ESRI International User Conference
July 13–16, 2010 | San Diego, CA
Technical Workshops

What's New in ArcGIS Desktop 10

John Sharrard
GIS Solutions Engineer
Esri - Northwest
Portland, OR, Satellite

Get Ready

ArcGIS 10…

Lets you use geographic information everywhere

Desktop

- Professional GIS
- Free ArcGIS Explorer client

Server

- Services
- Applications

Mobile

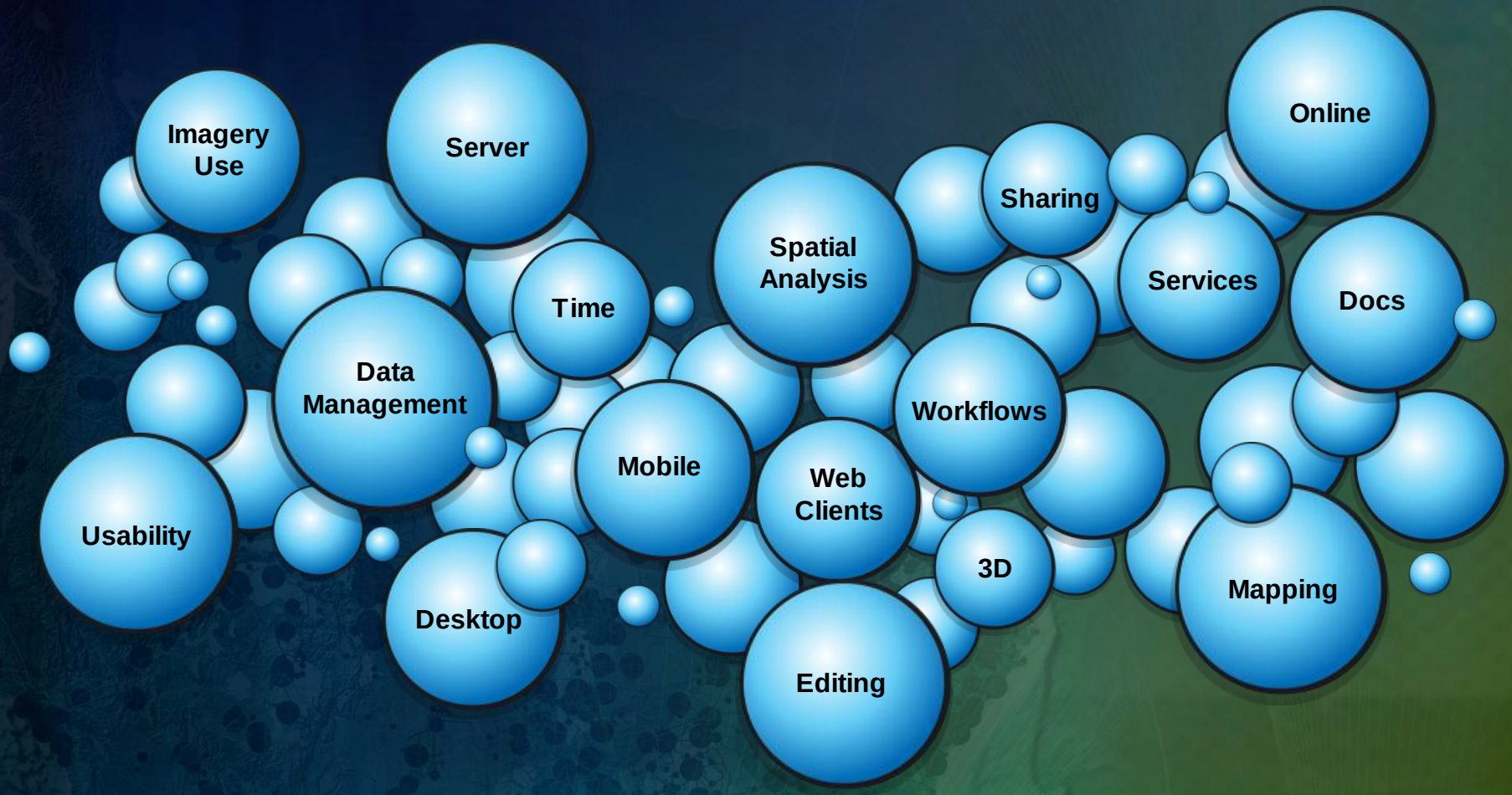
- Knowledge Worker
- Field Data Collection

Online

- Platform
- Services
- Sharing
- Browsers

A Complete Integrated System

At 10 all aspects of ArcGIS get better…

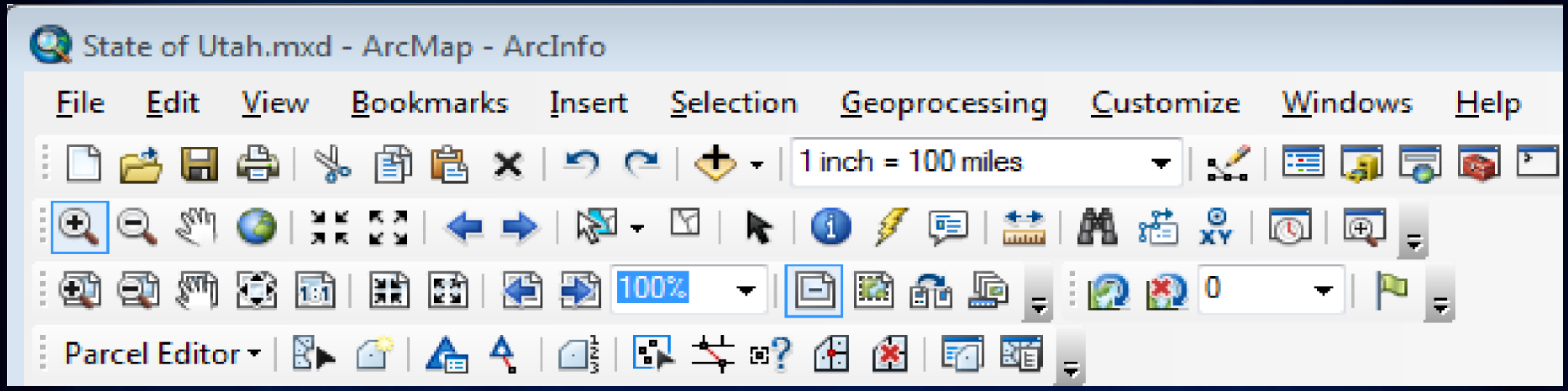


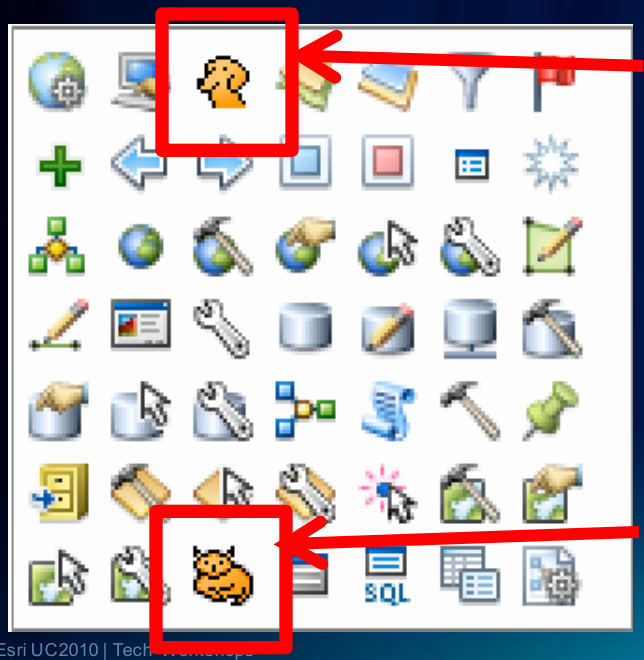
Making Users More Productive . . .

ArcGIS 10

The most important thing in 10….

The icons are cuter….





‘Bex’ the dog

New at 10!!
‘Mars’ the cat

Easier to Deploy and Administer

License check-out

Add-In model for customization

Better support for Virtualization

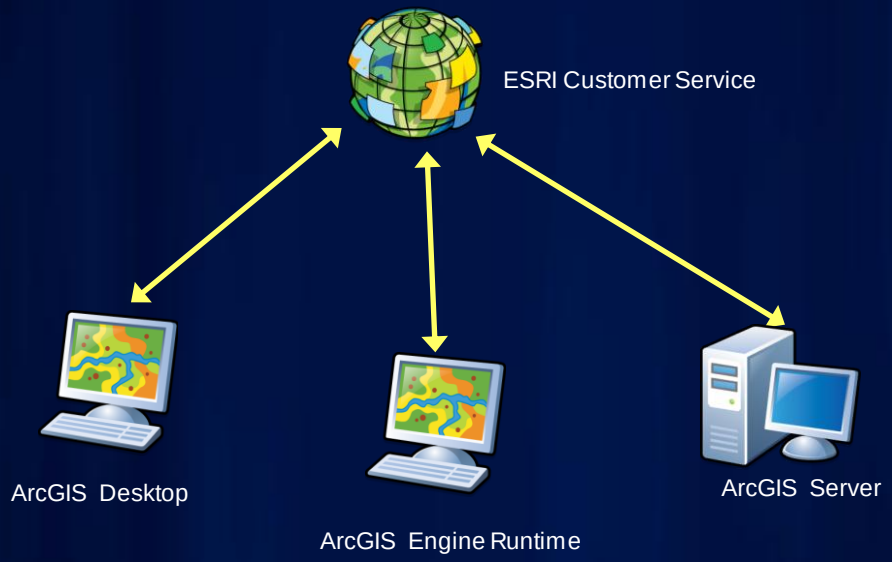
Online software distribution

What's new in licensing at ArcGIS 10

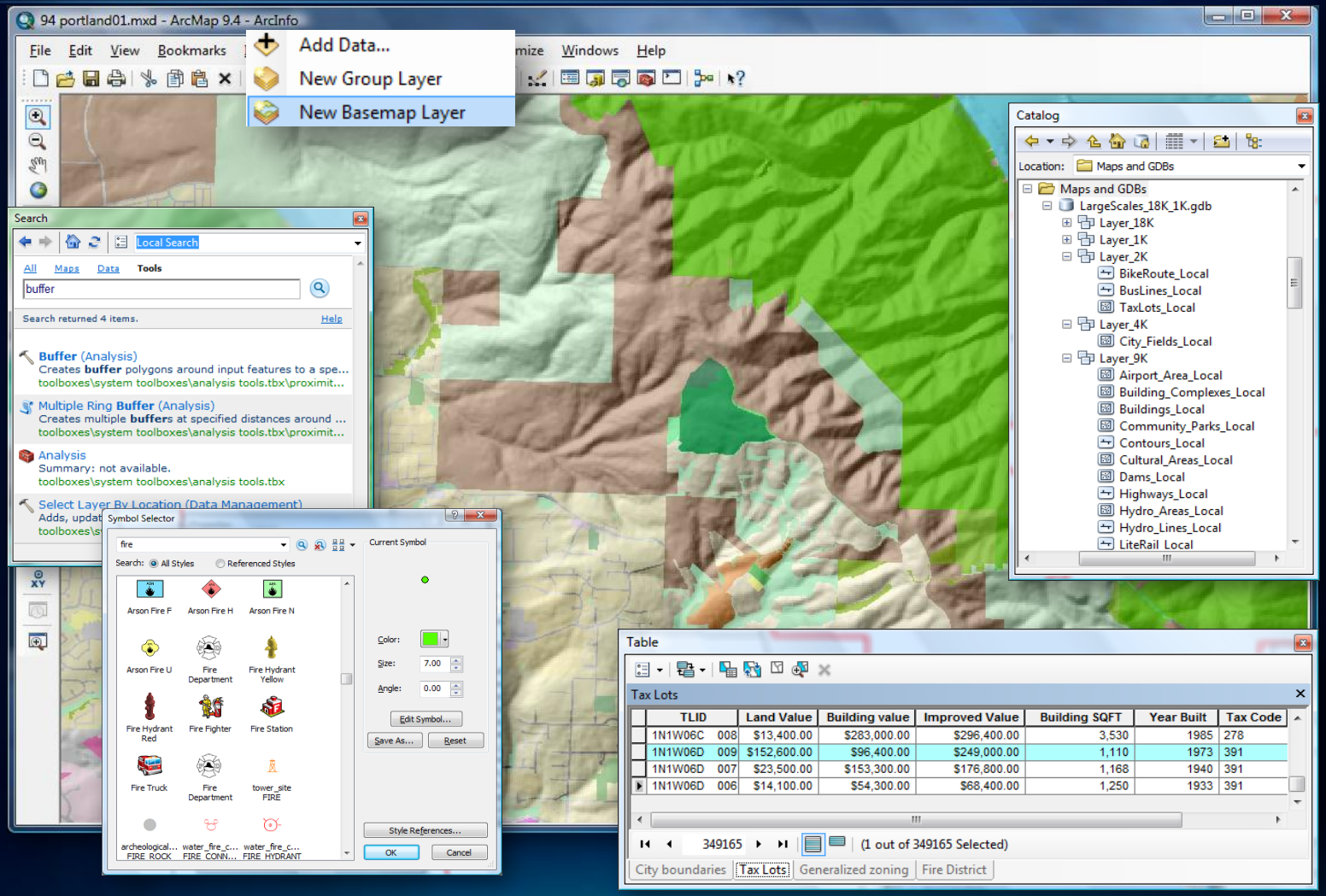
- License borrowing
- New license management utilities
- Standardized authorization process
- ArcInfo (Desktop) Single Use
- ArcGIS Engine Runtime Concurrent Use

License Models – Concurrent Use

License Models – Single Use



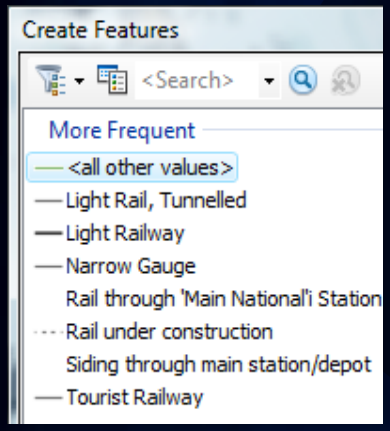
Making Desktop GIS easier and more productive

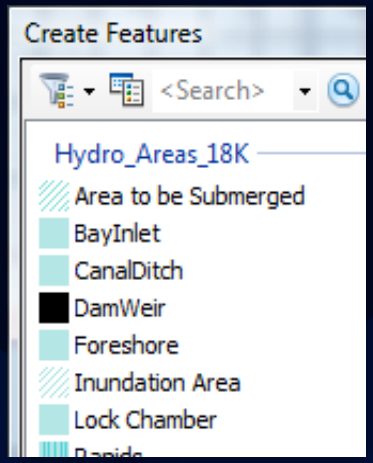


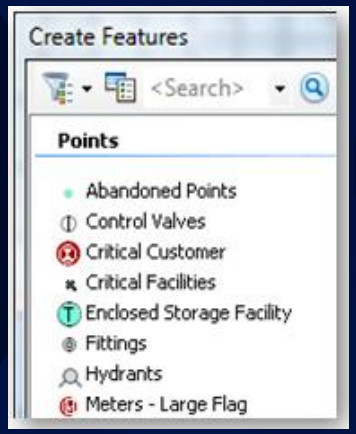
Focused On Enabling Your Success…

Creating and maintaining data easier

Palette-based feature drawing

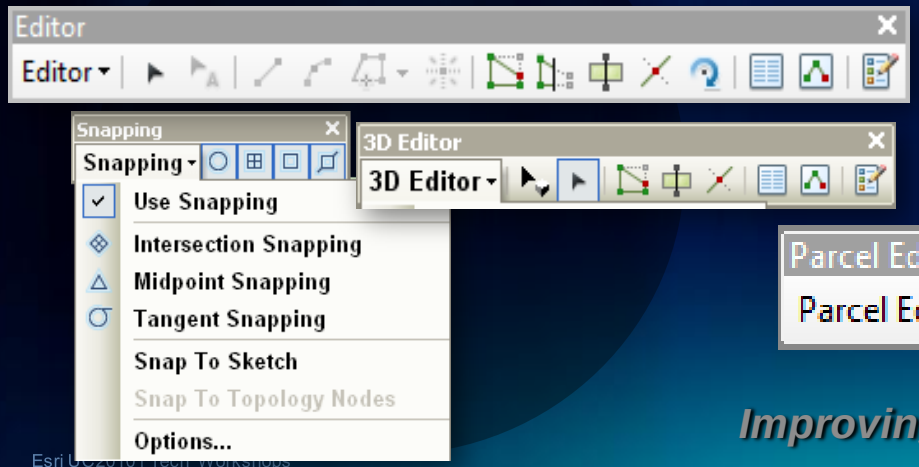




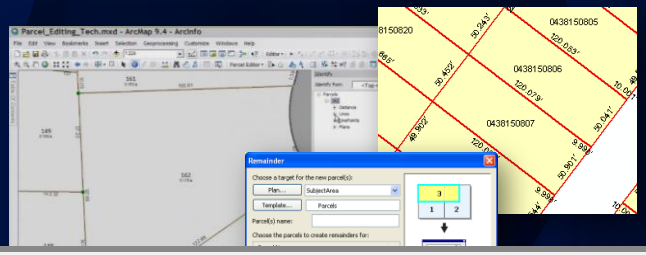


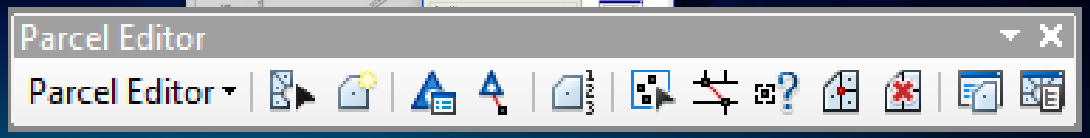
Share Templates

Easier Tools



Built-in Parcel Management and Cadastral Fabric Editing

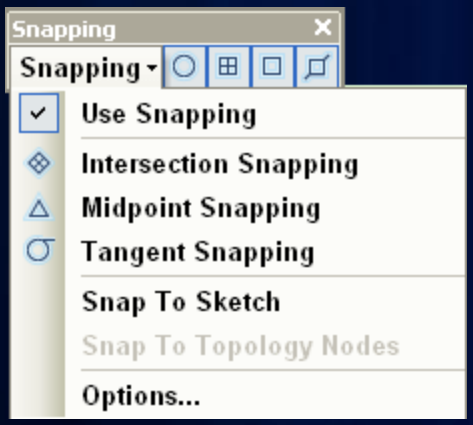


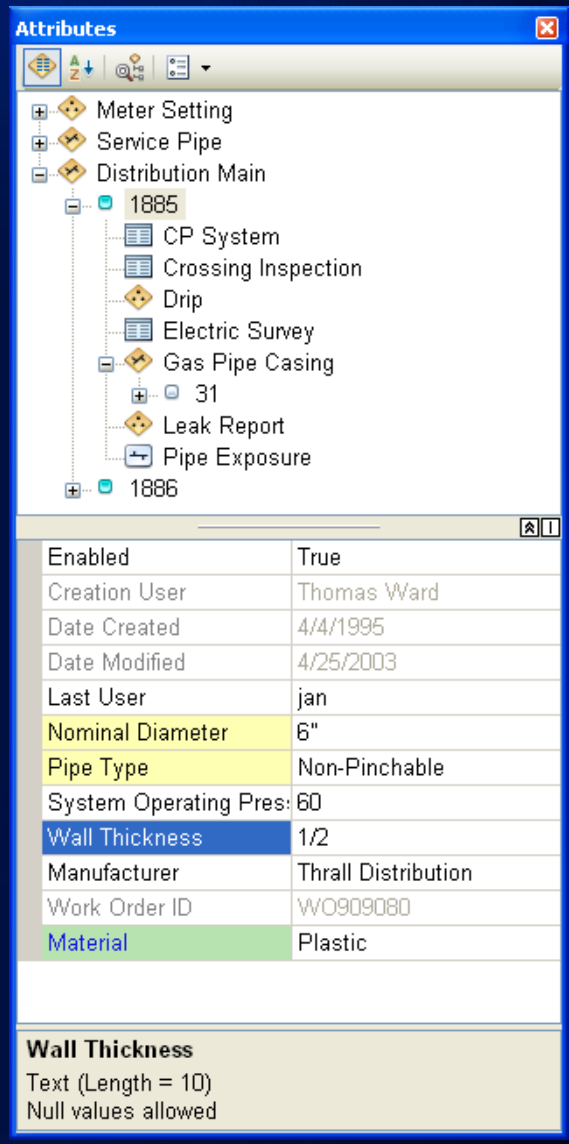


Improving Data Creation and Management Everywhere

Editing in ArcGIS Desktop

- Layer-based editing
- Efficient feature construction
- Simple dataset creation (Packing)
- Simplified snapping environment
- Productivity improvements
- Improved attribute management



