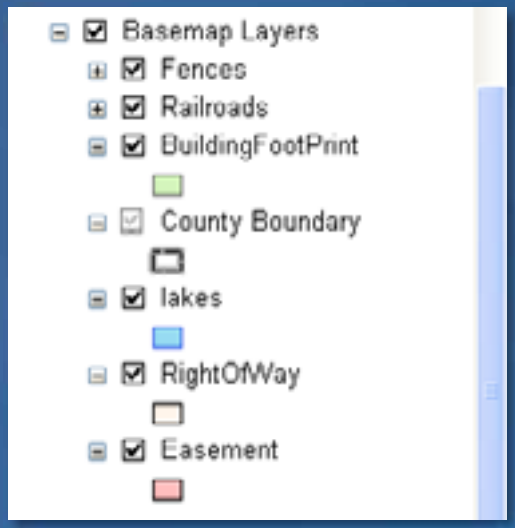
Overflow Polygon Holes

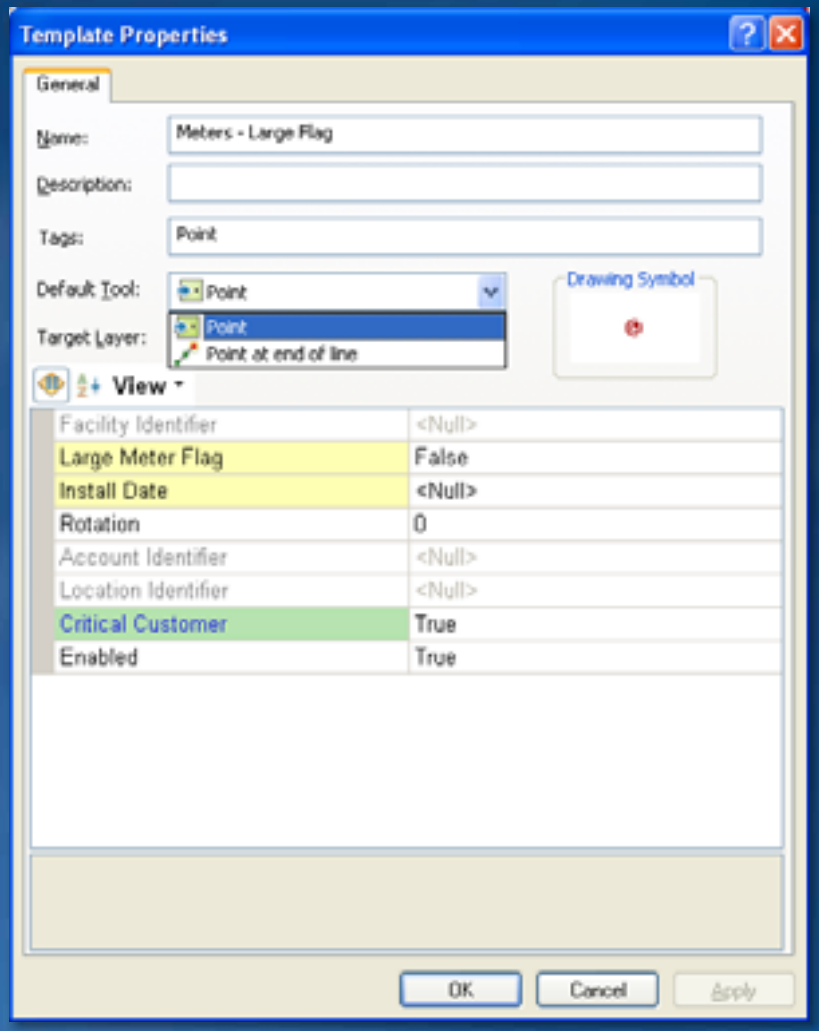



Repeat Polygon Labels

# Authoring Maps for Editing

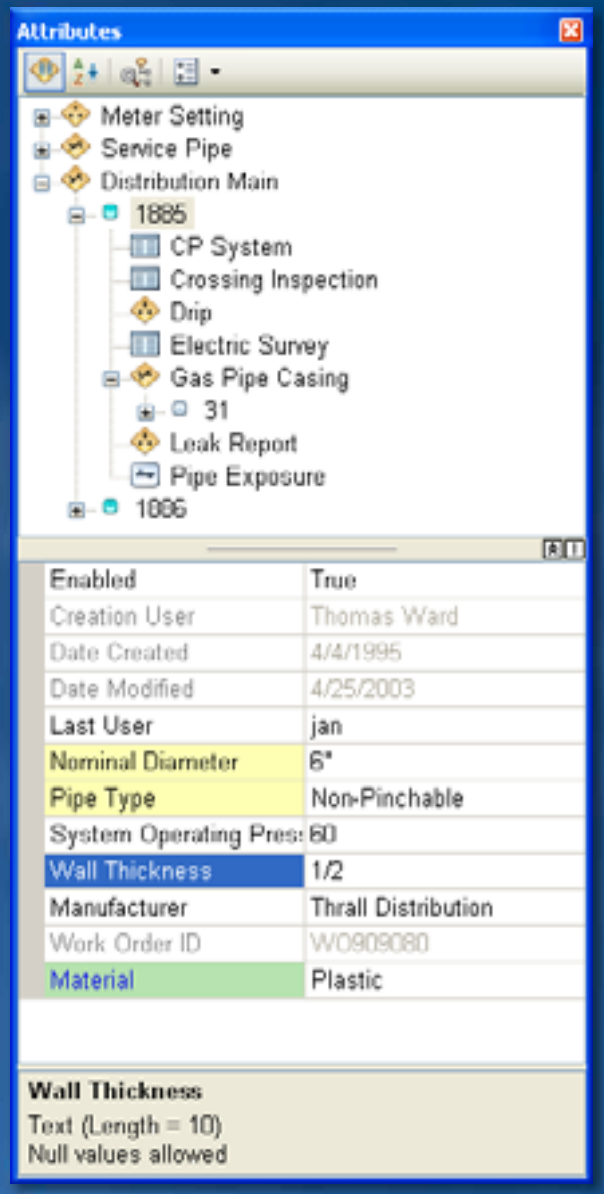
- Author Geodatabase Schema
- Author Map and Layers
  - Basemaps
  - Set Field Properties
- Author Feature Templates



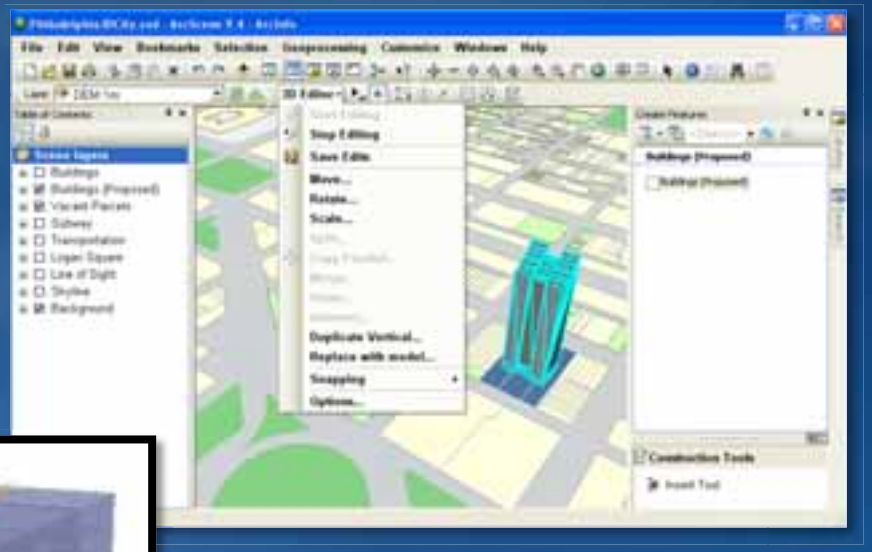
# Editing in ArcGIS Desktop

- Layer - Based Editing
- Efficient Feature Construction
- Simplified Snapping Environment
- Floating Context Menus
- Improves Productivity
- Quality Control Attributes