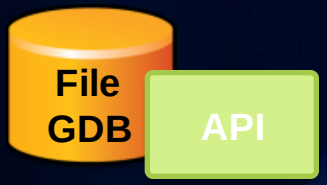


Easier and more powerful data Management

Direct SQL Access

Query Layers

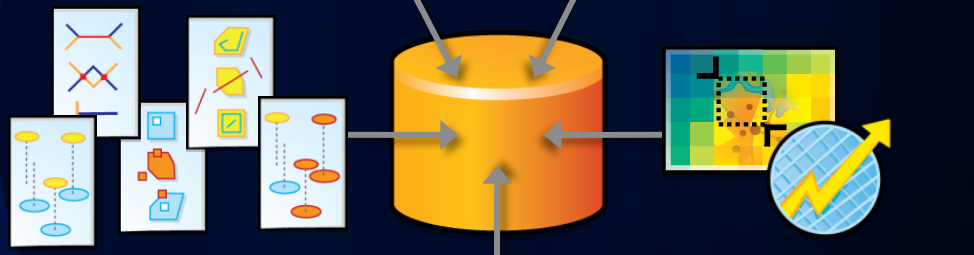
Open API



Geodatabase Improvements

Attachments

Replication



New Topology Rules

Scalable Networks

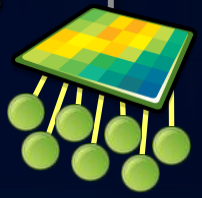


Image Mosaics

Focus of Geodatabase Development

- **The last few releases of ArcGIS have been focused on completing the Geodatabase information model**

9.1	9.2	9.3
• Network Dataset	• Replication • Archiving • File Geodatabase • Spatial type • Terrains • Cadastral Fabrics • High precision geometry	• Improved data access • Distributed workflows • Conflict and change detection management

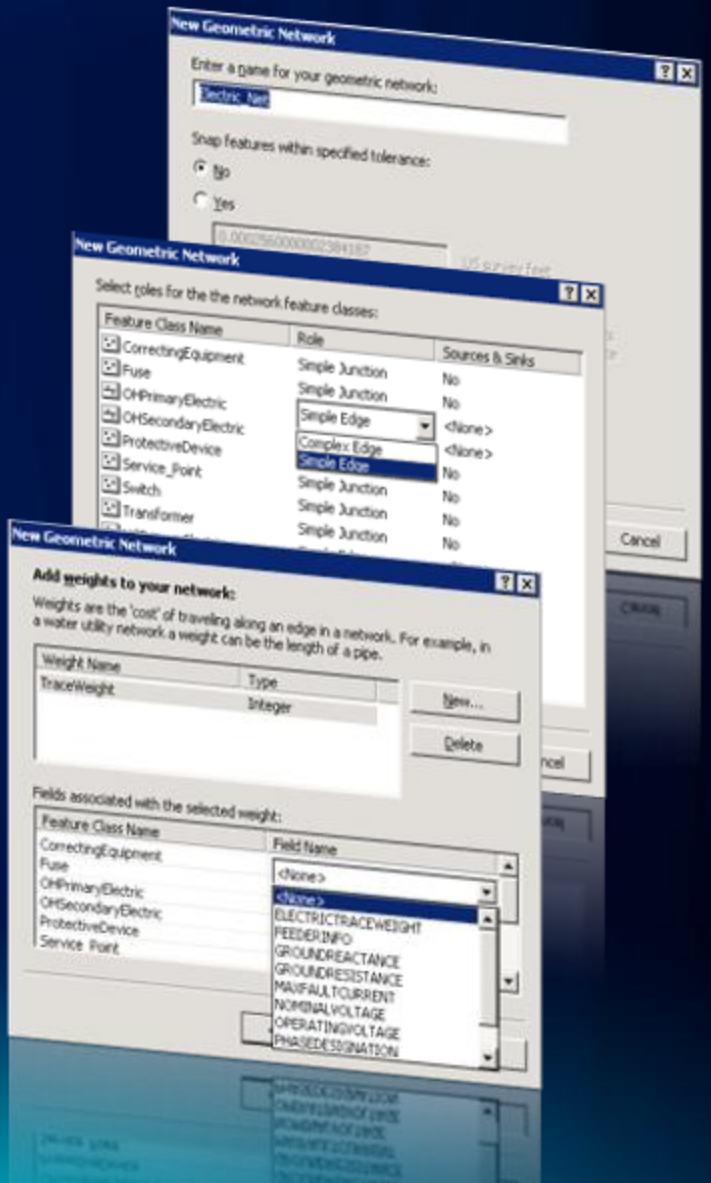
Geodatabase - Key Themes at 10

- Enhance the Geodatabase information model
  - Geometric Networks
  - Network Datasets
  - Topology
- Improved flexibility and ease of use of Geodatabase Replication
- Provide open and direct access to data
- Continued focus on quality and performance

Enhance the Geodatabase Information Model

Geometric Networks

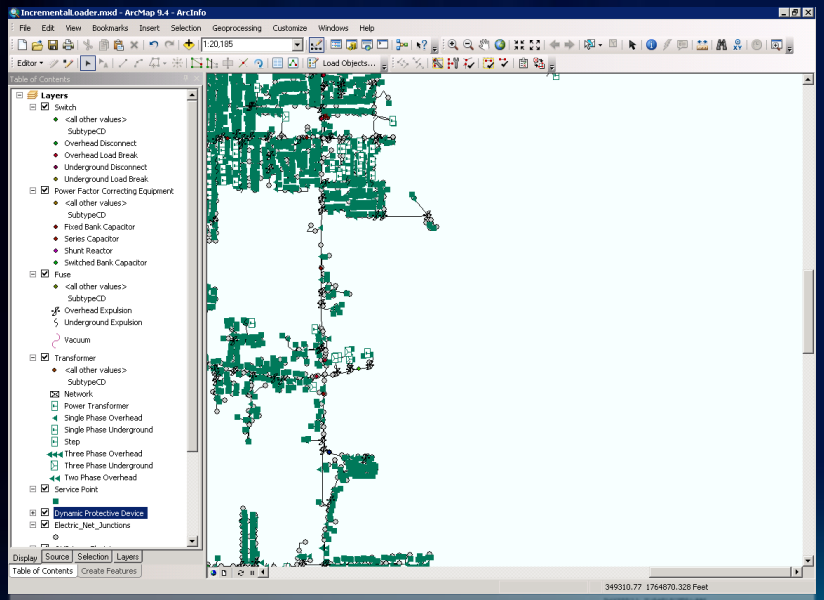
- Improvements are focused on creation and loading
- Scale network creation to tens of millions of features
- Provide a new streamlined Geometric Network wizard

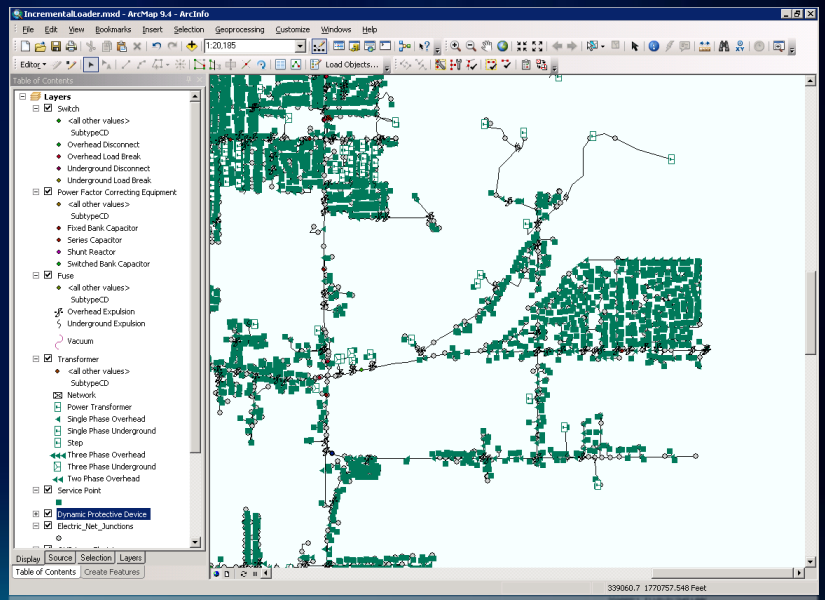


Enhance the Geodatabase Information Model

Geometric Networks

- Simplify the workflow to quickly add lots of features into an existing network
  - Aimed at simplifying the process to append chunks of data to a network (e.g., a new subdivision or even a corporate acquisition)





Enhance the Geodatabase Information Model

Network Datasets

- Extend to better support transportation and logistics

- Support for versioning and partial rebuilds of the network
- Integration with time-dependent traffic data
- Location-Allocation Solver
- Enhanced barriers
- Improved long distance routing with enhanced and more sophisticated indexing

Enhance the Geodatabase Information Model

Network Datasets

- Support for versioning and partial rebuilds of the network
  - Brings Network Datasets inline with other Geodatabase datasets (e.g., Topologies or Geometric Networks)
  - Track edits to features and optimize the rebuild of the network
  - Allow multiple editors to work with their own version of a Network Dataset

Enhance the Geodatabase Information Model

Network Datasets

- **Integration with time-dependent traffic data**
  - Incorporate historical traffic data for more accurate network analysis
  - Answer questions such as

    "How long will a given route take given how busy it usually is at 4:15pm on a Thursday?"

Enhance the Geodatabase Information Model

Network Datasets

- Location-Allocation Solver
  - Locate which facilities can supply demand points most efficiently
- Enhanced barriers
  - Greater flexibility in defining barriers or areas of slowdown
  - Point, line, and polygon barriers

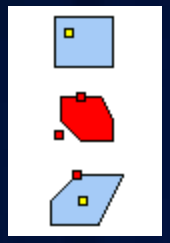
Enhance the Geodatabase Information Model

Network Datasets

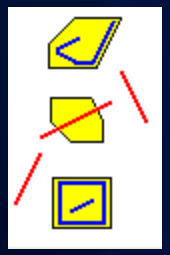
- Improved long distance routing with enhanced and more sophisticated indexing (e.g., hyperedges)
  - Reduces number of features and create additional network connectivity information for long distance travel
  - Better spatial clustering within the network index to lessen database traffic

Enhance the Geodatabase Information Model

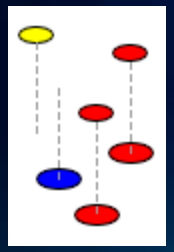
Topology



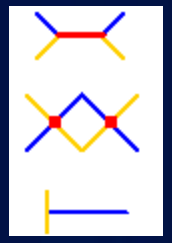
- Area must contain one point



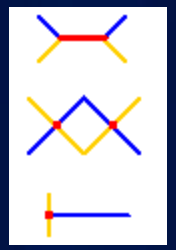
- Line must be inside area



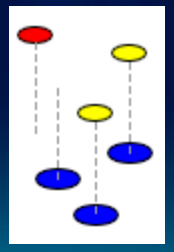
- Point must be disjoint



– Line must not intersect with line



– Line must not intersect line or touch interior

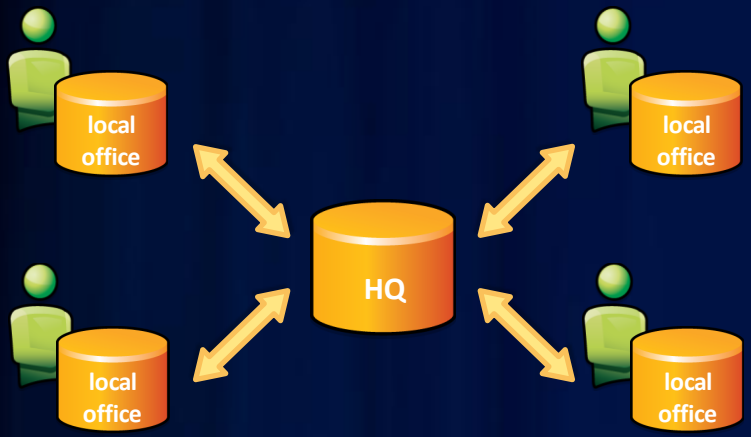


– Point must be coincident with point

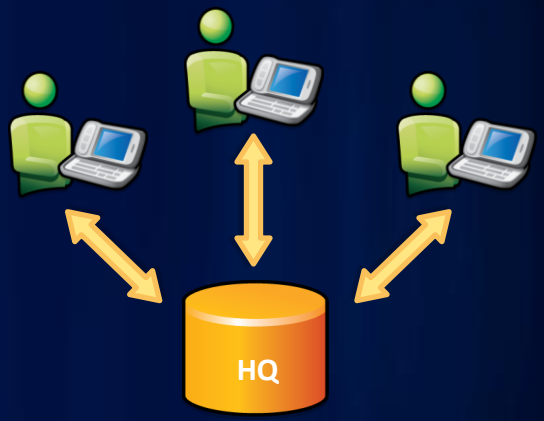
Replication

Use Cases

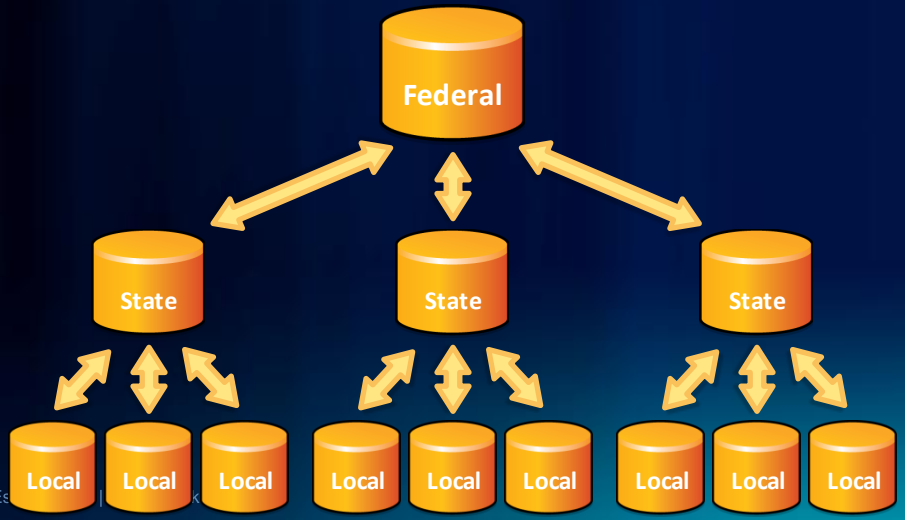
Regional Offices



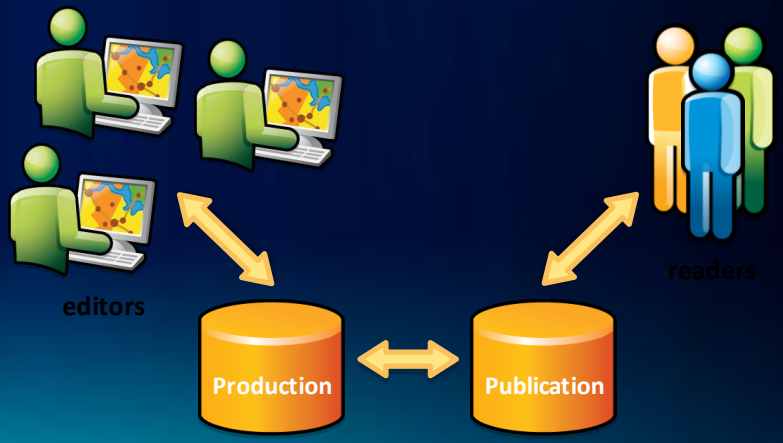
Mobile Users



Hierarchical Levels



Production / Publication



Replication

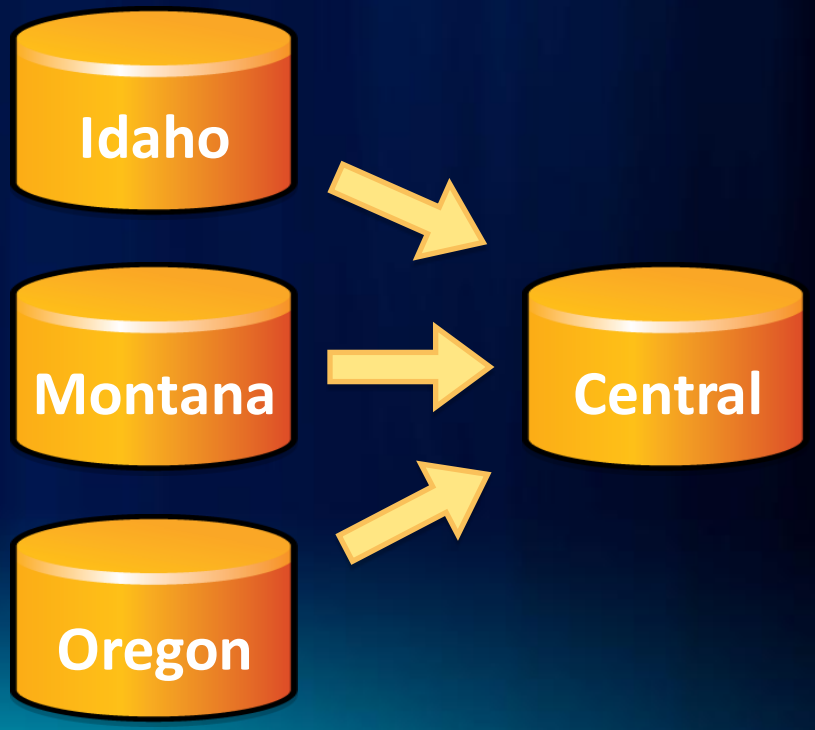
Use Cases

1. Users that want to maintain copies of data at different geographic facilities
2. Mobile users and field crews that need to be disconnected from the network
   - Users that need to distribute work to contractors
3. Users that need to maintain copies of data at different organizational levels (e.g., local, state, and federal)
4. Production and publication Geodatabases
5. Centralized Data Centers

Replication

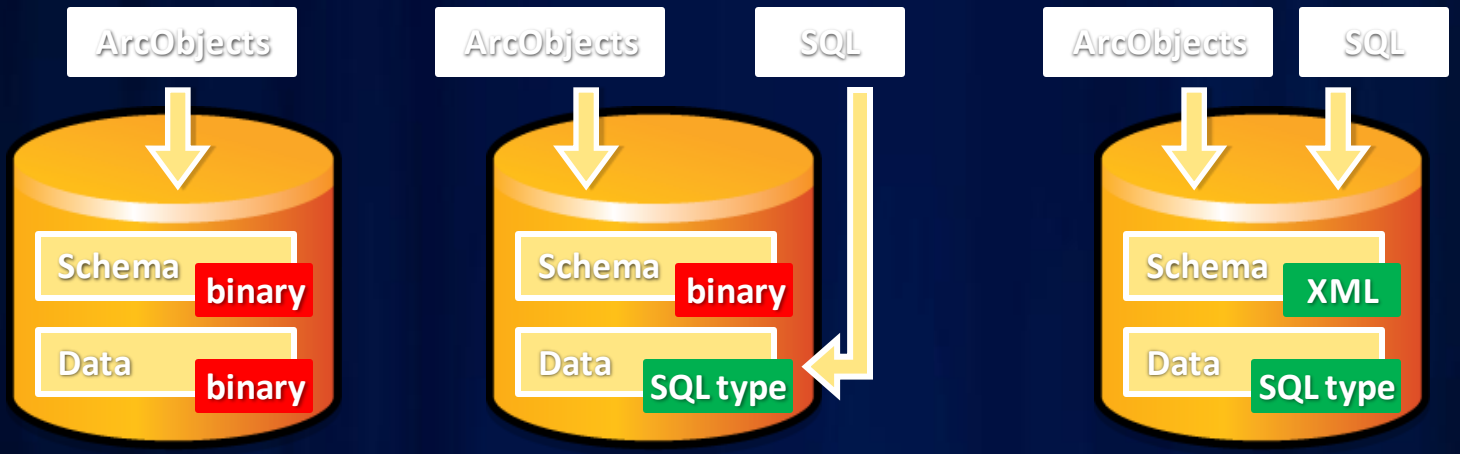
Use Cases

- Improved workflows for centralized Geodatabases
  - One-way replication child to parent
  - One-way replicas using Archiving
  - Schema mapping across replicas
- Improved field workflows
  - Non-versioned data support



Provide Open and Direct Access to Data

Simplify the Geodatabase



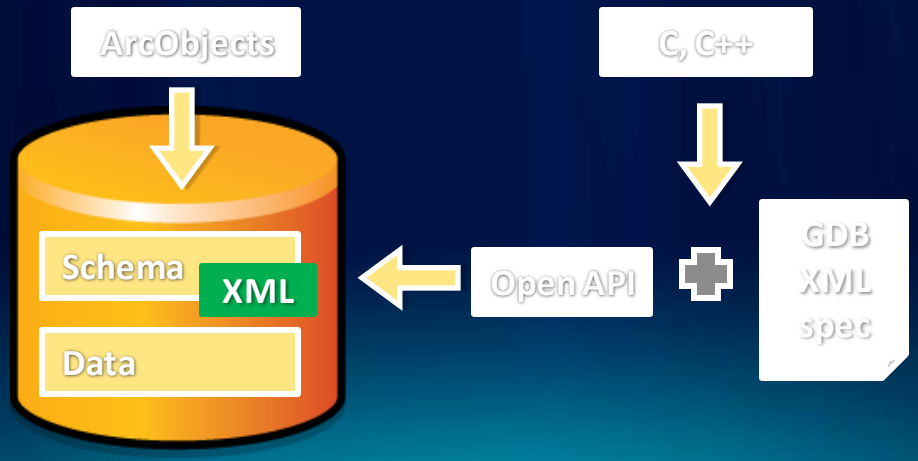
ArcGIS 10

- More open access
- Faster browsing and searching
- Improved scalability with large numbers of datasets
- Foundation to support larger collection of dataset types in the future