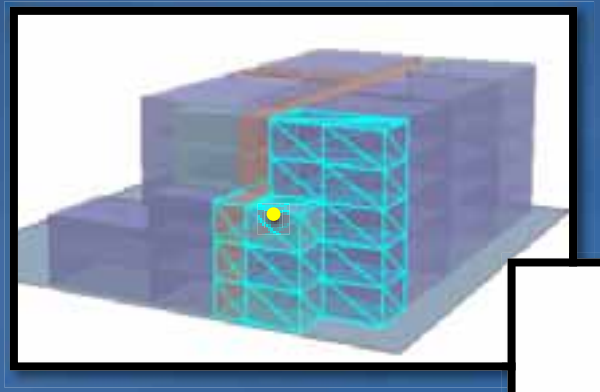


# Ability to Edit and Analyze in 3D

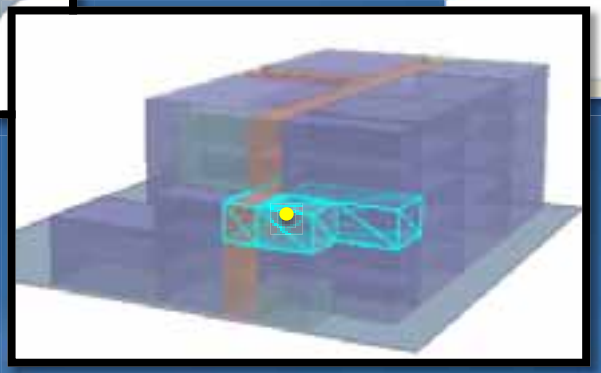
- ArcScene and ArcGlobe Now Support Editing
- Same Core Experience as ArcMap
  - Feature Templates
  - Attribution
- 3D Specific Tools



2D result

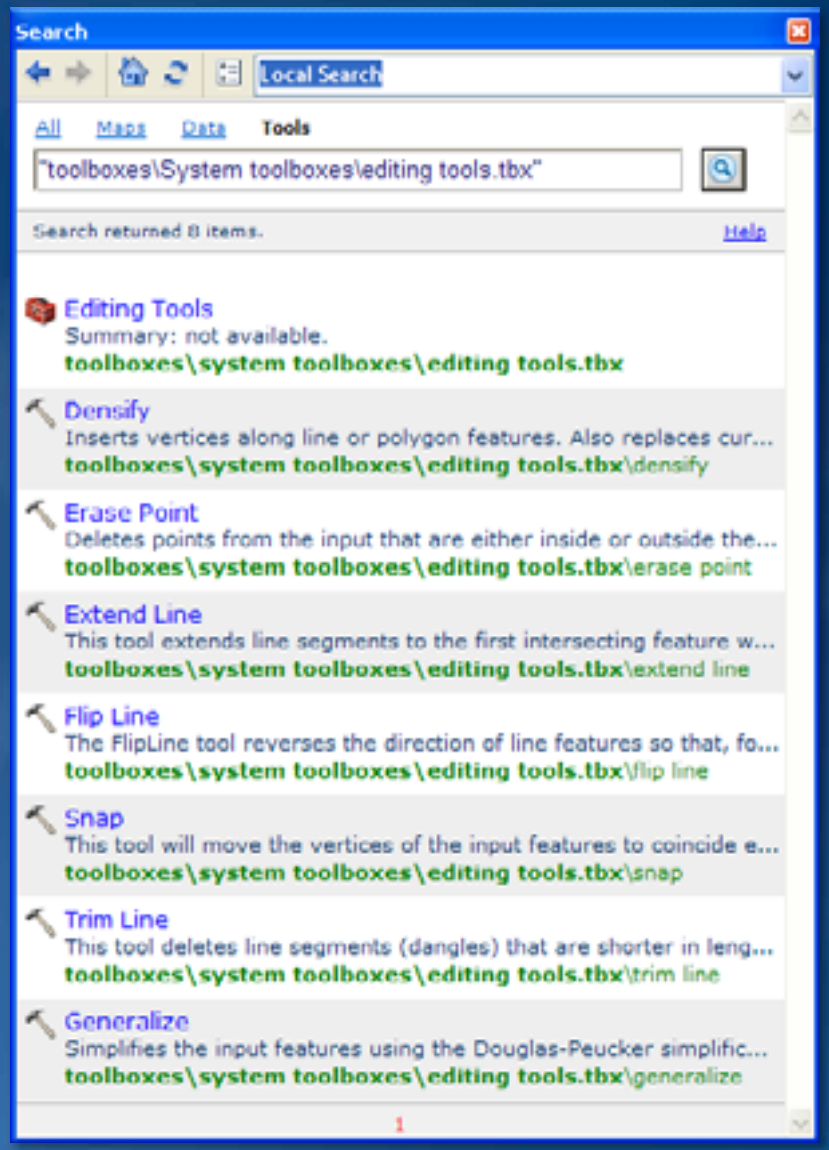


3D result



# Editing with Geoprocessing

- New Drop-Down Menu
  - Fully Customizable
- New Tools Designed for Editing
  - Tied to Your Edit Session
  - No New Output Generated
- Clean Your Data
- Maintain Data Integrity



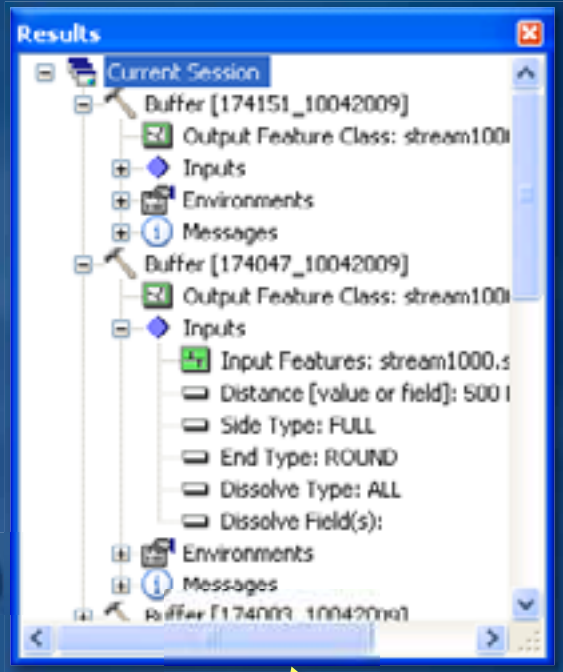
# Background Geoprocessing

- *Keeps ArcMap Interactive While Running Tools*
- Allows Queuing of Multiple Tools

- Progress and Completion Reported
- Details in *Results* Window

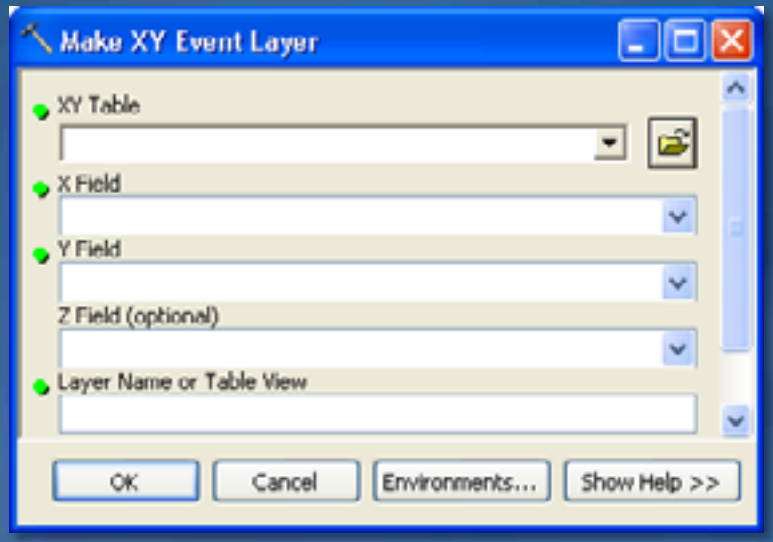
- By Default
  - ModelBuilder Runs in Foreground
  - Model Tools Run in Background
  - During an Edit Session, Both Run in Foreground