Provide Open and Direct Access to Data

Simplify the Geodatabase

- Leveraging the work done with simplifying the Geodatabase
- Open File Geodatabase API
  - Read all data
  - Update simple features
  - No ArcObjects
- Expanded functionality with better SQL support
  - ORDER BY and GROUP BY



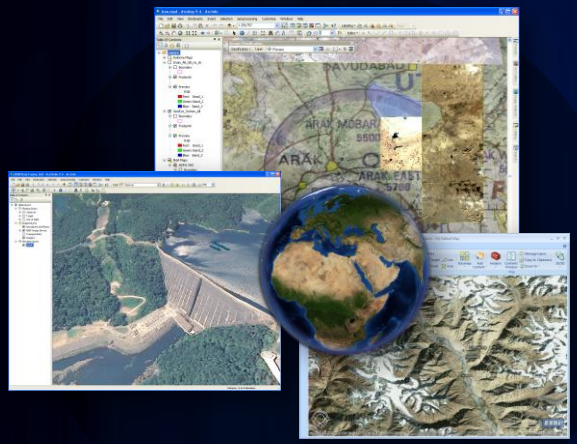
Provide Open and Direct Access to Data

Access to Standard Spatial Datasets

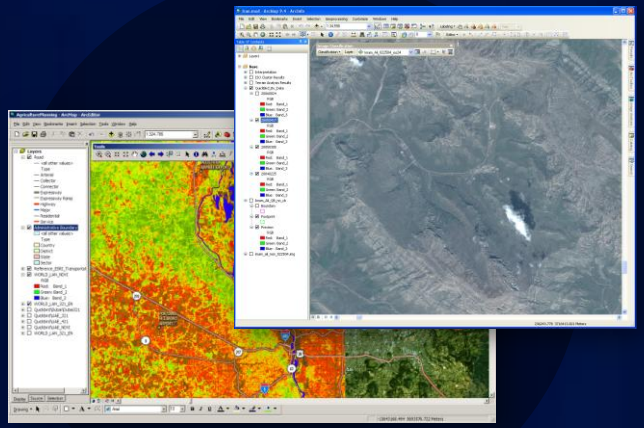
- Provided by the new Query Layers functionality
  - Layers defined by a SQL query
  - Can be used like any other layer file (e.g., share, store, etc.)
  - Available with Desktop and Server
- Direct, read-only access to spatial data independent of where it is stored
  - SQL Server 2008, Oracle, PostGreSQL
  - Data does not need to be registered with ArcSDE or Geodatabase
  - Simple feature support
- Leverages the native SQL of the database
  - Spatial and attribute queries (joins, ORDER BY, GROUP BY, etc.)

ArcGIS 10 - A Great Imagery Platform

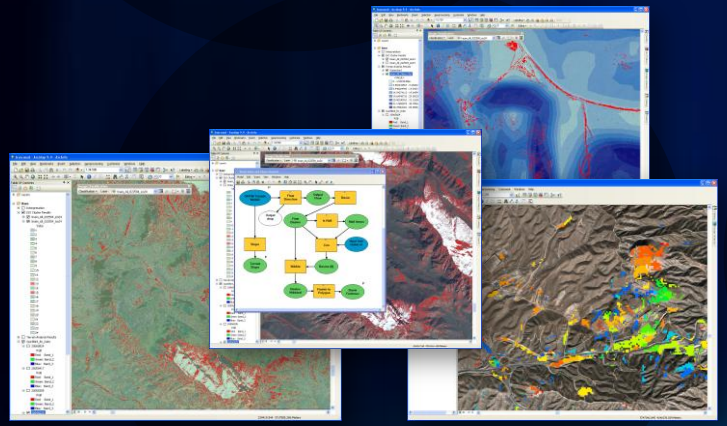
Using Base Maps



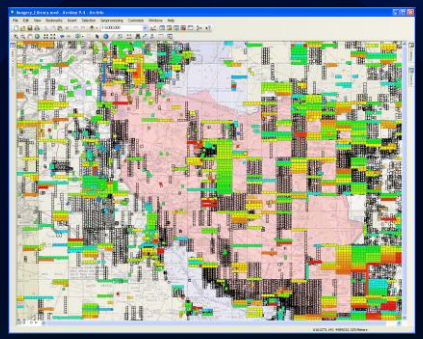
Analyzing Change



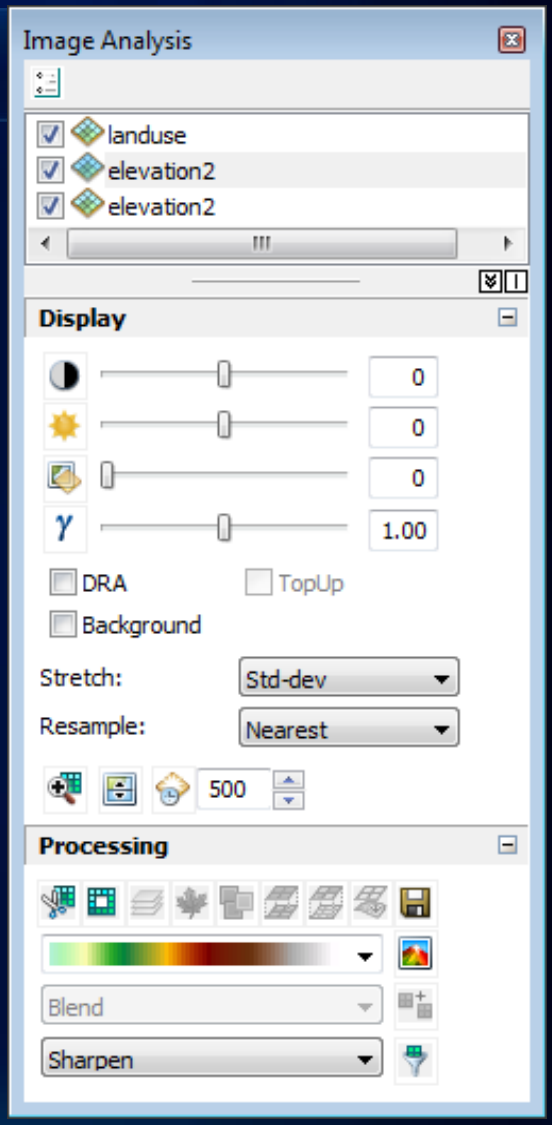
Performing Analysis



Managing Information



New Imagery window



Evolving GIS Use…
…Enabling Better Decisions

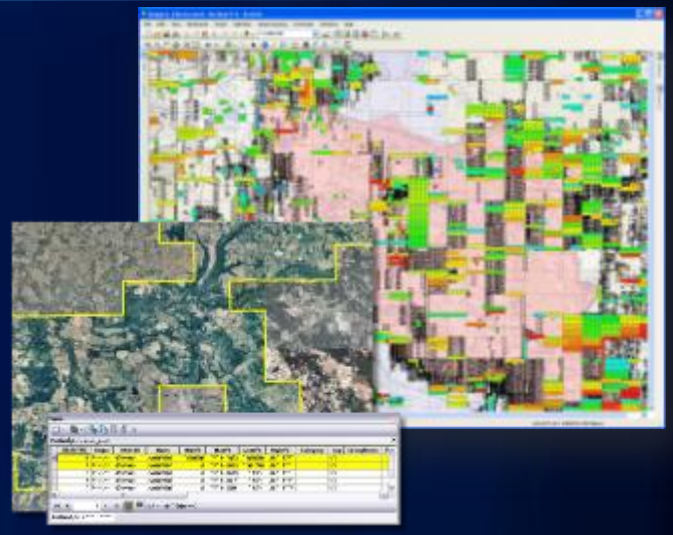
Improved Read / Write of Formats

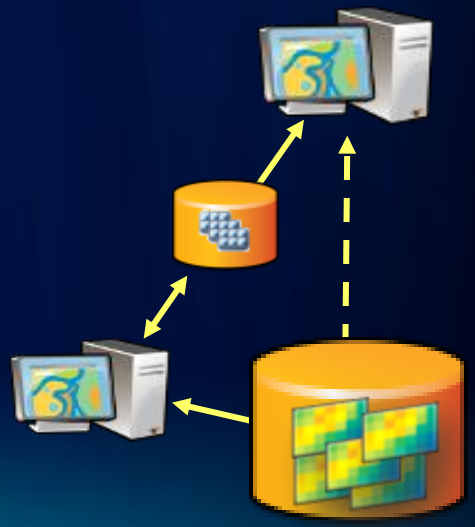
- More Formats
  - BigTIF, MapCache, ..
  - NITF Improvements
  - TIF with CCITT4/CCITT3
- Compressed Pyramids
- Faster Read
- Use GDAL Drivers
  - Extensible
- Improved Projection Support
- Improved Color Maps

Mosaic Dataset

Optimum Model for Image Data Management

- Within ArcGIS Desktop (Editor/Info)
- Quickly Catalog
  - All raster datasets
  - Imagery from different sensors
- Define – In Geodatabase
  - Metadata
  - Processing to be applied
  - Default viewing rules
- Access – In all ArcGIS applications
  - As Image
    - Dynamic Mosaic , Processed on the fly
  - As Catalog
    - Footprints, Detailed metadata





Mosaic Datasets

As replacement for ISDef, Raster Catalog

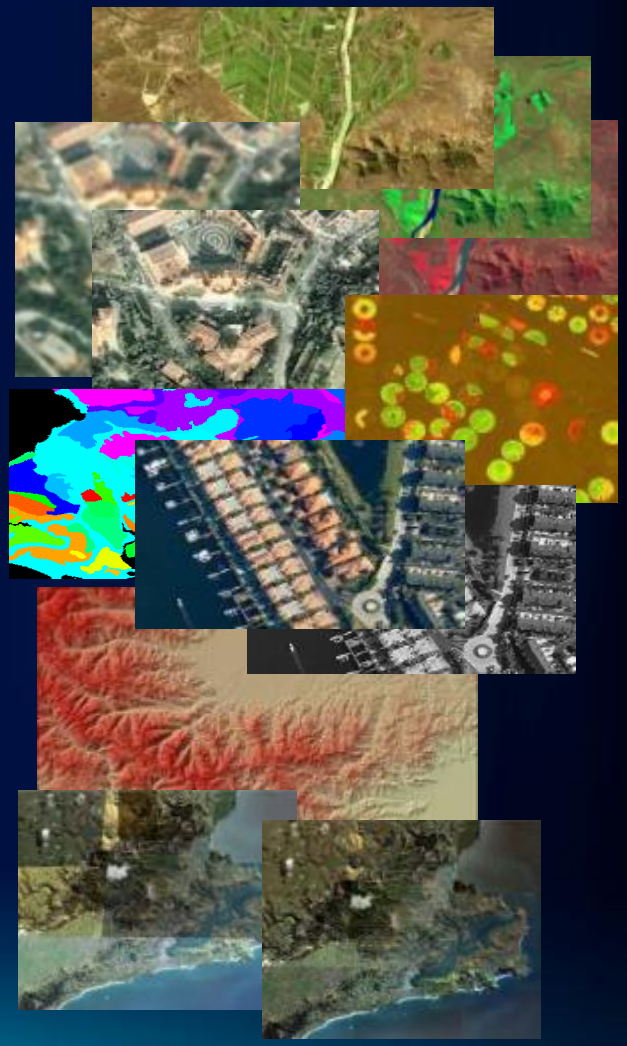
- Improvement over Image Service Definition (ISDef)
  - Massive scalability
  - No compile
  - NoData support
  - No extension required
  - Geoprocessing tools for authoring

- Improvement over Raster Catalogs
  - Raster Types
  - Define functions for On-the-fly processing
  - Dynamic Mosaicking
  - Overviews

On-The-Fly Processing

Create Multiple Products from a Single Source

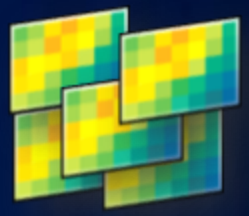
- Imagery processed as accessed
- Processes
  - Stretch, Extract Bands
  - Clip, Mask
  - Reproject, Orthorectify, Pan Sharpen
  - Vegetation Index, Classify
  - Shaded Relief, Slope, Aspect
  - Color Correction
  - …
- Applied to
  - Individual rasters in mosaic
  - Compete Mosaic Dataset



Utilizing the full image information content

Dynamic Mosaicking

Mosaicking Multiple Images On Demand



- Fuse imagery from multiple sources
- User control of Mosaic Method
  - By Date –'Latest', 'Closest to May 2001'
  - By Attribute – 'Highest Sun Angle'
  - By Viewpoint – North, South, East, West
  - Seamline – Feathered blend
- User Query – 'Landsat imagery, with no cloud, later than June 2001'
- NoData Support
- Set default - Users sees best available imagery

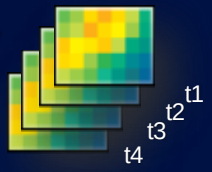
Utilizing information from overlapping images

On-the-fly Processing & Dynamic Mosaicking

Resolves Traditional Image Management and Processing Issues

Processing Time
Reduces processing

Overlapping Imagery
Maintain information



Disparate Datasets
Large NoData areas

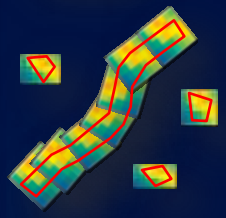
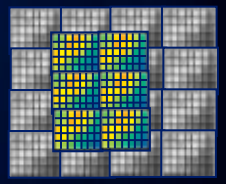


Image Quality
Reduces resampling

Storage
Reduces storage by removing redundancy

Multi-resolution Data
No need to sample up or down

Maintenance
Add imagery as required



Maintain Metadata
Retain valuable information

ArcGIS Desktop – Accelerated Display

Seamless Pan and Zoom

- Electronic Light Table like display performance
- Integrated geospatial imagery and vectors
- Utilizes Hardware Acceleration
- Dynamic
  - Change: Contrast, Brightness, Gamma, DRA

ArcGIS Desktop - Image Analysis Window

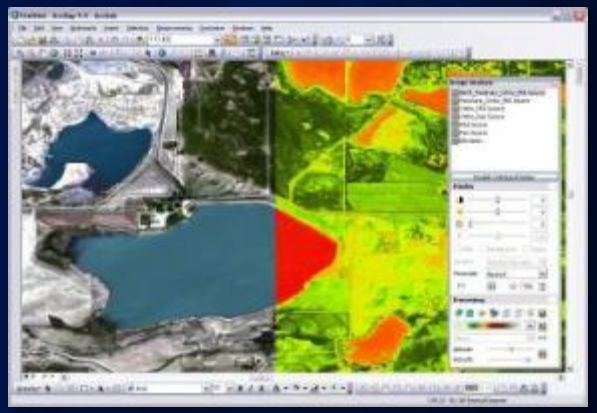
Better Interpretation & Understanding of Imagery

- Single Button Access to
  - Image Enhancements
  - Image Interpretation
  - Image Processing
- Save functions in Layers

Image Processing

Exploiting the Full Value of Imagery

- Through Image Analysis Windows
  - Ortho
  - PanSharp
  - Composite
  - Mosaic
  - …
- Applied On-The-Fly
- Stored in Layer



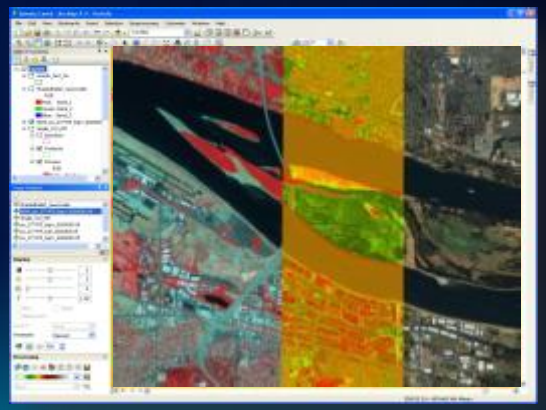
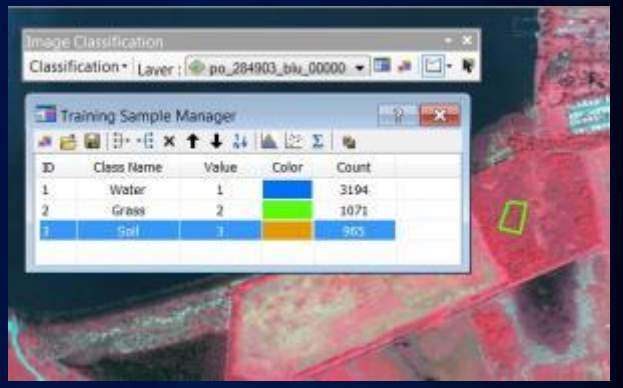
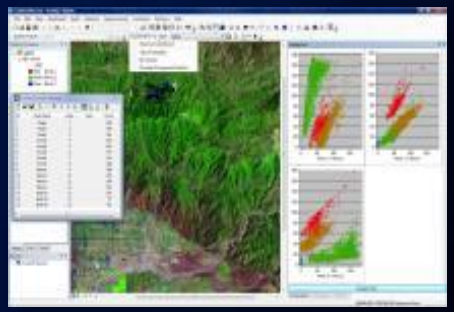


Image Classification Toolbar

Added to Spatial Analyst



- Training Sample Manager
  - Supervise & Unsupervised
  - Class Probability
  - Principle Component Analysis
- Define training areas graphically
- Generate Signature
- Uses functions
- Requires Spatial Analysis Extension
- Not to be confused with Feature Extraction



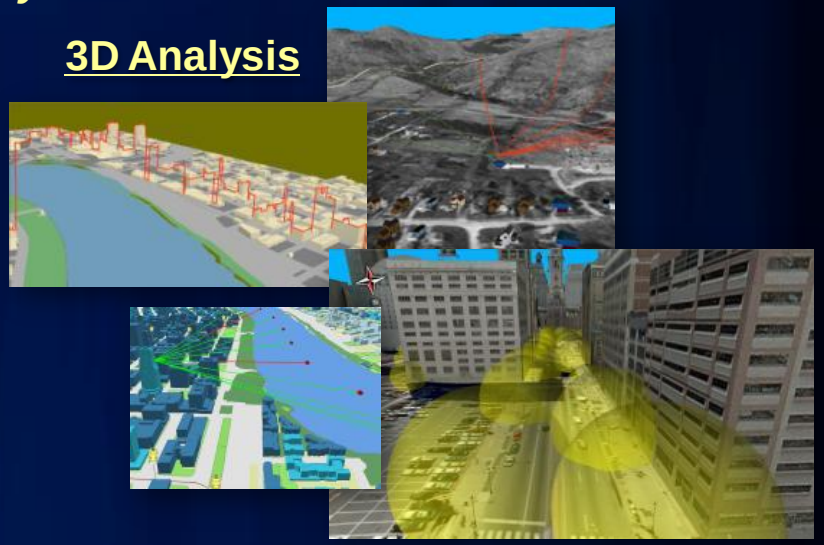
ArcGIS 10 - A Complete 3D GIS

Providing Powerful Data Management, Analysis & Visualization

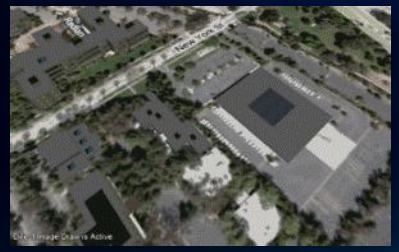
3D Editing

Fast Visualization

3D Analysis



Terrain Editing



Video Integration

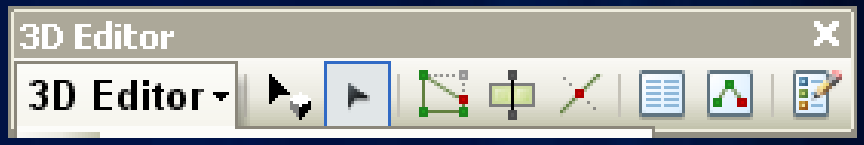
Virtual Cities

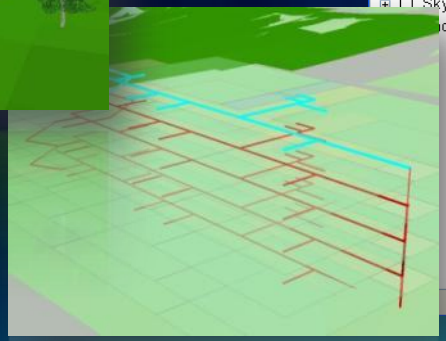
3D Models

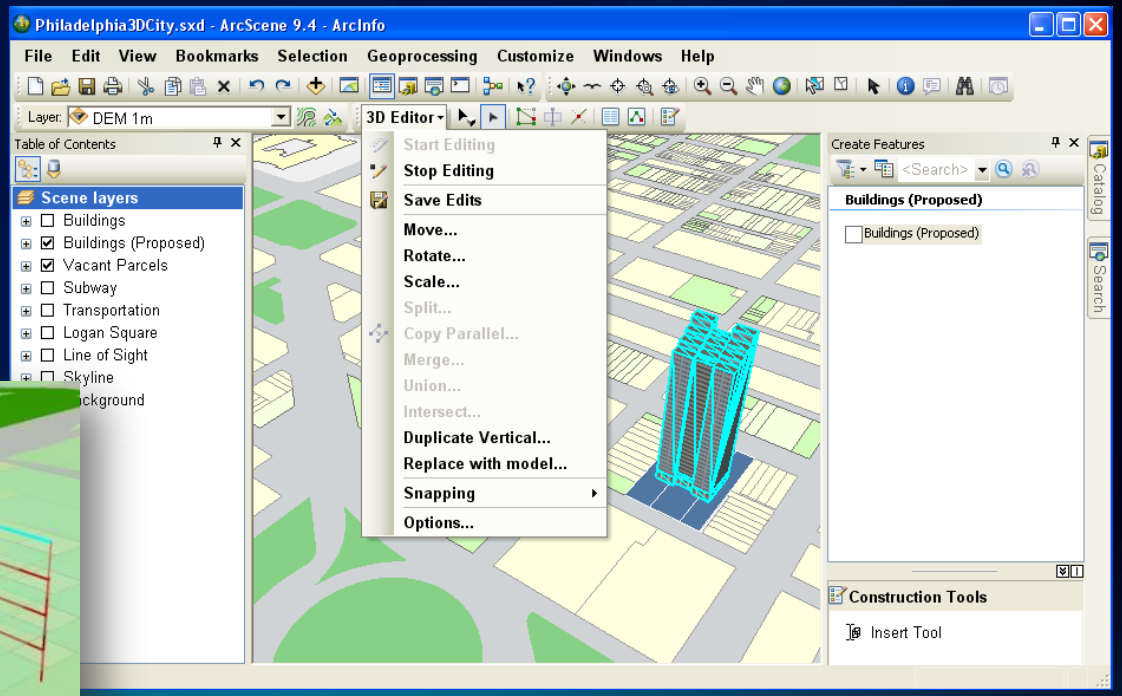
. . . Removing Limitations & Dramatically Improving Performance