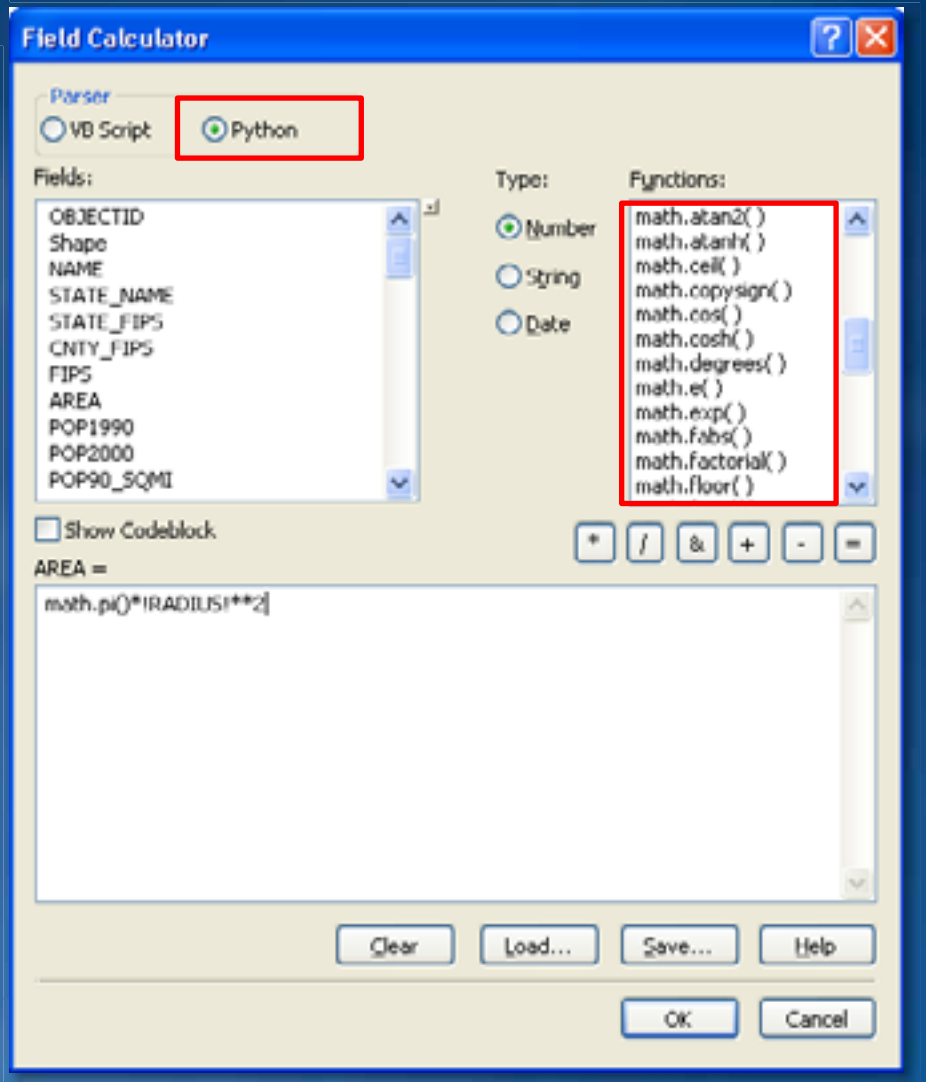
- Enable/Disable from *Geoprocessing Options*



# Data Management Tools

- Make XY Event Layer "Z Field" in Addition to X and Y
- Python Now in Field Calculator

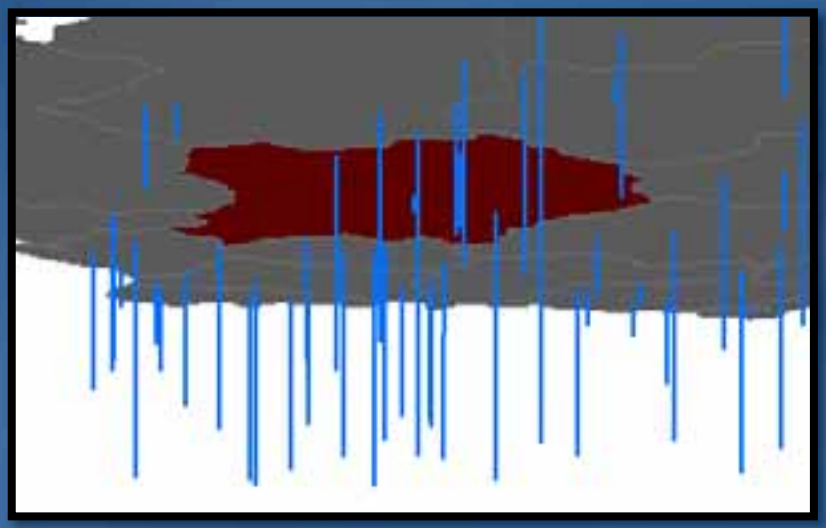


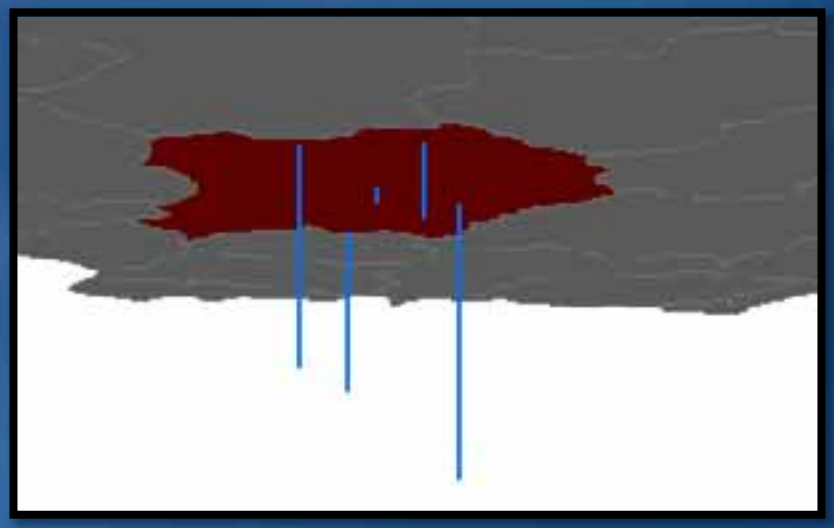
# Geoprocessing Vertical Segments

- Vertical Line Segments are Supported
- Buffer, Clip, Erase, Identity

Wells (Underground)