Editing in 3D

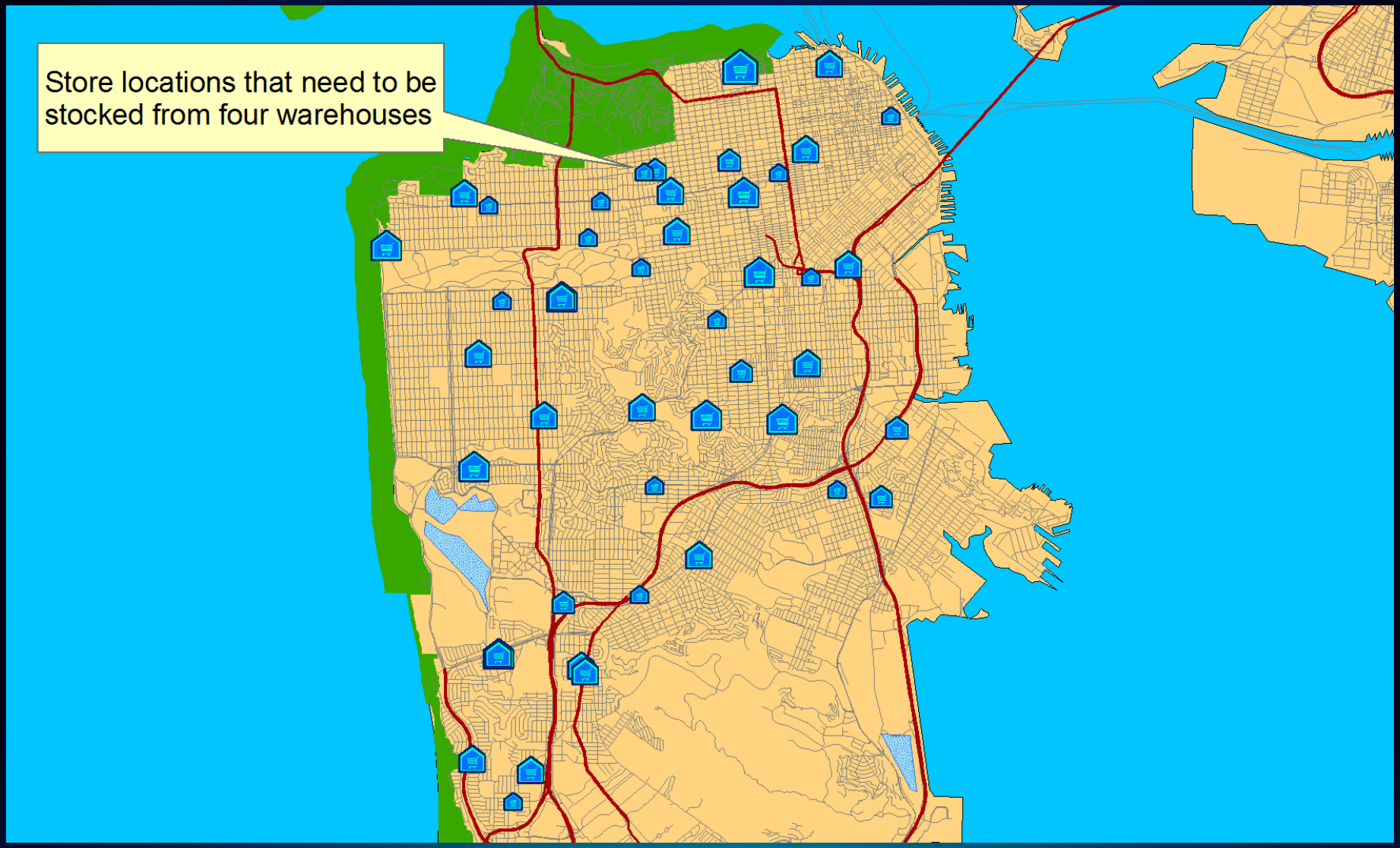
- **Same editing experience as with 2D features**
  - Define what you want to add
  - Efficient attribute update
- **3D-specific tools**
  - Model placement
  - Vertical line support



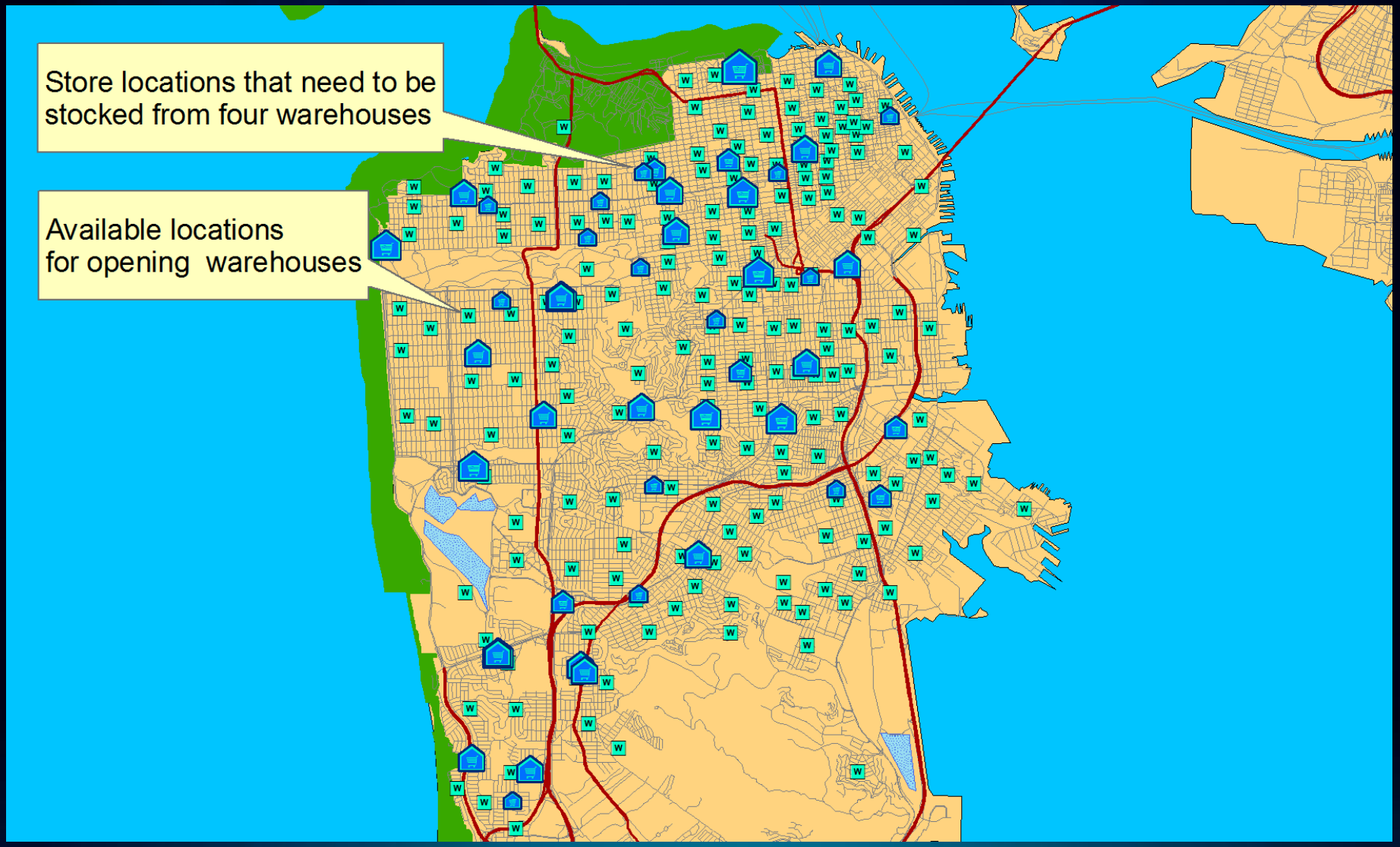




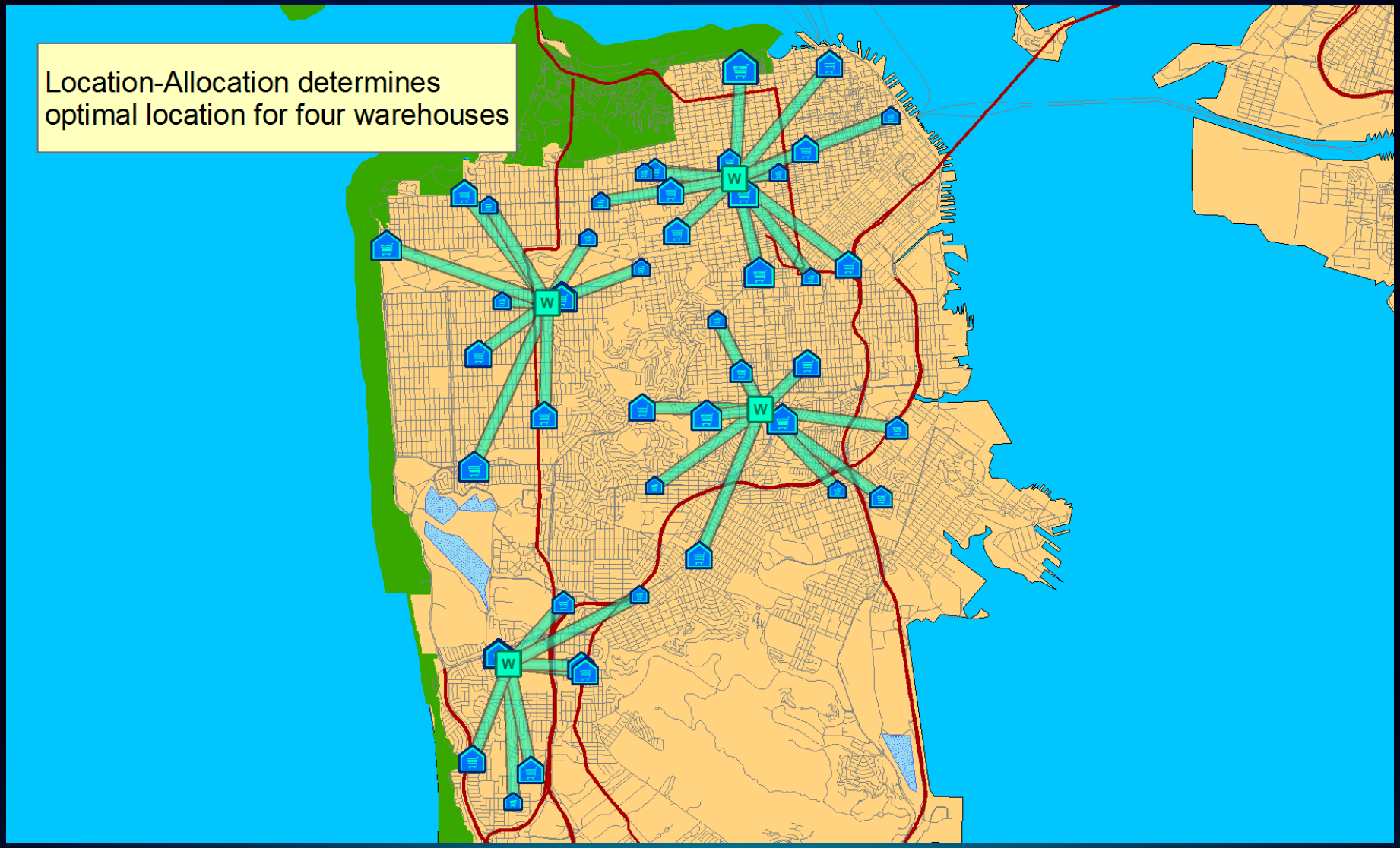
Location-Allocation: Locate 4 warehouses to serve 40 stores



Location-Allocation: Candidate Facilities (200)

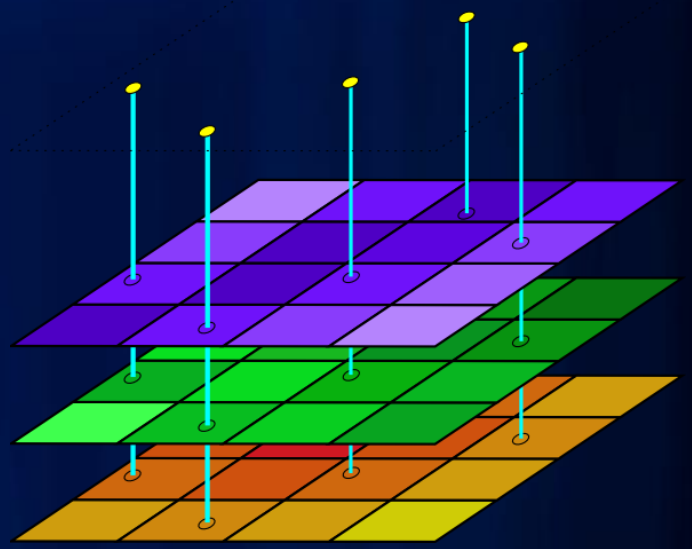


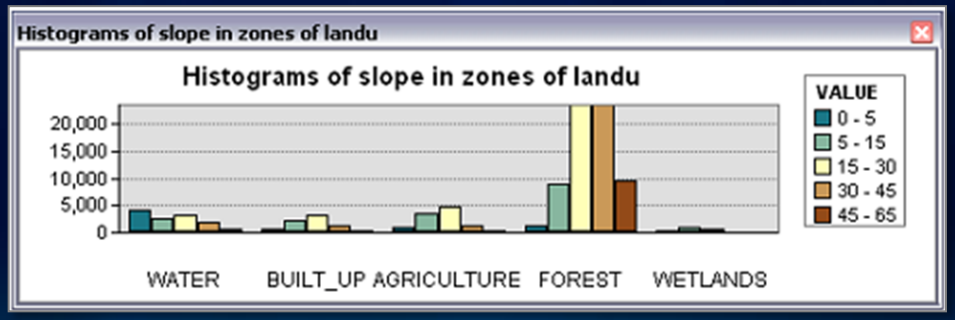
Location-Allocation: Locate 4 Warehouses



New Analysis capabilities

- Extract Multi Value to Points tool
- Zonal Histogram as a GP tool
- Image Classification toolbar
- Fuzzy Overlay tools



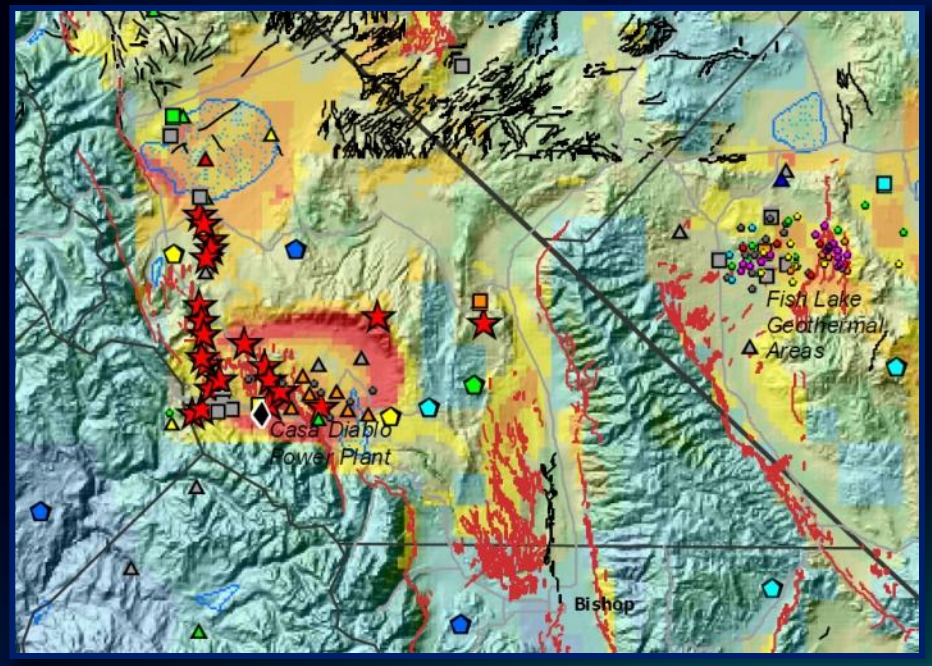


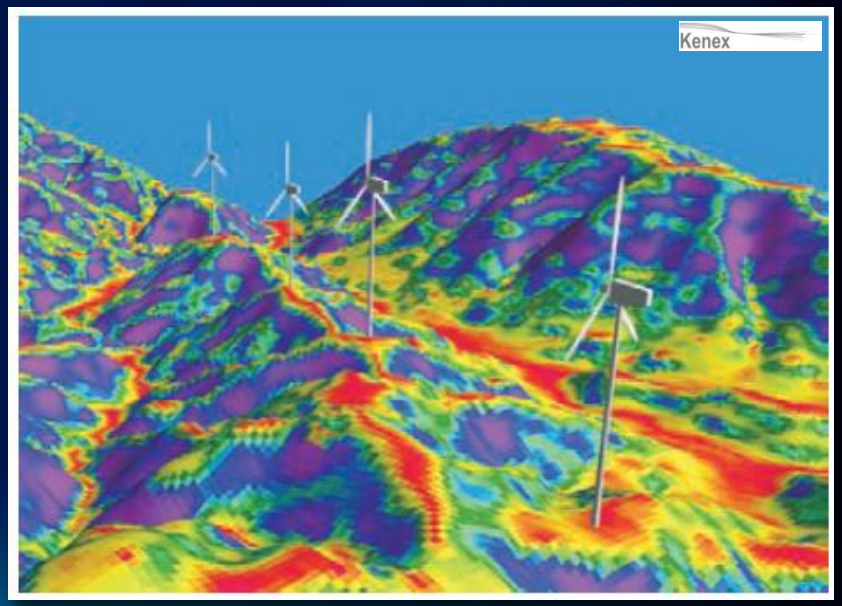
Fuzzy Overlay

New suitability modeling technique

- **2 new Geoprocessing tools - Fuzzy Membership, Fuzzy Overlay**
- **Useful in site selection and suitability modeling**
- **Similar to existing Weighted Overlay, but adds…**
  - **Fuzzy AND, OR, Gamma combinations (not just Plus)**
  - **Result is a probability (not just an index value)**

Great Basin Geothermal Potential





New Zealand Wind Energy Siting

130 + new geoprocessing tools

130Integrated Scientific Scripting

Python

Statistics

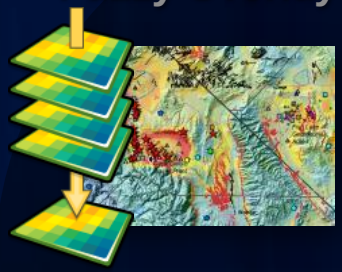
GIS

Math

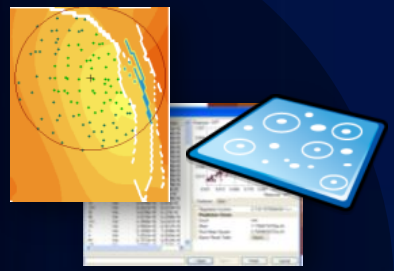
Models

Better Raster Analysis

Fuzzy Overlay



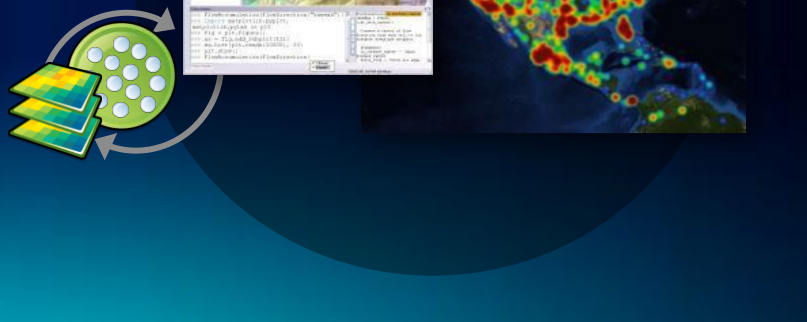
Ecological Sampling



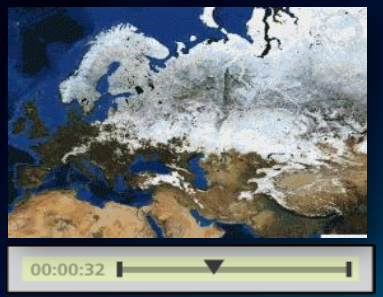
Location/Allocation

Time Routing

Model Complex Relationships

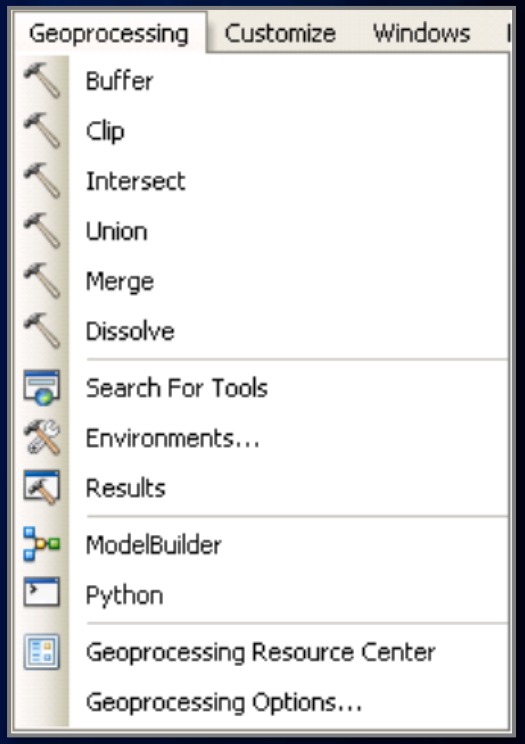


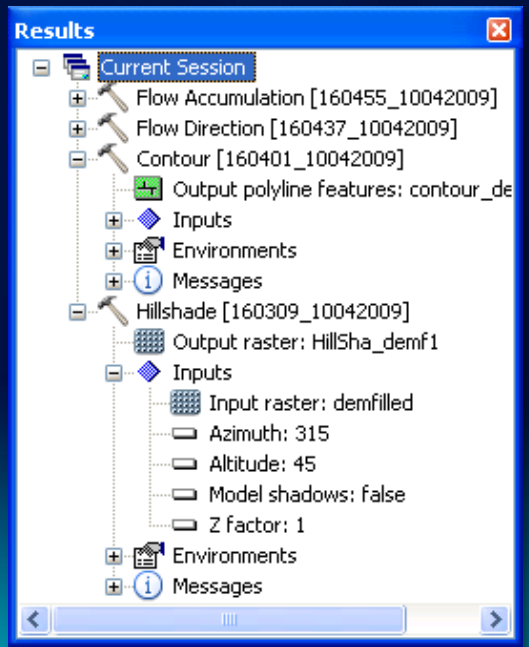
Time Visualization



Geoprocessing

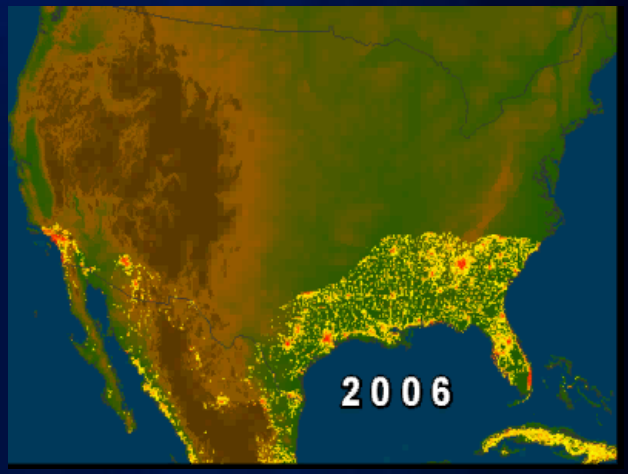
- **Improved User experience**
  - New windows (Environment Settings, Results, Options)
  - Pull down menu in applications of common tools
  - Search for tools in new Search Window
  - Background geoprocessing
    - *Keep the application interactive while running tools*
    - Allows queuing of multiple tools
- **New tools**
  - Editing
  - Layer packages
  - Multi-scale mapping
  - 757 total tools



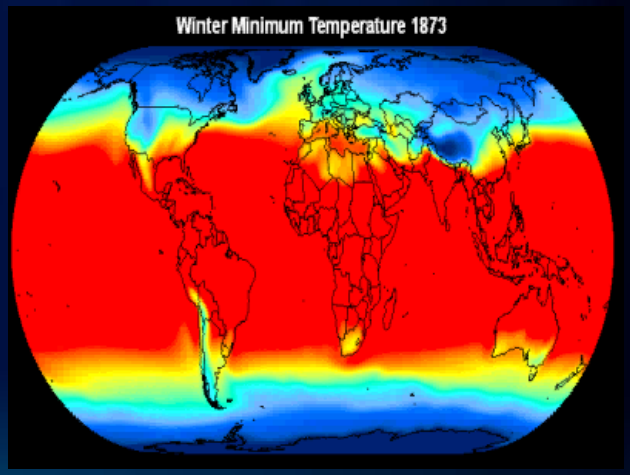


Time in ArcGIS

- Simple temporal mapping
  - The map is now time aware
  - Time is set by time-slider control
  - Time-enabled layers respond to map time



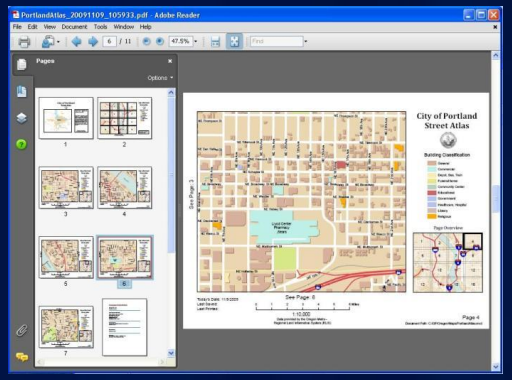
- Enhances the existing ArcGIS system
  - Time definition from layer properties
  - Simple time properties (existing attributes)
  - Desktop, Server, Engine products



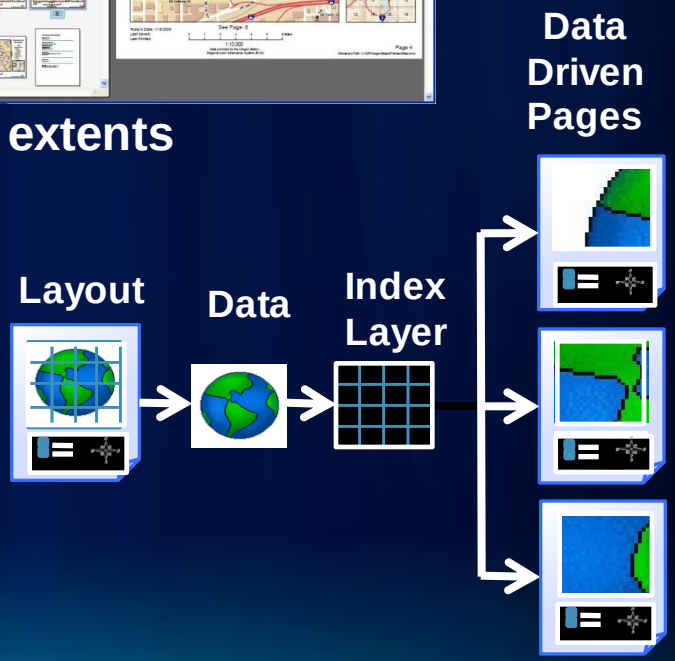
Temporal Visualization is part of ArcGIS

Improved map production workflows

Create Map Books, Map Series and Atlases



- Built-in to ArcMap GUI
- Data Driven Pages toolbar
  - Single layout
  - Index feature layer
  - Multiple pages based on feature extents
- Dynamic Layout Text
- Dynamic Locator Maps
- Multi-page PDF export

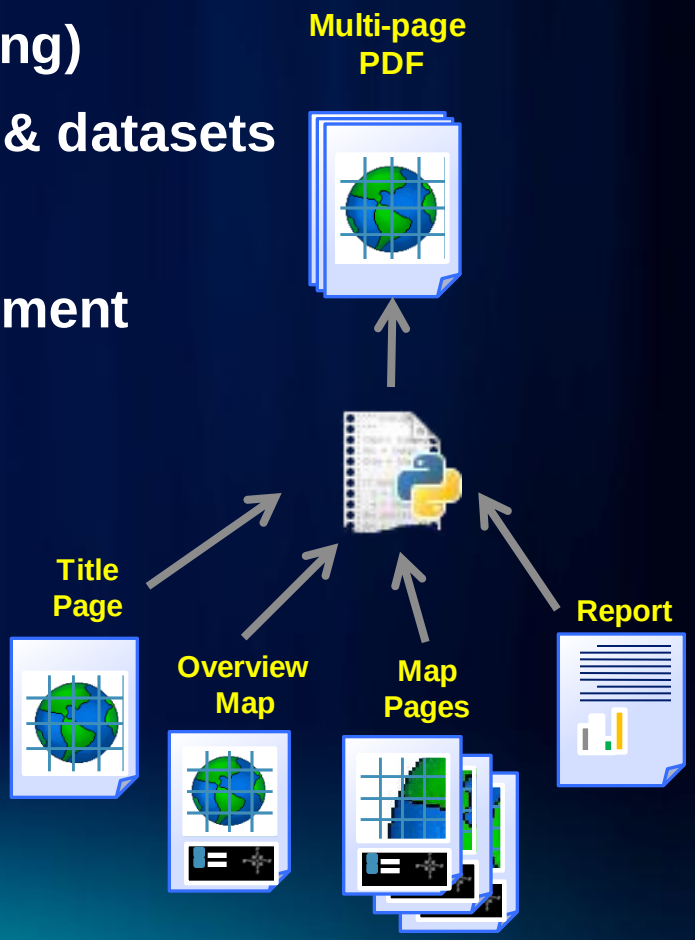


Automate Mapping Workflows with Python Scripting

- Simple Python scripting (arcpy.mapping)
- Manage large numbers of map, layers & datasets
- Improves quality and productivity
- Map compilation, production, management
- Operate on multiple MXDs at once

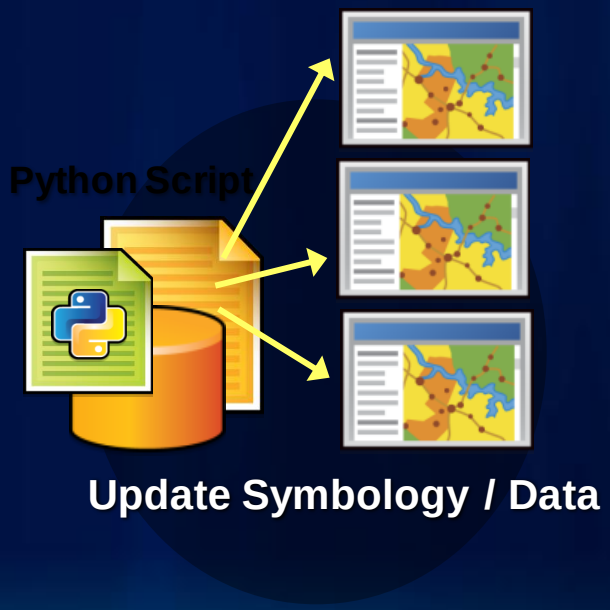
Updating Symbology

Changing Data Source



Automate Mapping Workflows with Python Scripting

- **Small number of 'Course grain' functions**
- **For example:**
  - Add Layer
  - Add Layer To Group
  - Export To Image
  - Export To PDF
  - Move Layer
  - Print
  - Remove Layer
  - Update Layer
  - Etc…..



AUTOMATICALLY UPDATE OR REPAIR HUNDREDS OF MXD MAP DOCUMENTS

Sharing your maps: map packages

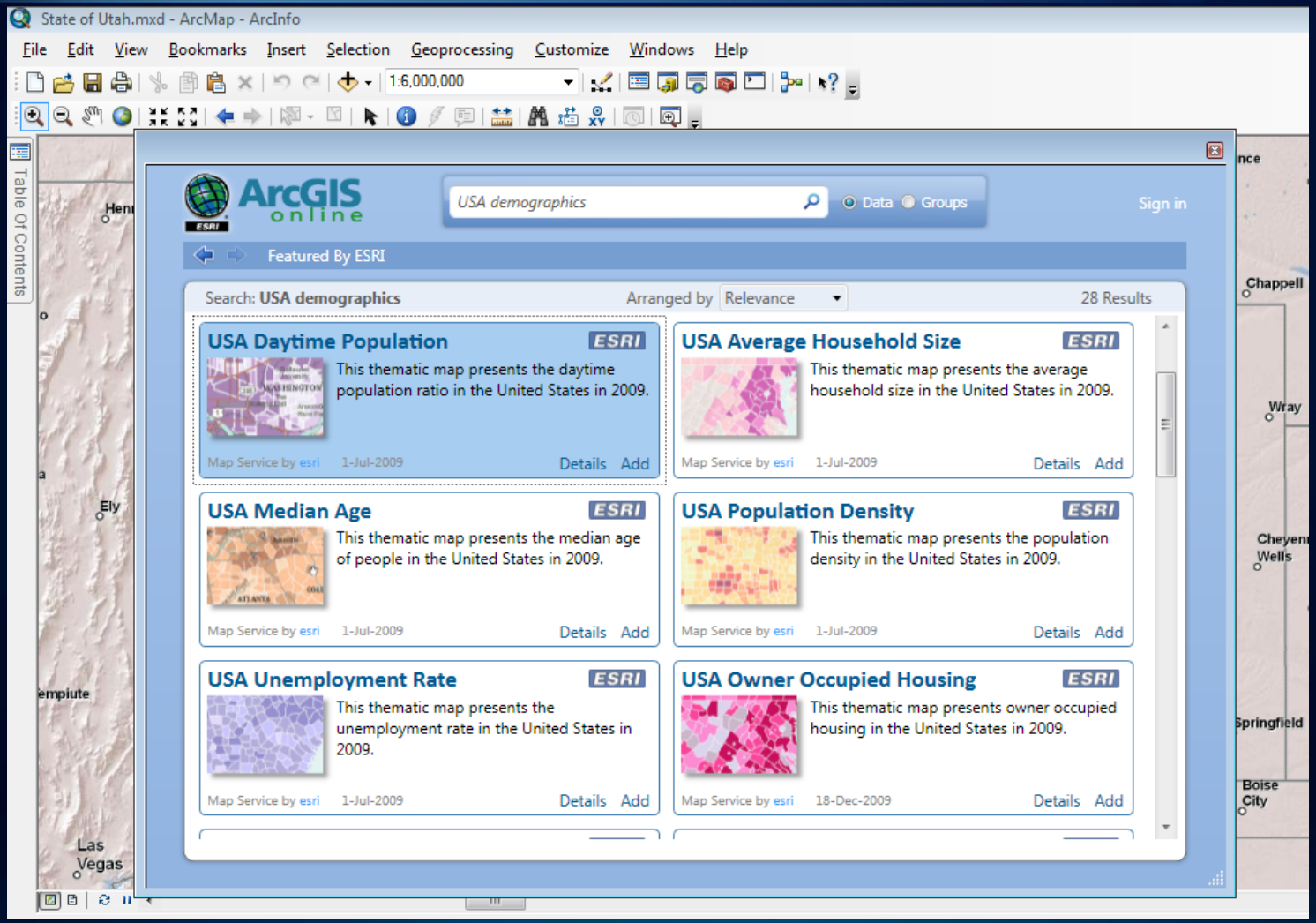
A New Method for Sharing

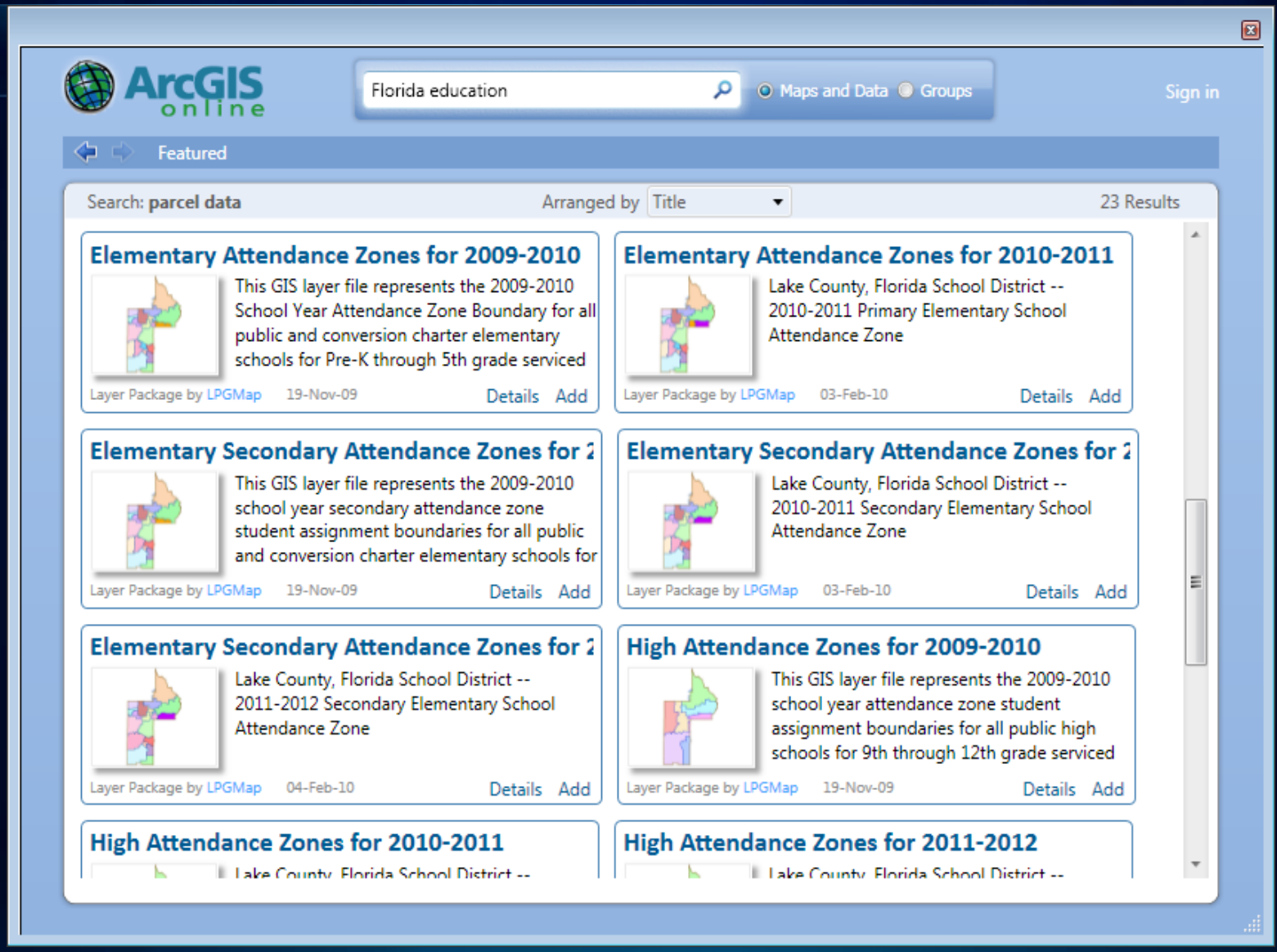
- Complements layer packages (added in 9.3.1)
- Easy to create in ArcMap
- Single convenient file
- MXD + the data it references
- Include or reference server data
- Makes maps easily portable
- Upload to ArcGIS Online
- Other uses include:
  - archiving
  - data snapshots