Wells Clipped to Clay Layer

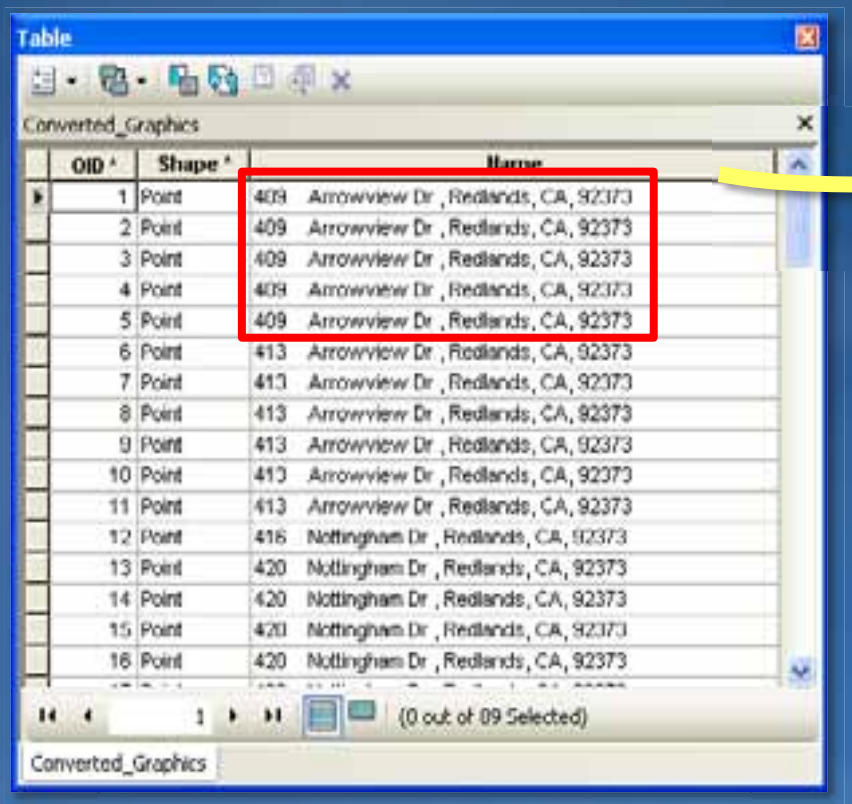


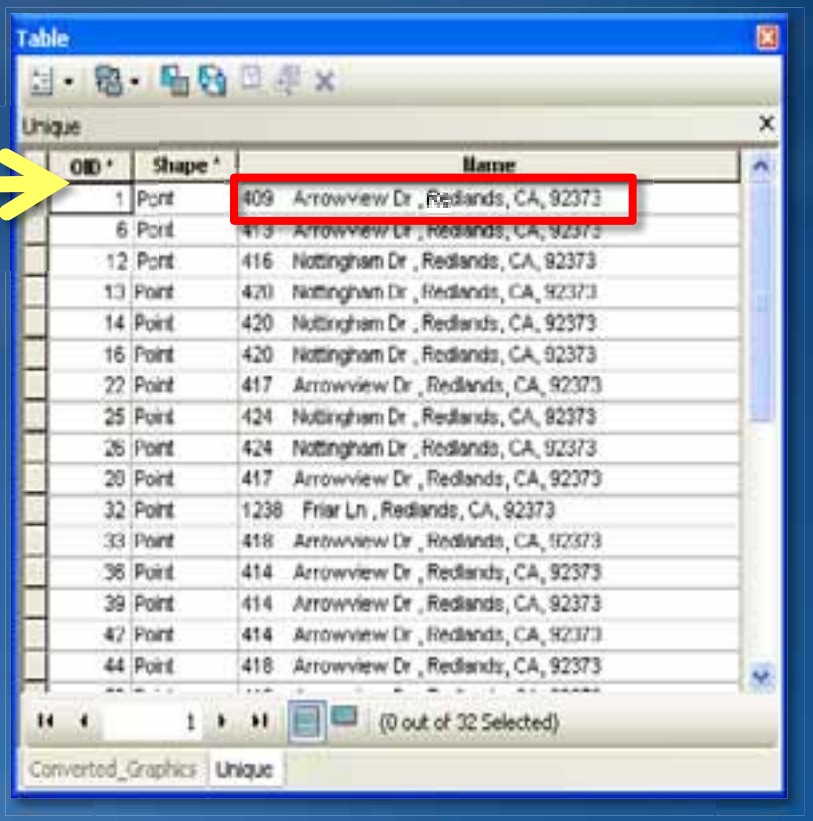
# New Line Tools

- **Split Line at Point**
  - Splits Lines Based on a Point
- **Unsplit Line**
  - Merges Lines with Coincident Endpoint or Common Attribute Values
- **Point to Line**
  - Creates Line Features from Points

# New Find or Delete Tools

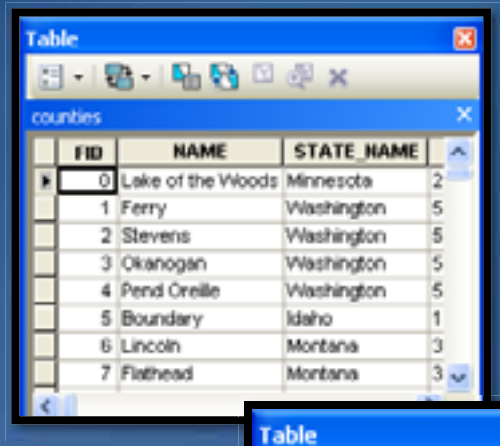
- **Find Identical**
  - Locates All Identical Features Within a Feature Class
- **Delete Identical**
  - Deletes Identical Features Within a Feature Class



# Sort Tool

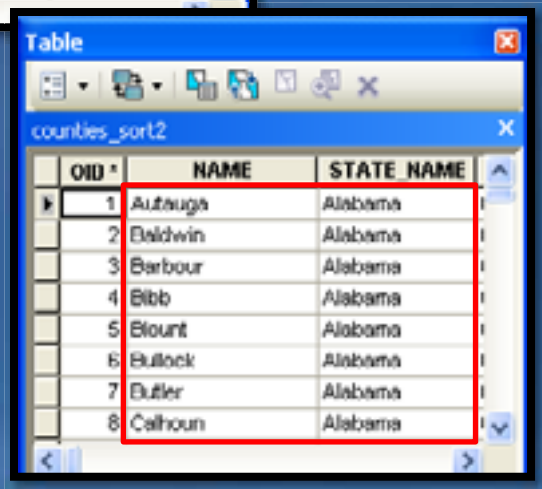
- Sort Based on Fields (Attributes)
- Sort Spatially
- Input Can be Table or Feature Class
- Data is Written to New Output



Table

counties

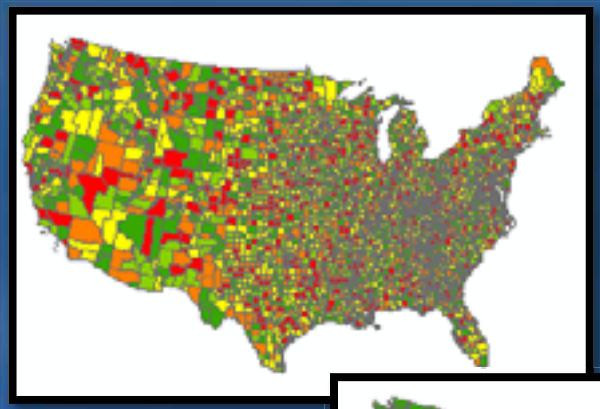
| FID | NAME | STATE_NAME | |
|---|---|---|---|
| 0 | Lake of the Woods | Minnesota | 2 |
| 1 | Ferry | Washington | 5 |
| 2 | Stevens | Washington | 5 |
| 3 | Okanogan | Washington | 5 |
| 4 | Pend Oreille | Washington | 5 |
| 5 | Boundary | Idaho | 1 |
| 6 | Lincoln | Montana | 3 |
| 7 | Flathead | Montana | 3 |

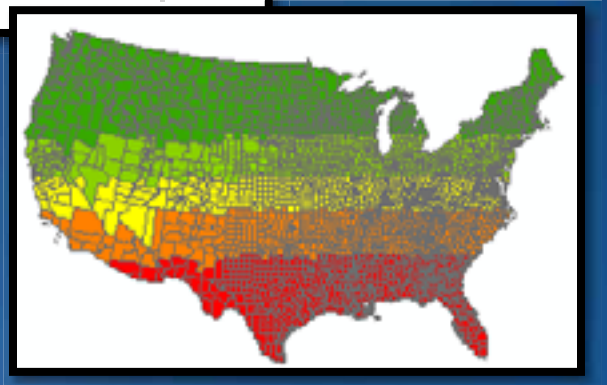


Table

counties_sort2

| OID * | NAME | STATE_NAME |
|---|---|---|
| 1 | Autauga | Alabama |
| 2 | Baldwin | Alabama |
| 3 | Barbour | Alabama |
| 4 | Bibb | Alabama |
| 5 | Blount | Alabama |
| 6 | Bullock | Alabama |
| 7 | Butler | Alabama |
| 8 | Calhoun | Alabama |

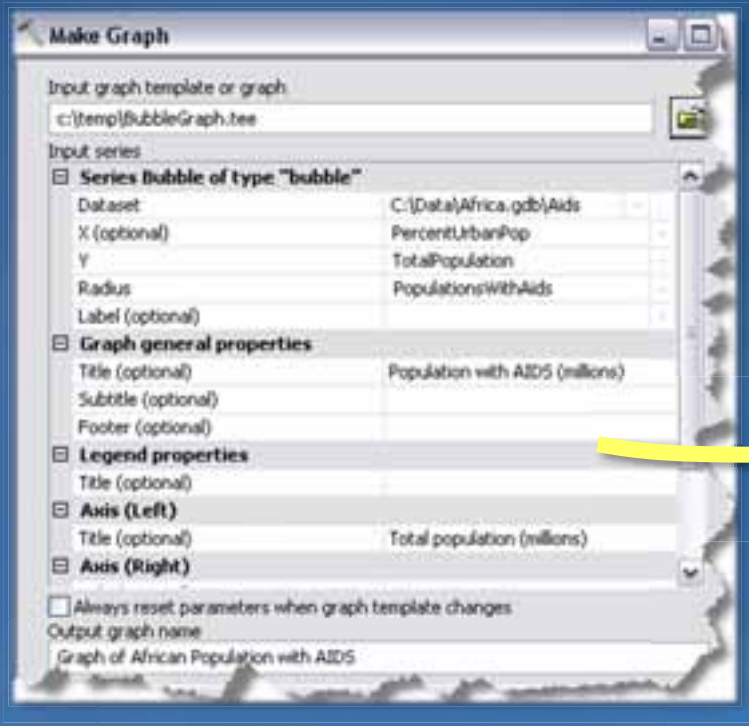


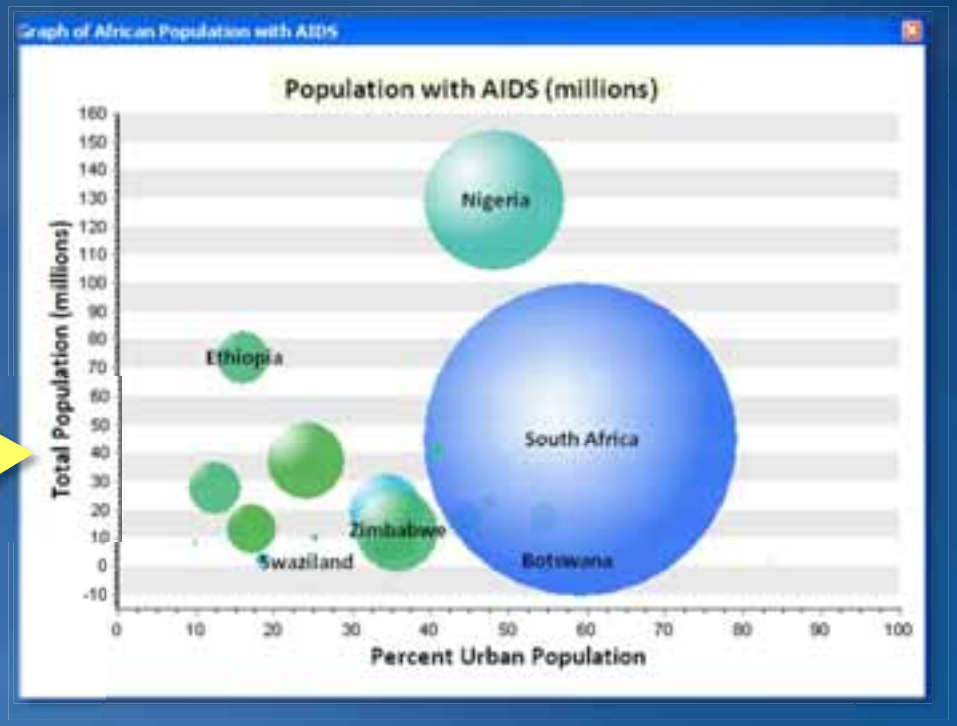


Color gradient based on OID

# New Graphing Tools

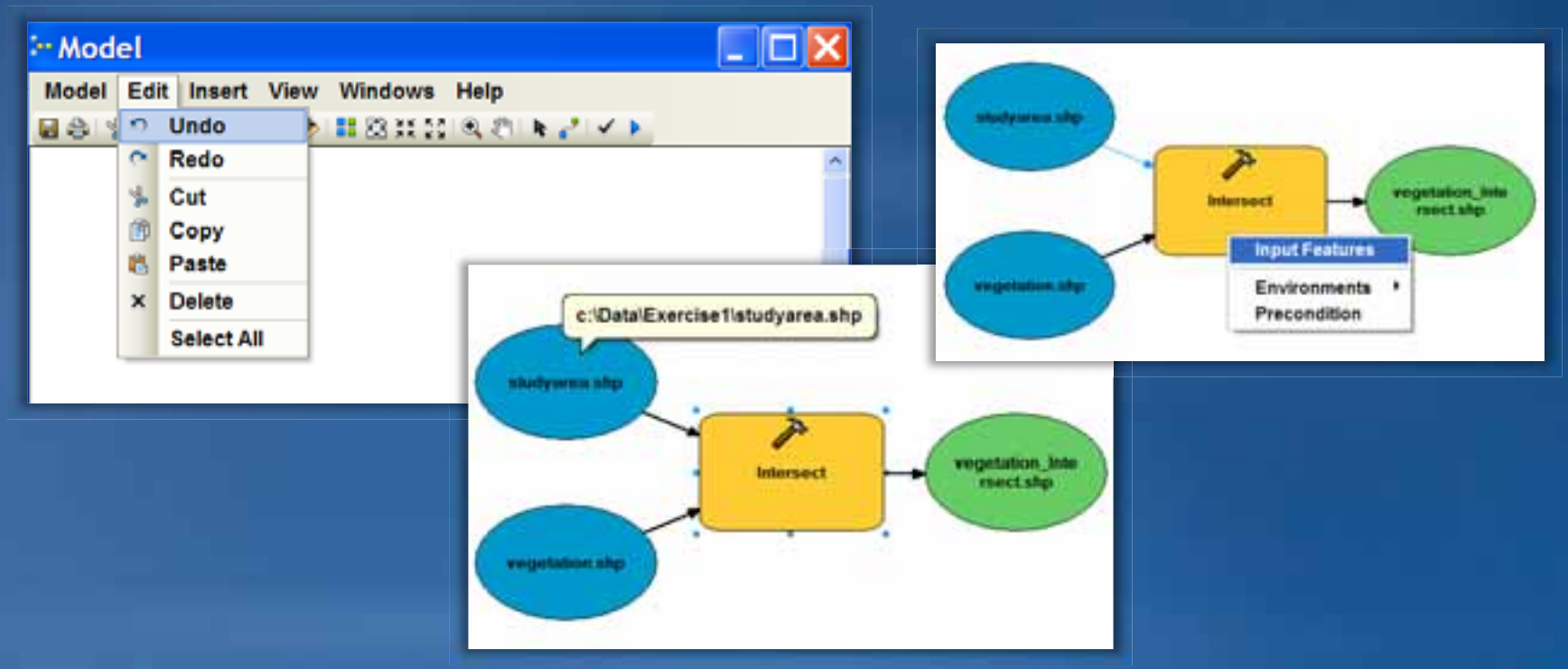
- Visualize Output Data or Analysis Results as a Graph
- Graph Toolset
  - **Make Graph**: Creates a Graph Using a Graph Template or an Existing Graph
  - **Save Graph**: Saves an Existing Graph as an Image (BMP, PNG, etc.) or as a Graph File (*.grf)