Sharing your maps: Built-in ArcGIS Online support

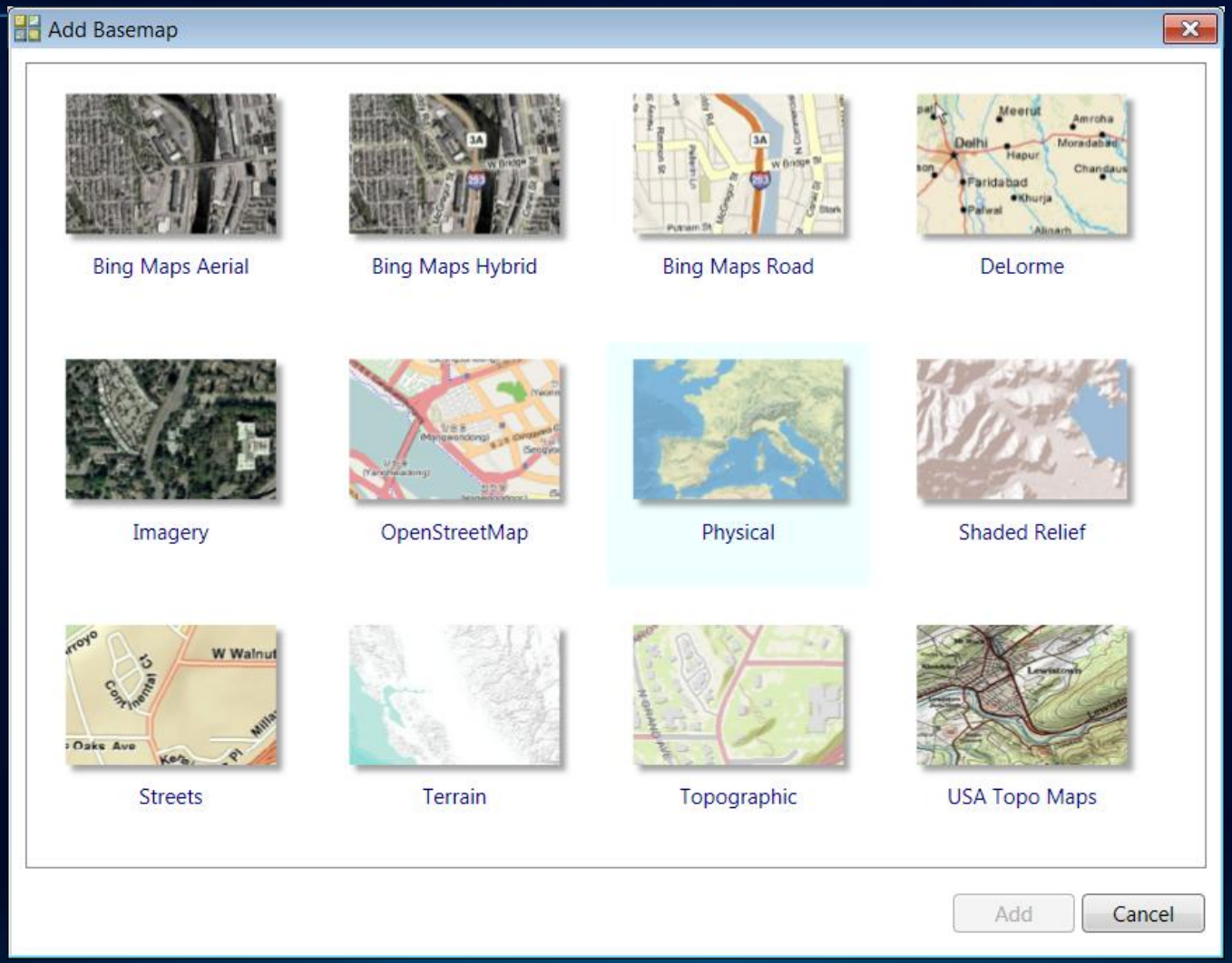
- **ESRI's data warehouse in the cloud**
- **Find maps and data from:**
  - ESRI
  - GIS community
- **Upload GIS data:**
  - Layer Packages (9.3.1 + 10)
  - Map Packages (10)
- **Make your entries public or restricted to secure groups**
- **Make secure shared workspaces containing maps+data:**
  - Inter-agency collaboration
  - Emergency response
- **2 gigabytes free storage per user**

ArcGIS Online dialog in ArcMap

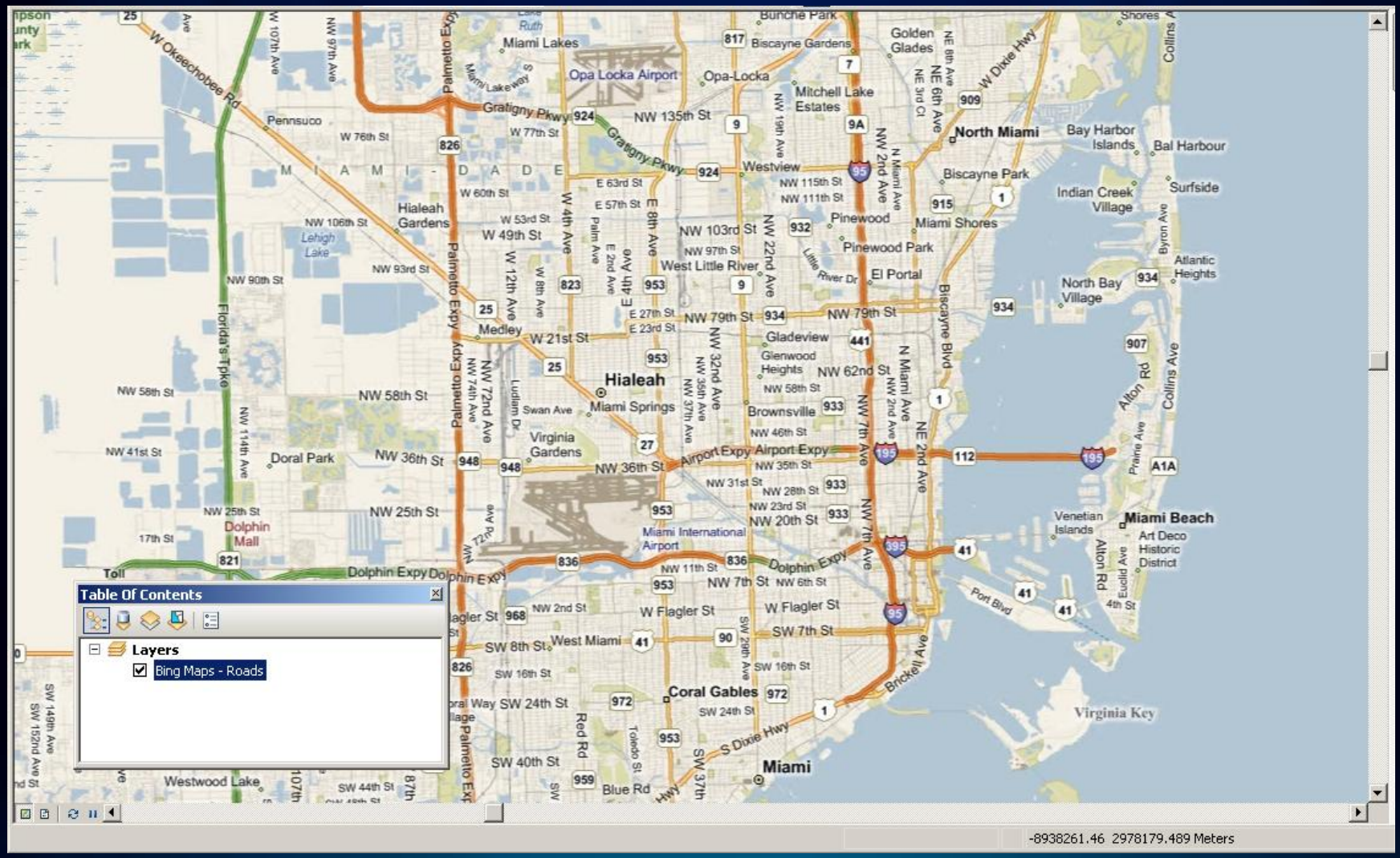



ArcGIS online
Florida education
Maps and Data
Groups
Sign in
Featured
Search: parcel data
Arranged by Title
23 Results
Elementary Attendance Zones for 2009-2010
This GIS layer file represents the 2009-2010 School Year Attendance Zone Boundary for all public and conversion charter elementary schools for Pre-K through 5th grade serviced
Layer Package by LPGMap 19-Nov-09
Details Add
Elementary Attendance Zones for 2010-2011
Lake County, Florida School District -- 2010-2011 Primary Elementary School Attendance Zone
Layer Package by LPGMap 03-Feb-10
Details Add
Elementary Secondary Attendance Zones for 2
This GIS layer file represents the 2009-2010 school year secondary attendance zone student assignment boundaries for all public and conversion charter elementary schools for
Layer Package by LPGMap 19-Nov-09
Details Add
Elementary Secondary Attendance Zones for 2
Lake County, Florida School District -- 2010-2011 Secondary Elementary School Attendance Zone
Layer Package by LPGMap 03-Feb-10
Details Add
Elementary Secondary Attendance Zones for 2
Lake County, Florida School District -- 2011-2012 Secondary Elementary School Attendance Zone
Layer Package by LPGMap 04-Feb-10
Details Add
High Attendance Zones for 2009-2010
This GIS layer file represents the 2009-2010 school year attendance zone student assignment boundaries for all public high schools for 9th through 12th grade serviced
Layer Package by LPGMap 19-Nov-09
Details Add
High Attendance Zones for 2010-2011
High Attendance Zones for 2011-2012

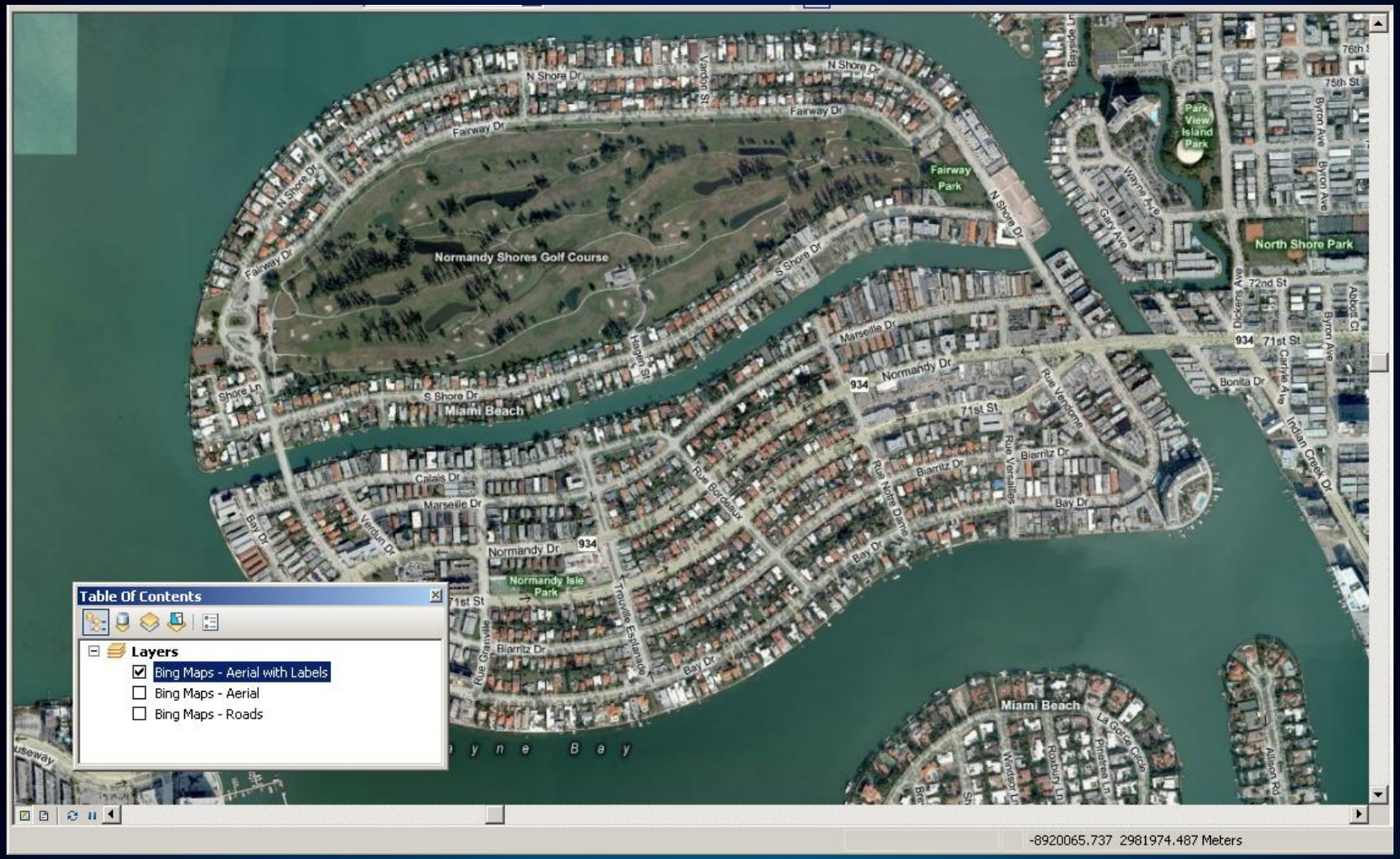
Get started immediately with built-in basemaps



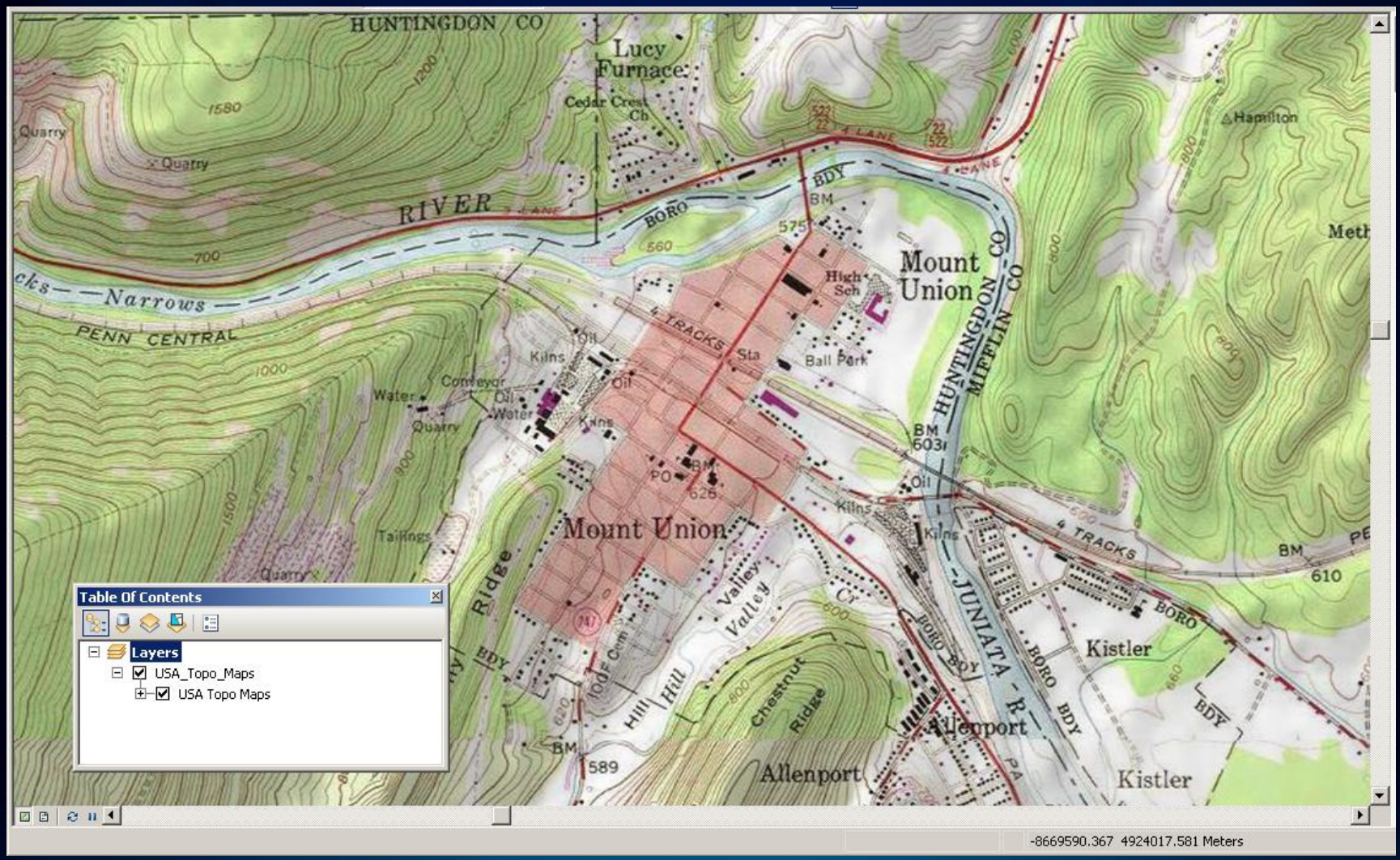
Bing Maps (Roads)



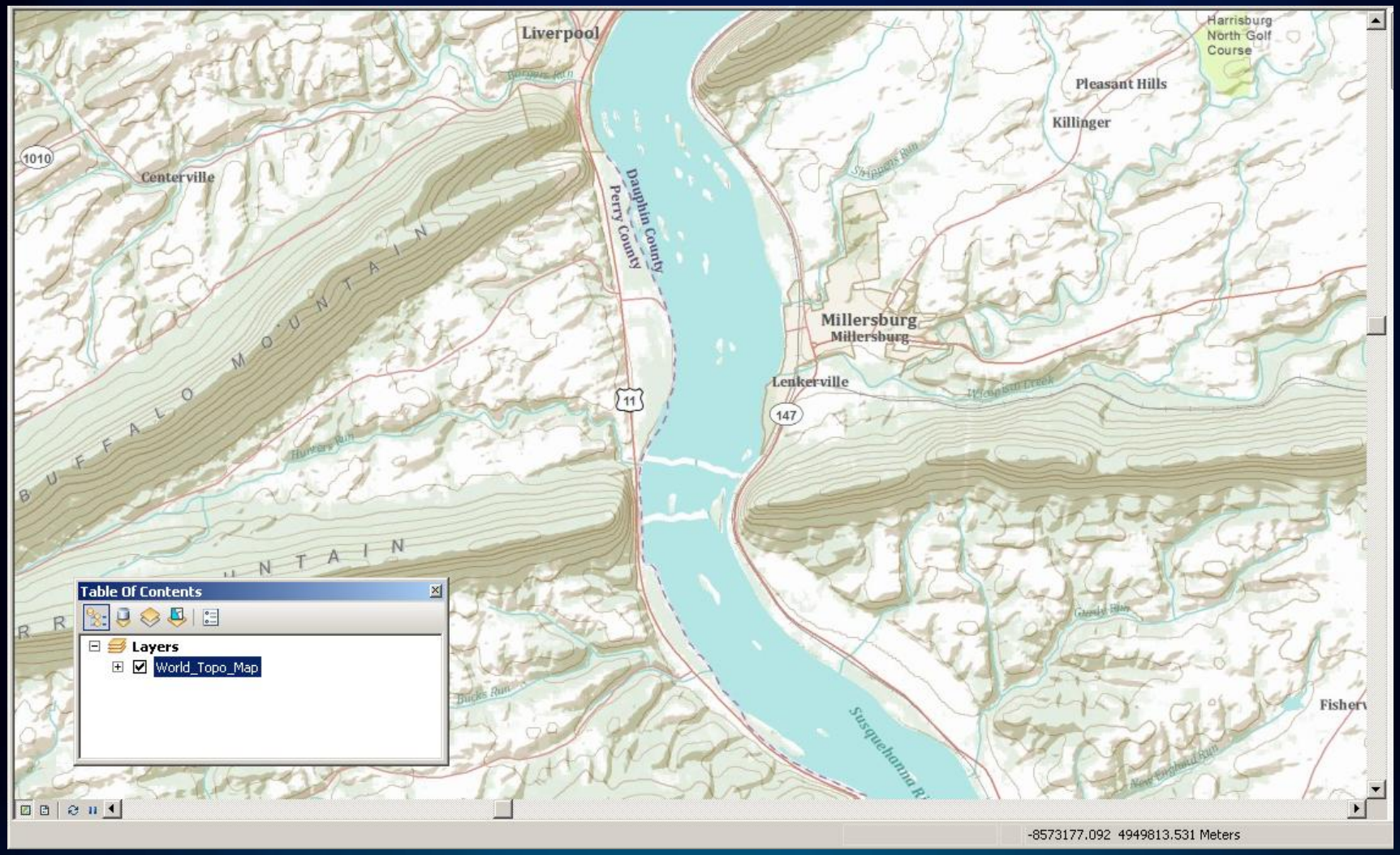
Bing Maps (Imagery + Labels)