# ModelBuilder Usability Improvements

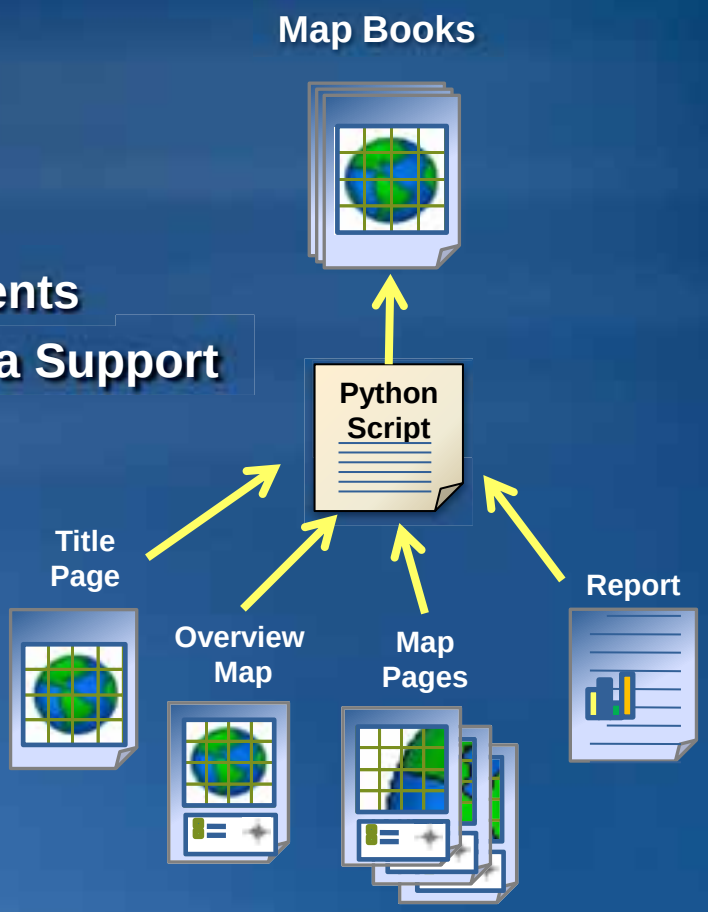
- Undo/Redo
  - All diagram and model edits can be undone
  - Delete button no longer shows popup asking if you want to delete
- Model Element Tool Tips
- Simplified Connector Popup



# Integration of Python

*Leveraging Editing and Mapping with Scripting*

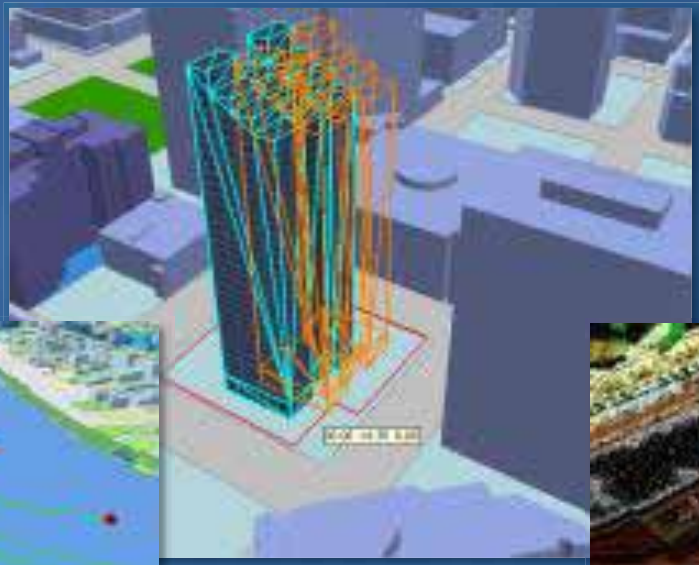
- Python Window
  - Python Access within ArcGIS
- ArcPy Site Package
  - Successor to arcgisscripting Module
  - Better Python Experience
  - Offers Intellisense for ArcGIS Components
  - Includes New Mapping and Map Algebra Support
  - Reference Documentation



# ArcGIS Extensions

*Several Enhancements and Changes*

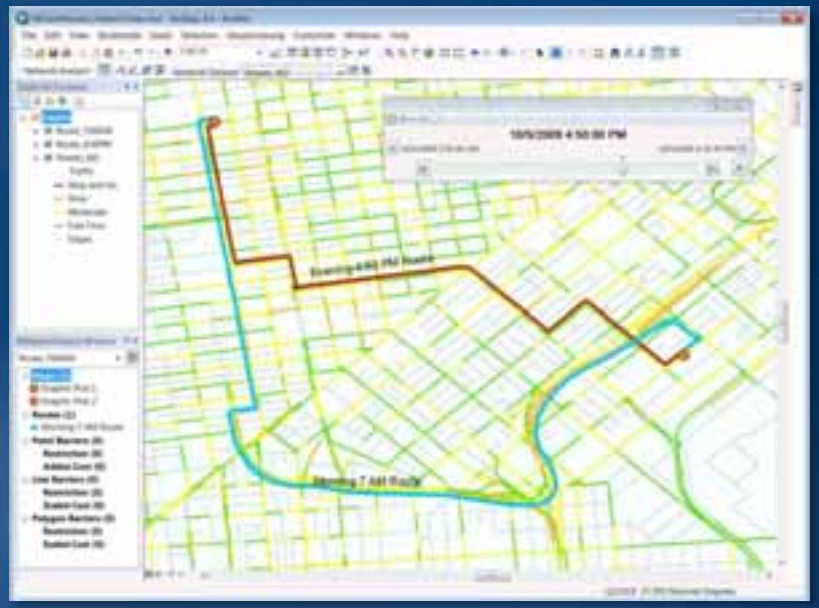
- 3D and Spatial Analyst
  - Improved Rendering
  - 3D Editing
  - 3D Analysis



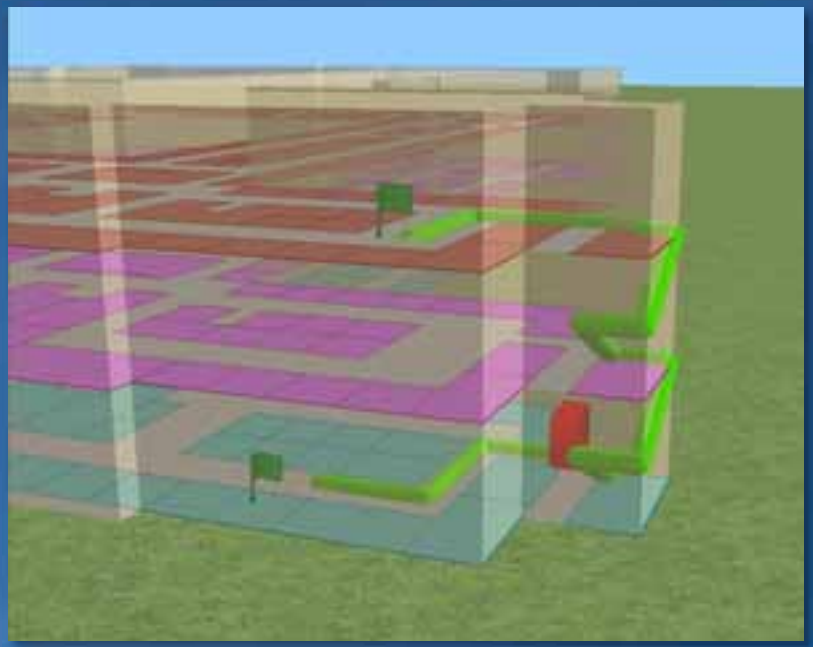
# ArcGIS Extensions

*Several Enhancements and Changes*

- Network Analyst
  - Support for 3D Networks
  - Time Enabled
  - Route with Historical Traffic Data

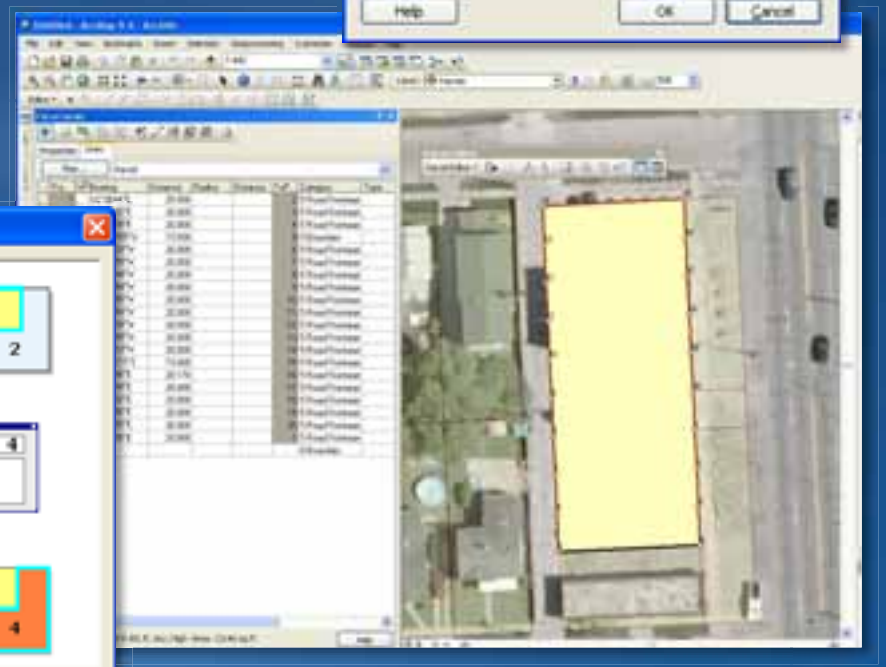


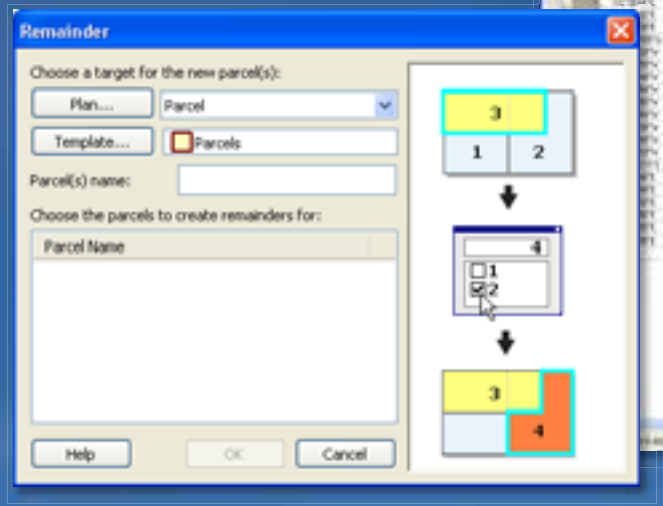
- Survey Analyst
  - No Longer an Extension



# Parcel Editor

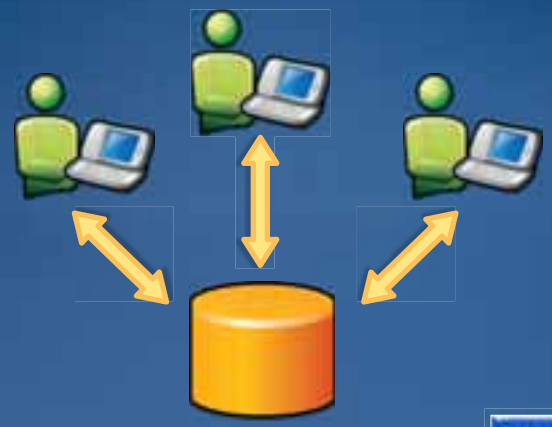
- Included as Core ArcGIS Desktop
  - No Extension
- Preferred Way to Edit Parcels in ArcGIS
- Streamlines Workflows
- Improves Data Import
- Automated Industry Workflows
  - Split, Merge, Divide by Area…
- Works with Imagery
- Improved Accuracy

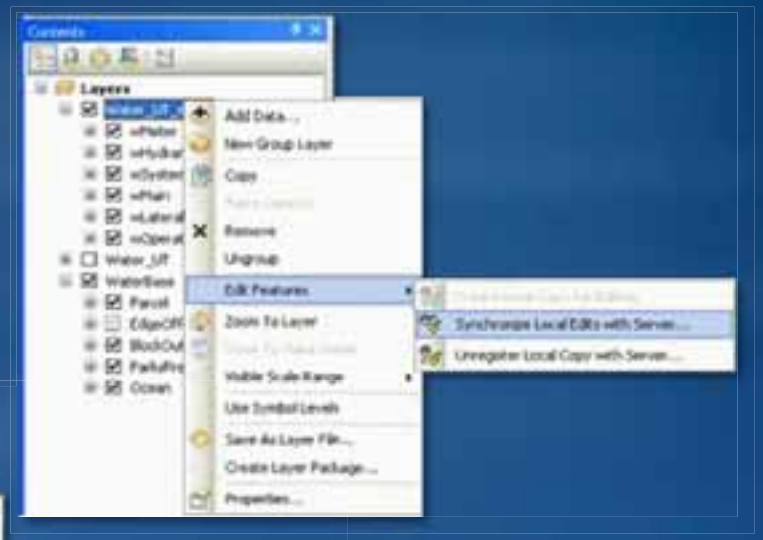


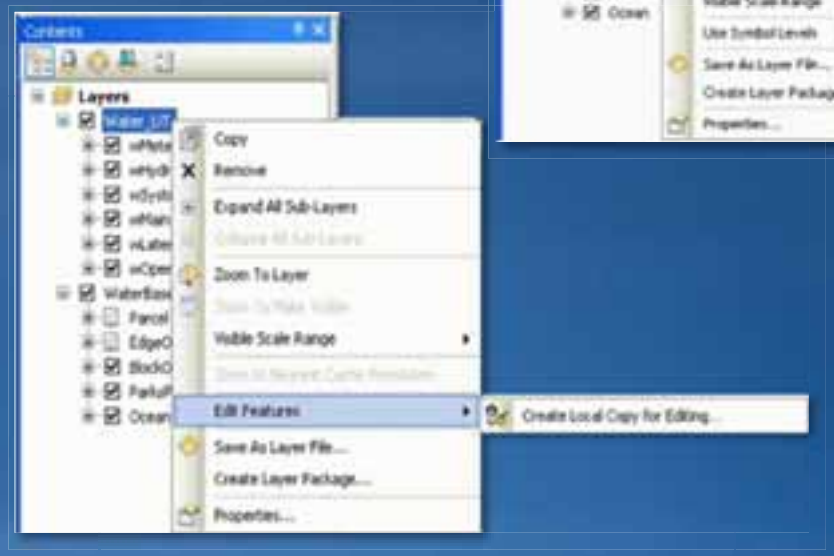


# Editing Data for ArcGIS Server

- ArcMap is the Premiere Editor for Updating ArcGIS Server Data
- Supports Disconnected Editing Scenarios