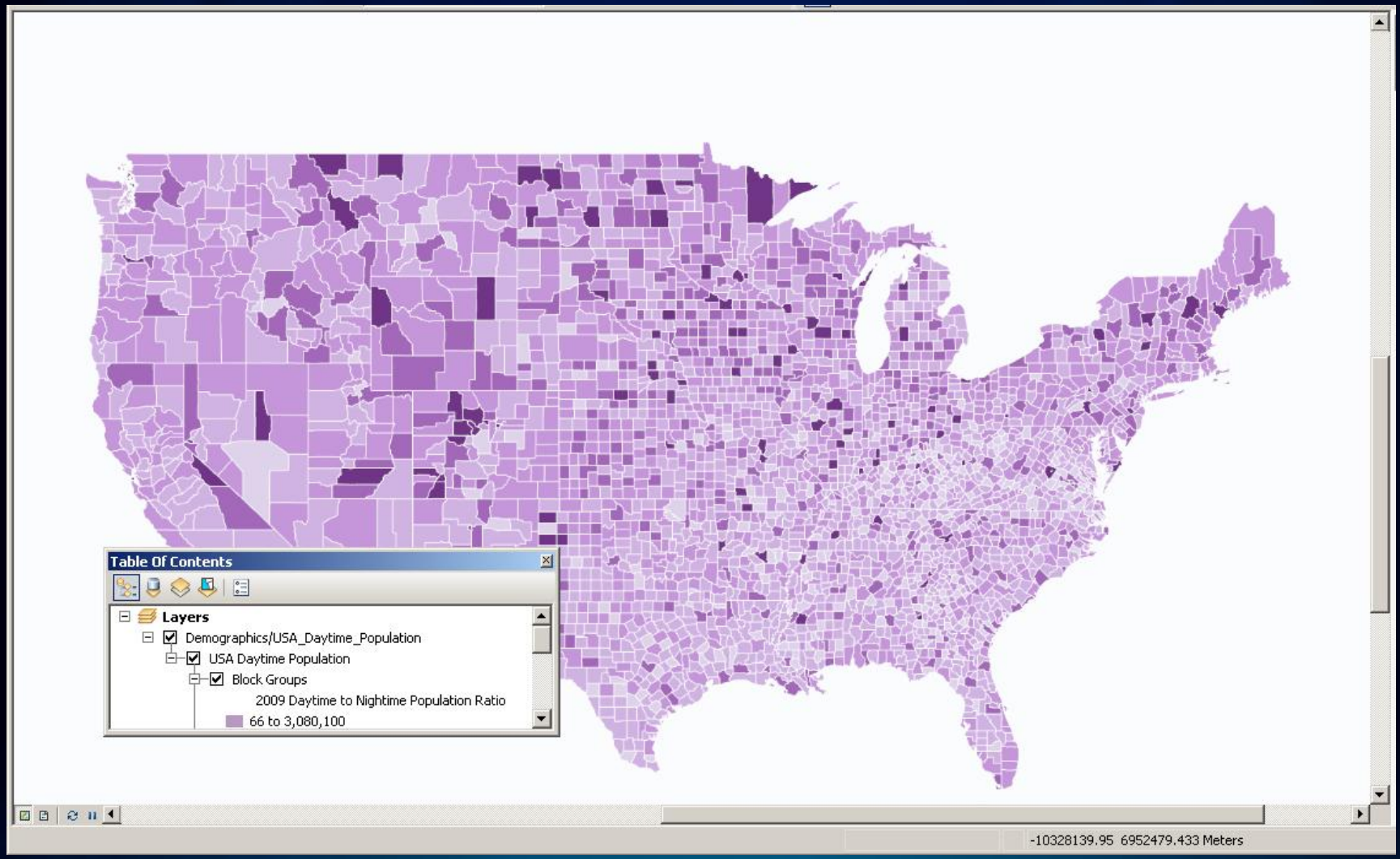
USGS Topo Maps Series



World Topographic Map (featuring your data!!)



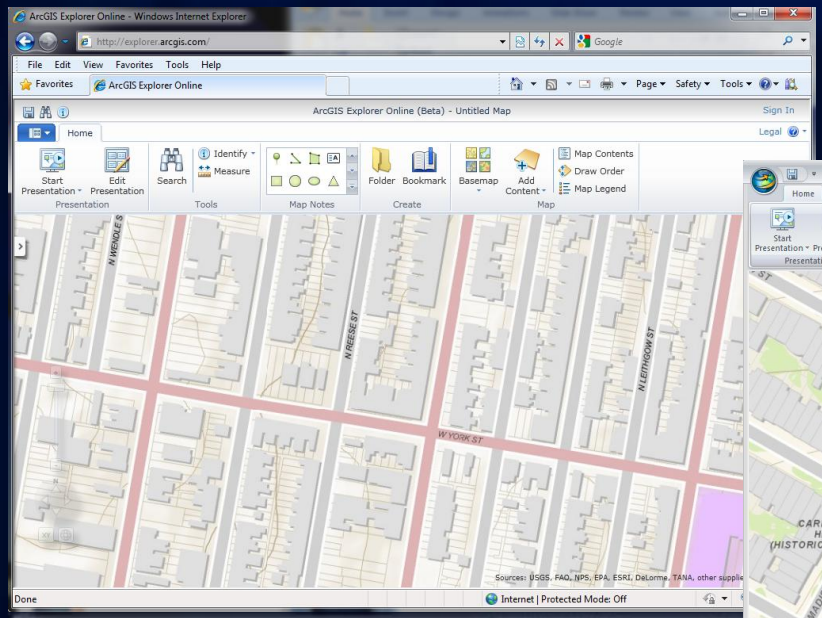
ESRI Demographics Data



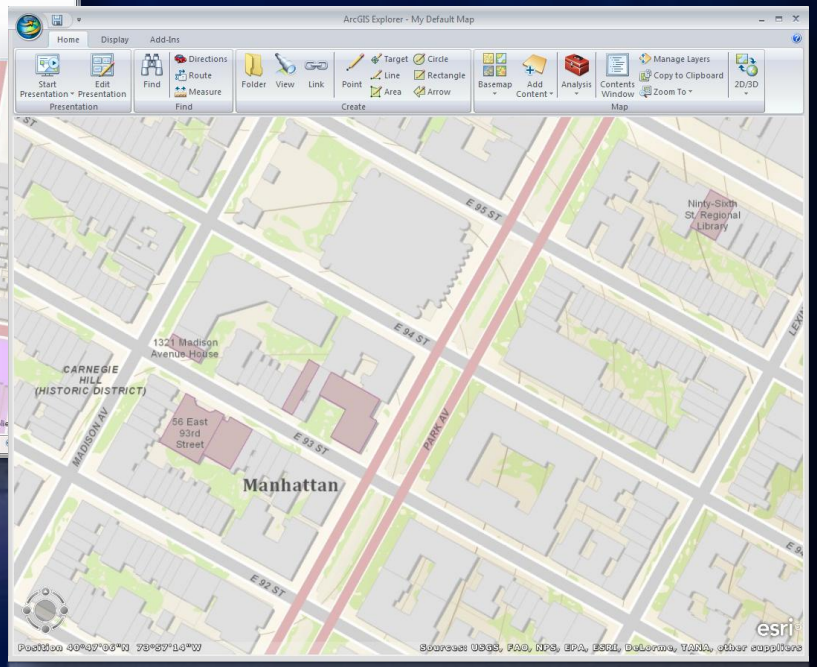
ArcGIS Explorer is GIS for Everyone

- Free, lightweight, can be deployed widely
- An integral part of your GIS
- Enables you to deliver GIS to a broad audience
  - Within and between departments
  - Throughout your organization and with other organizations
  - To geographic information users everywhere
- Provides a way to explore, visualize, share, and present geographic information
- Easy to integrate other information geographically

ArcGIS Explorer



ArcGIS Explorer Online



ArcGIS Explorer Desktop

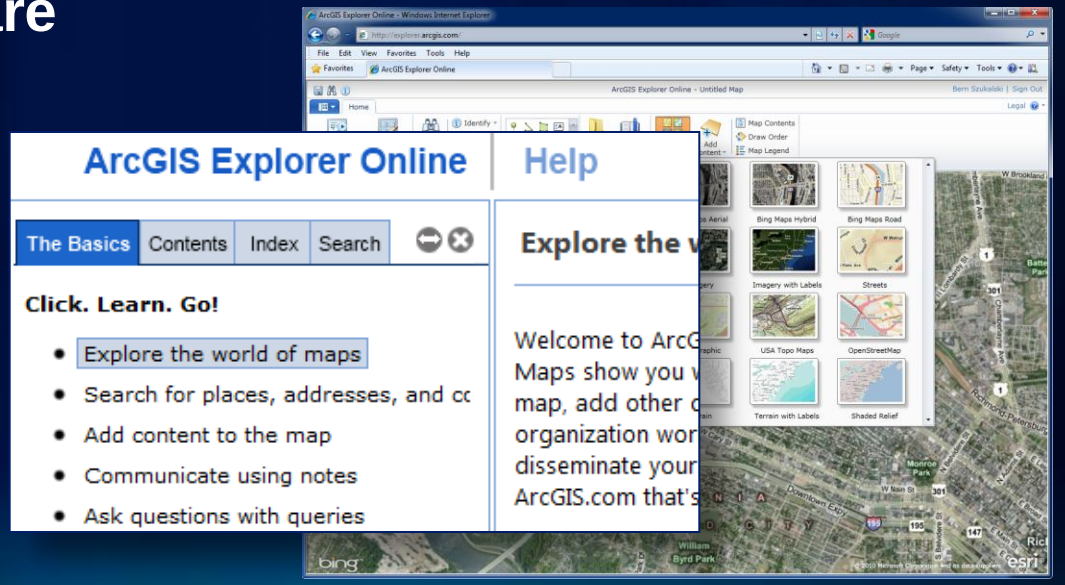
ArcGIS Explorer Online vs. Desktop

- Similar look and feel
- Some of the same capabilities
  - Presentations, notes
- A lightweight version that runs in a browser
  - Built using Microsoft Silverlight
- Focus on using map and layer services

Getting Started

explorer.arcgis.com

- Start by using a featured, empty, or new map
- Choose a basemap
- Add your own layers, notes, presentation
- Save and share

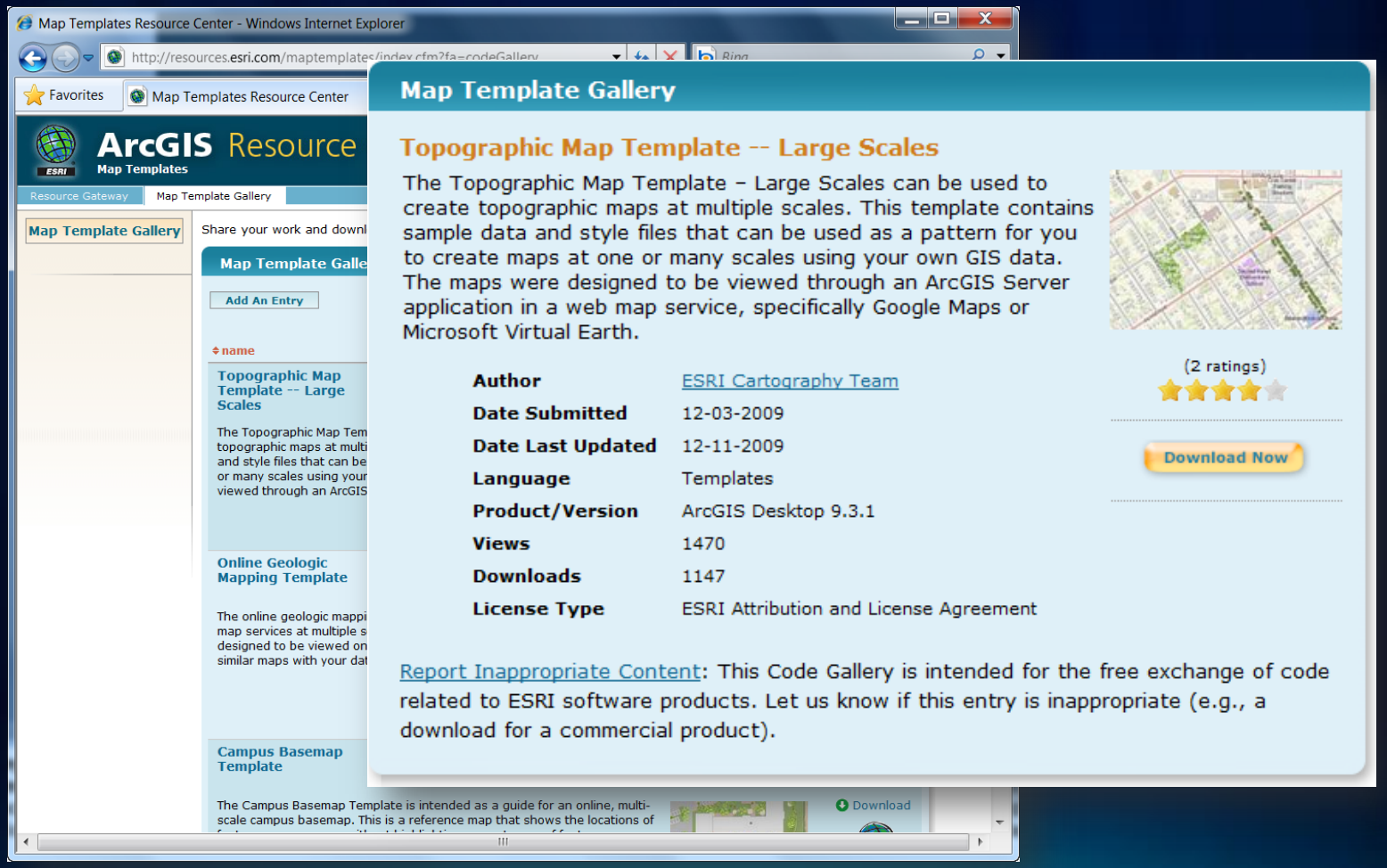


A great place to start!

Map Templates Gallery

Resources to Give You Professional Results

http://resources.esri.com/maptemplates



What is a map template?

Collection of Resources That Specifies a Well-Designed Map

Map document
(MXD file)

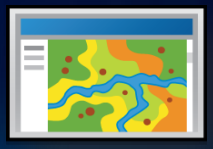
Sample data
(geodatabase)

Documentation

Style files and
layer or map packages

Geoprocessing
tools or models

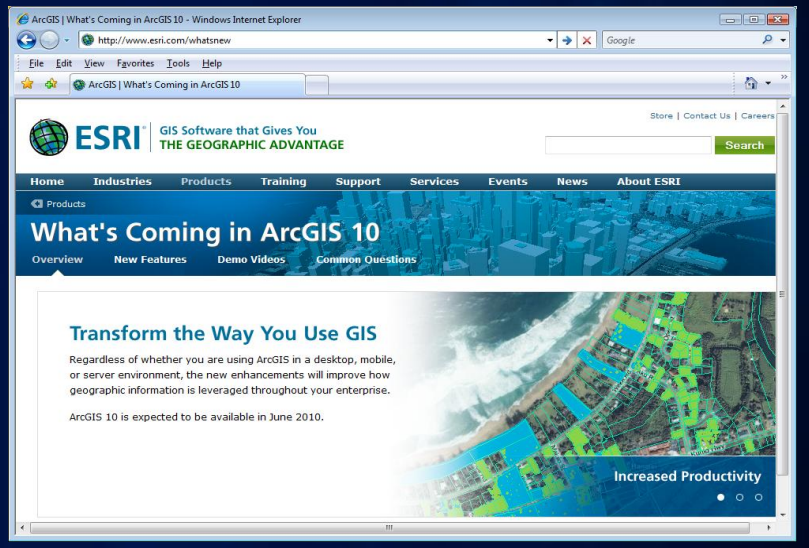
Example Web
applications



More info on What's New in 10

www.esri.com/whatsnew

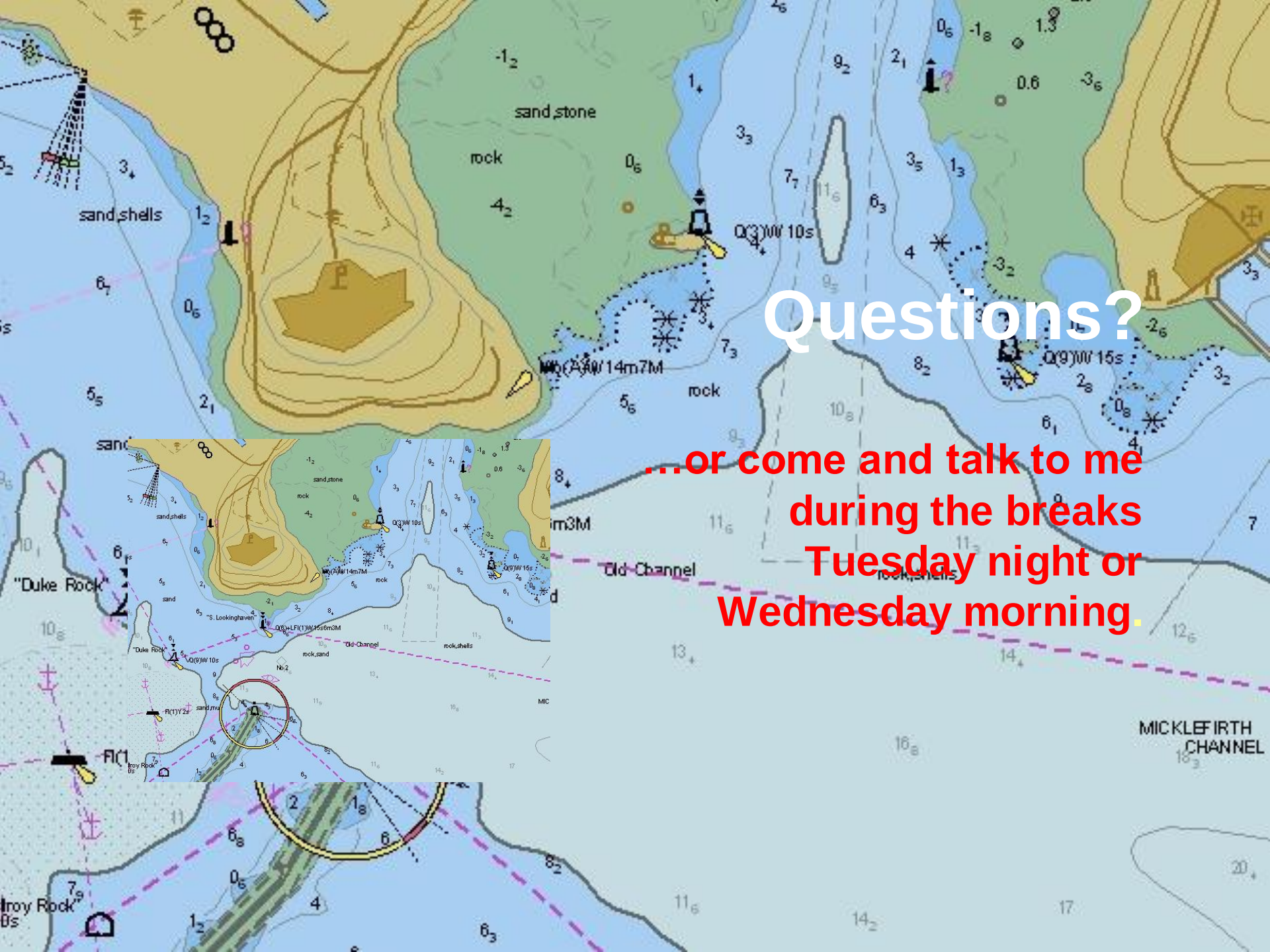
- Demo videos
- New Features
- FAQs
- Drill into details



resources.arcgis.com

- Documentation, forums, blogs, samples, downloads
- Covers all versions (not just ArcGIS 10)


esri


Questions?
...or come and talk to me during the breaks Tuesday night or Wednesday morning.
sand,stone
rock
sand,shells
Q(3)W 10s
Q(9)W 15s
Old Channel
"Duke Rock"
MICKLEFIRTH CHANNEL

ESRI International User Conference
July 13–16, 2010 | San Diego, CA
Technical Workshops

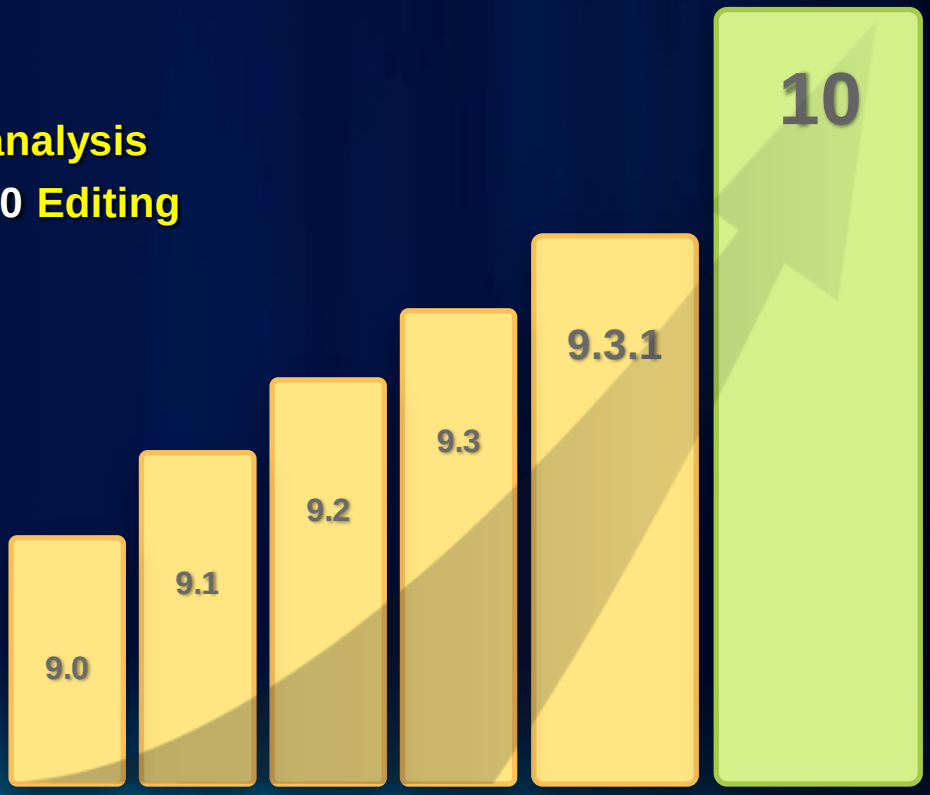
What's New in ArcGIS Server 10

John Sharrard
GIS Solutions Engineer
Esri- Northwest
Portland, OR, Sattellite

What is new in ArcGIS Server 10?