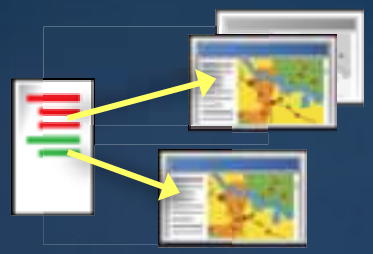


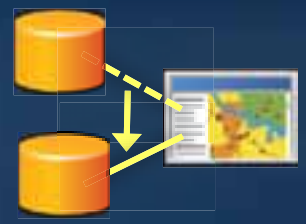
# Map Automation

*Improving Sharing and Production of Content*

- **Automate Mapping Workflows with Python and Data Driven Pages**



Updating Symbology



Changing Data Source

Map Books

- **Author Multi-Scale Maps**

# Sharing Your Work with Packages

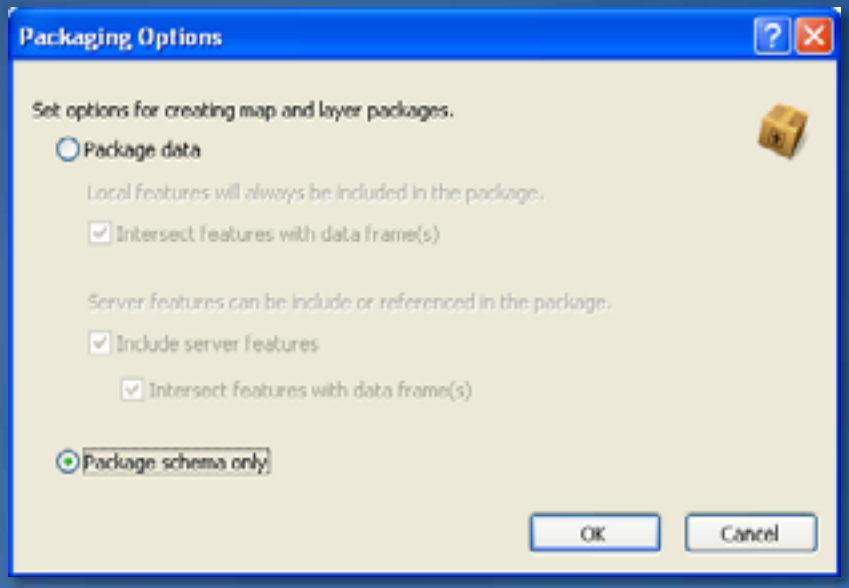
*A New Method for Sharing*

- Easy to Create in ArcMap
- Many Ways to Distribute
- Share Maps as Packages
  - Layers and Data
  - Maps, Globes and Diagrams

*. . . Packages - More than Layers*

# Utilizing Packaging

- Ability to Package Just Schema
  - Deploy Like Any Other Layer Package
- Benefits
  - Standardize Schema for Remote Field Staff
  - Leverage Others Work in a Given Field
  - Not Tied to Layer Package Author's Spatial Reference



# ArcGIS Online Content

- **Maps and Layers**
  - Basemaps
  - Overlay Layers
  - Powered by ArcGIS Server
  - Use in ArcGIS Desktop and Explorer

- **Tools and Tasks**
  - Online Tools Built into ArcGIS Software
  - Use in ArcGIS Desktop and Explorer
  - Directly Access Online Locators

# ArcGIS Online Enhancements at 10

- Migration to Bing Maps/Google Maps Tiling Scheme
  - Web Mercator Projection
  - 256x256 Pixel Tiles

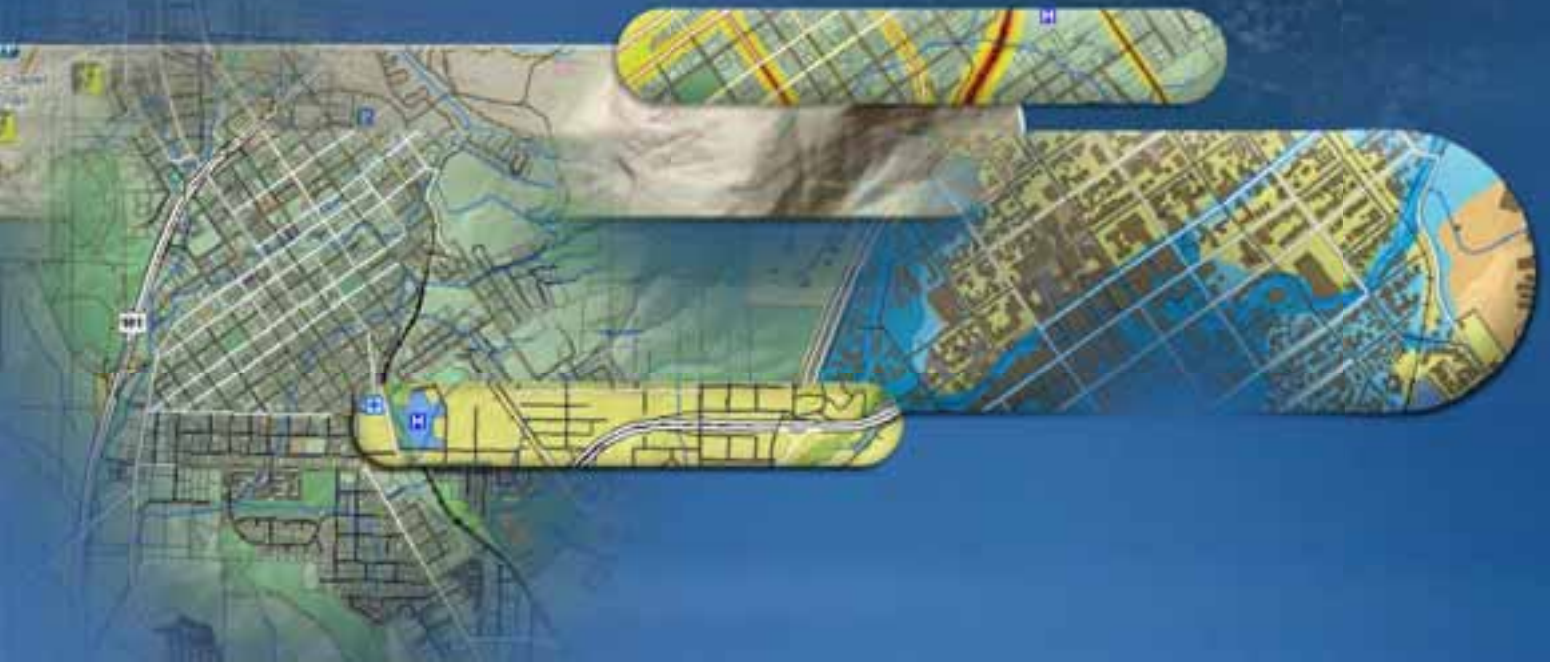
- Substantial New Coverage for Existing Maps
  - Expanded Coverage for Street Map and Imagery
  - Expanded Level of Detail for Imagery
- Enhanced Cartography and Updated Data
  - Improved Cartography and More Layers (e.g. buildings) for Street Map
  - Updates to 2009 Data for Street Map and Imagery

- Introduction of New Maps
  - New Editable Maps

# What Can You Share Online at 10?

- Layers
  - Layer packages (.lpk)
  - Layer files (.lyr)
  - Map and globe services
- Maps
  - Map packages (.mpk)
  - Desktop maps (.mxd, .3dd, .sxd)
- Tools
  - Services (geocoding, network analysis)
- Web Maps
  - Mashup Your Own Data with Online Data and Services
  - Share Your Custom Web Map

# ArcGIS Desktop 10 – Software Demo



# Check Frequently for Updated Information

What's Coming in ArcGIS 10 - Windows Internet Explorer

http://www.esri.com/software/arcgis/whats-new/whats-coming.html

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ArcGIS

- Overview
- What's New in 9.3.1
- **What's Coming in 10**
  - Common Questions
- Pricing

ArcGIS Products

- Desktop
- Server
- Mobile
- Online
- Developer Tools
- Data

## What's Coming in ArcGIS 10

**Note:** The ArcGIS 9.4 release was renamed ArcGIS 10 in January. Listen to ESRI President Jack Dangermond explain why in a podcast [MP3].

ArcGIS 10 is a major release of all aspects of ArcGIS and is designed to help you perform your GIS work faster. Some of the highlights include the following:

### Perform Your ArcGIS Desktop Work More Efficiently

- Faster, more responsive drawing performance including smooth, continuous panning of your data
- Easier access to most commonly used geoprocessing tools
- New Search window in ArcMap to let you quickly locate maps, data, and tools
- Catalog window built into ArcMap for quick data access

ArcGIS Desktop 10 innovations simplify and streamline workflows.

Read Common Questions about ArcGIS 10.

# Resources and Training

# Questions?

# Thank You

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