Agenda

- Highlights:
  - Enhanced **Web Mapping**
  - More powerful server-based **analysis**
  - Geo-collaboration and Web 2.0 **Editing**
  - Runs on **Amazon EC2**
- Miscellaneous
- Q&A



…builds upon and enhances ArcGIS Server 9.3.1

Enhanced Web Applications for ArcGIS Sever 10

ArcGIS.com

A new look at creating and sharing geographic information

- A public site, hosted by ESRI
- Find, create and share geographic information
  - Empowering the non-GIS expert!
- Public and Private Groups
- Two ready to use applications:
  - ArcGIS.com Viewer
  - ArcGIS Explorer Online

arcgis.com

A gateway into your ArcGIS Server services and applications

ArcGIS Viewer for Flex

A new configurable out of the box application

- Configurable app
  - Look and feel
  - Capabilities
  - Map content
- Ideal for the creation of focused/vertical applications
- Extensible/Customizable
- You host it, you control it

Download → Configure → Deploy

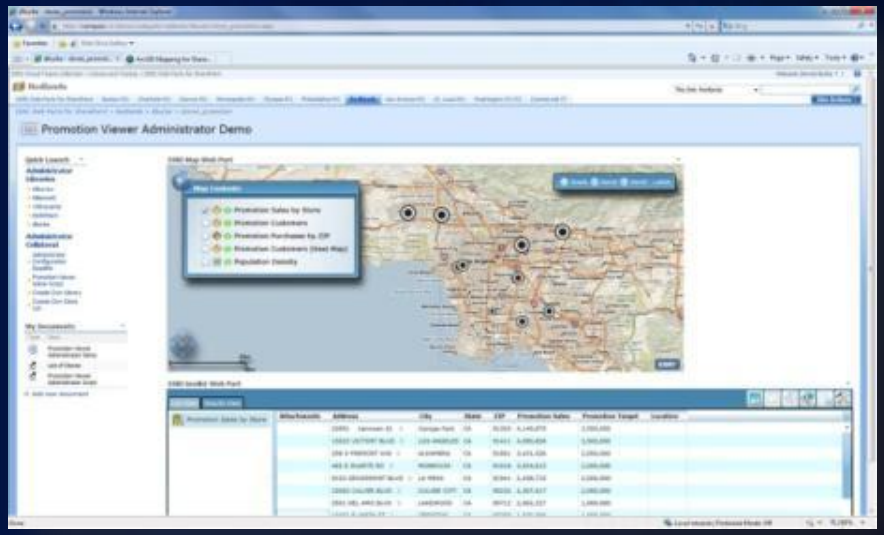
esri.com/flexviewer

Formerly known as the 'Sample Flex Viewer', now fully supported

Sharepoint Mapping Parts

Embed your ArcGIS maps in Sharepoint with a few clicks

- Runs on Sharepoint 2007 and 2010
- Several Web Parts
  - Map
  - Location Field
  - GeoList
- Configurable Web Parts



esri.com/sharepoint

…Sharepoint integration

New ArcGIS for iPhone app and SDK

GIS for a wider audience

- Experience ArcGIS from your iPhone
  - Publish ArcGIS Server service
  - Author a Web Map
  - Open straight from iPhone
- Download from the App Store
- Or your local iTunes

Available on the iPhone App Store

ESRI

esri.com/iPhone

Enhanced Map Services

More and more ready to use content

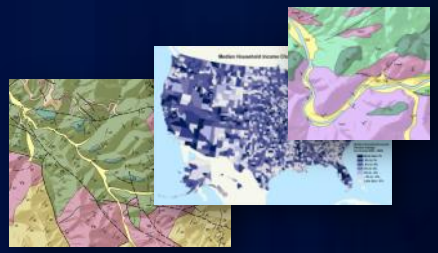
Available through ArcGIS On-line or the ArcGIS Data Appliance

- Ideal base maps for your business data
- Many new maps added since 931 was released
- For use in your web applications
- **Bing Maps now free for your web applications***

Imagery

Topographic

Demographic & Thematic



* For ArcGIS Server licensed users. Free for internal use within your organization.

More beautiful maps for the web

Enhanced Optimized Map Services for on the fly or cached services

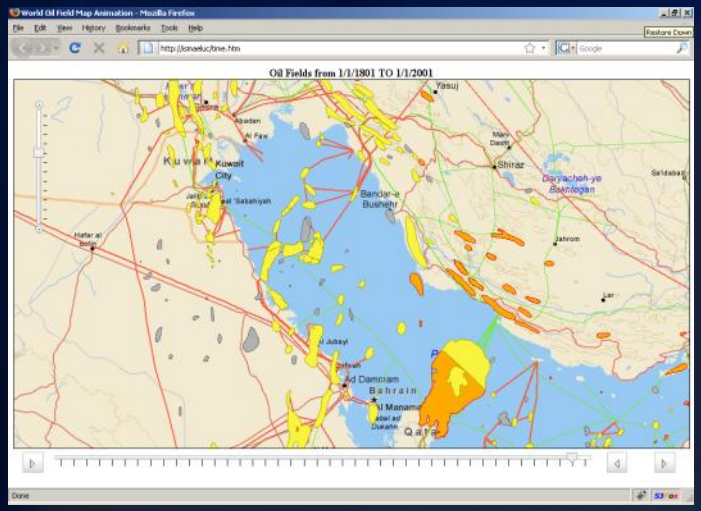
- Added support for:
  - Maplex text placement
  - Cartographic Representations
  - Parcel fabrics
  - Query Layers…

… Authoring Professional Looking Maps for the Web

Map Animations made easy

Time-aware layers and services

- Built in tools for authoring time aware map services
- Ready to use map animation tools
- Supported by all APIs



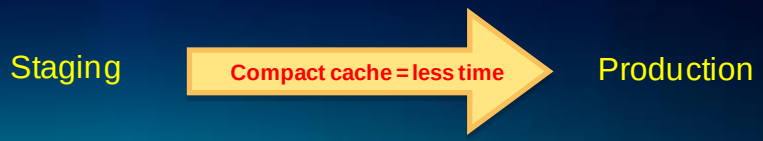
Optimized format for your map caches

New 'Compact Cache' format

- Benefits of Compact Cache:
  - Easier to move around (staging/production)
  - Great map tile retrieval performance
  - Faster cache creation (generally)
    - Scales much, much better than exploded ('Local cache directory')
  - Accelerated update & deleted time

PNG8 Land-use map 4M map tiles

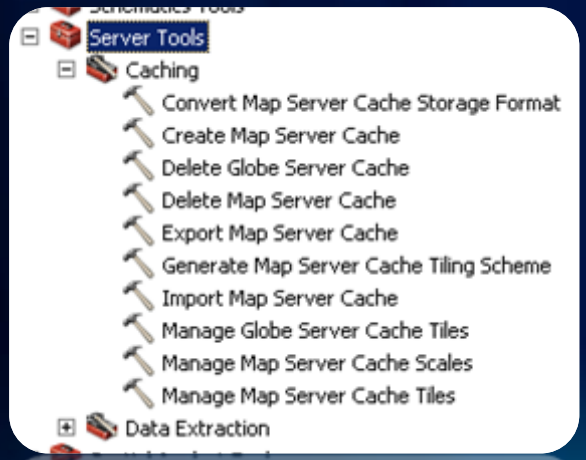
	Time to create	Space on disk	Time to move
Exploded	5 hours 17 minutes	5.02Gb	9 hours 11 minutes
Compact	1 hour 48 minutes	4.71Gb	8 minutes 13 seconds

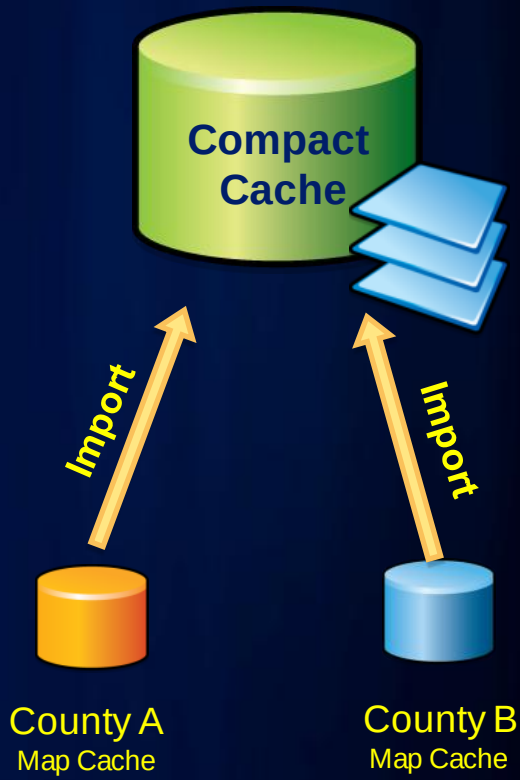


Enhanced Map Caching workflows

New Geoprocessing tools to import and export map caches

- **Scenarios:**
  - **Import updates into your master map cache**
  - **Build map caches collaboratively**
  - **Export your map cache and take to the field**
    - **Disconnected map cache**





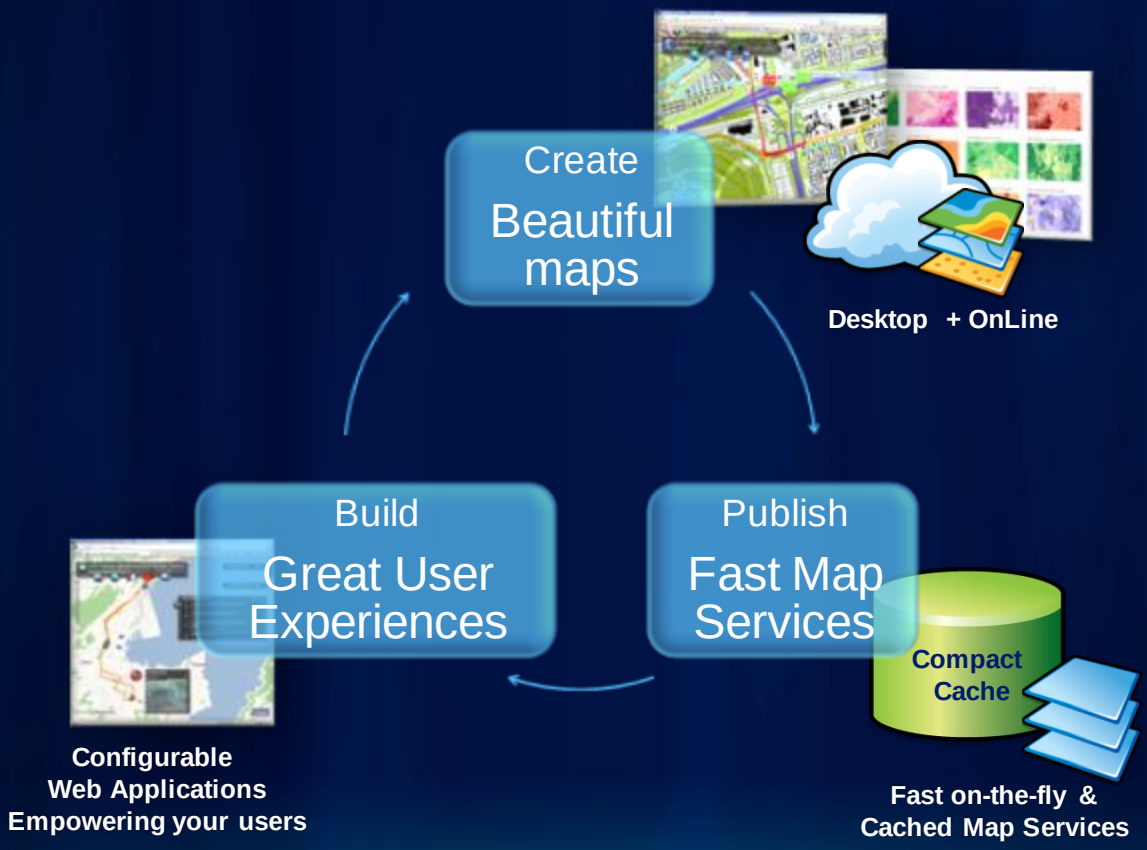
…Faster map cache creation and updates

Other Map Service enhancements

- Geodatabase attachments
- Geodatabase relationships
- Enhanced support for subtypes and domains
- Standalone tables
- Faster Queries
- Support for spatial references with no WKID

Enhanced Web Mapping

Streamlining workflows and communicating with maps



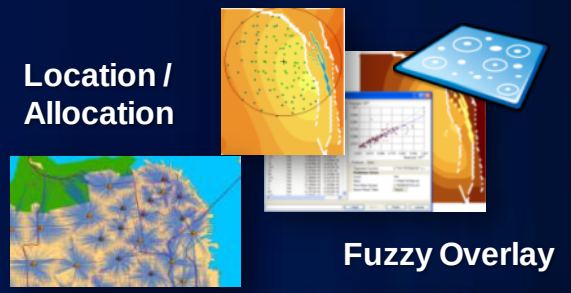
Stronger geoprocessing for Server

More tools, easier access and faster execution

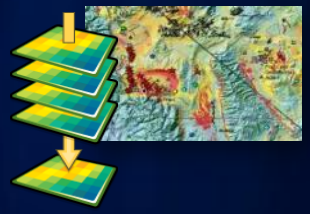
- More than 130 new tools
- More efficient processing
  - Up to 15x faster for some tools

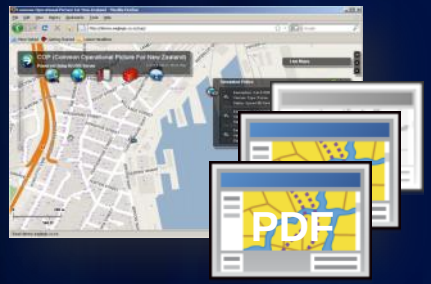
Ecological Sampling

Location / Allocation

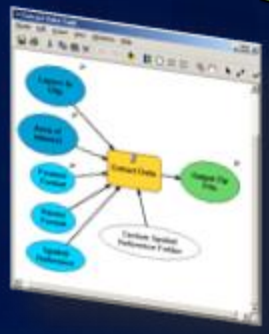


Fuzzy Overlay





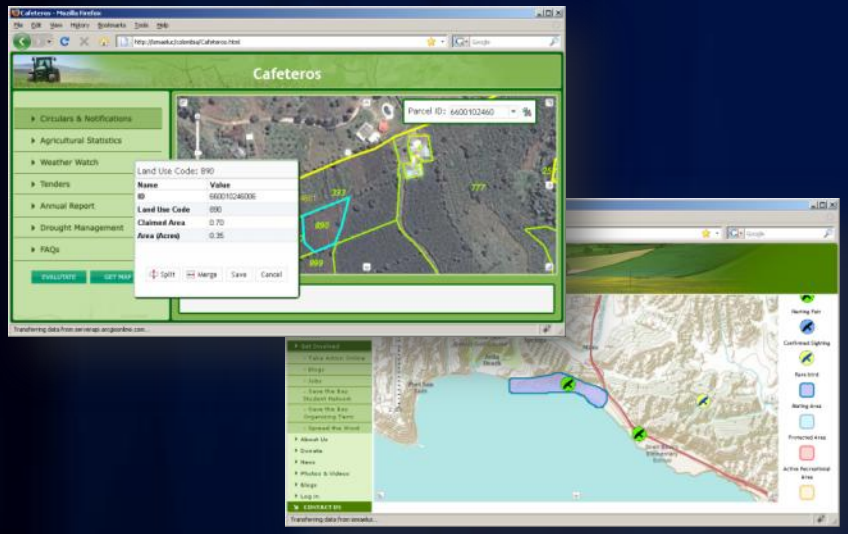
PDF Maps on Demand



Data Extraction Services
(CAD, shapefile, raster formats…)

Built-in geocollaboration and web editing

From Volunteered Geographic Information to sophisticated web editing

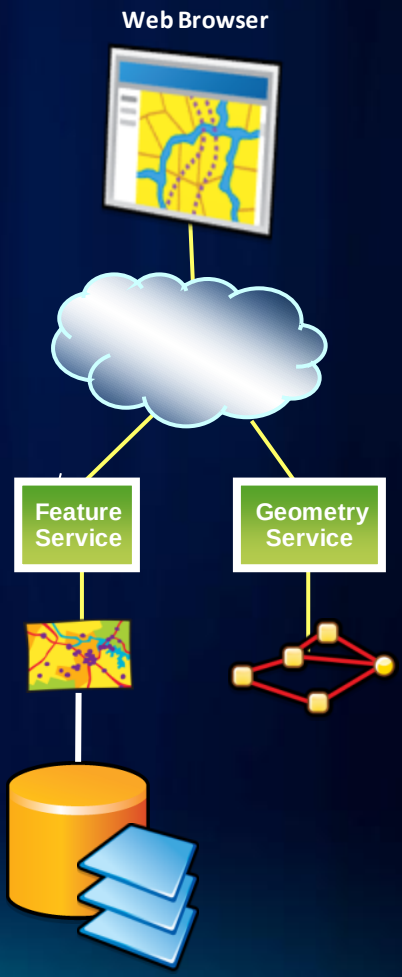


- Enabling simple sketching & advanced editing
- Well defined Information Model
- Edit from anywhere (many clients)

Feature and Geometry Services

Editing your geodatabase over the internet

- New Feature Service
  - For quick geodatabase edits
  - Last-in wins (stateless service)
  - Editing based on predefined templates
- Enhanced Geometry Service
  - Geometry manipulation to support edit workflows
  - Union, Reshape, Extend/Trim…
- Client-side Feature Layers



Internet Editing for ArcGIS Desktop too

For sophisticated editing or 'disconnected' scenarios

- *A Map Service that you can edit from Desktop*

Enterprise Geodatabase

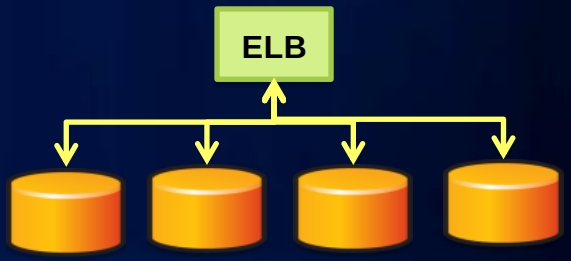
Check-in/Check-out Geodatabase Replication

ArcGIS Desktop

ArcGIS Server runs on Amazon EC2

Through ESRI provided Amazon Machine Images

- **Ready to go:**
  - Configure ArcGIS Server instantly
- **Elasticity: Scale your configuration as needed**
  - Add or remove machines from your deployment easily
- **Leverage other Amazon Web Services**
  - Web content delivery (Cloud Front)
  - Storage (S3 and EBS)
  - Monitoring and Auto-Scaling…
  - Etc



…a new delivery mechanism for ArcGIS Server

New Search Service

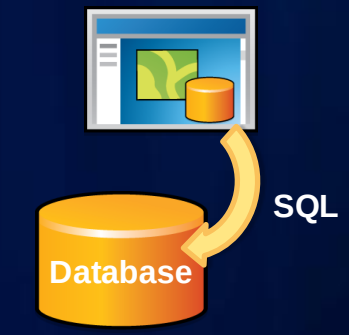
For quick search of GIS assets throughout your Enterprise

- Centralize Search and Indexing of GIS Resources
- Security: Use several Search Services
- For use internally by Desktop users
- Not a Search Service for Web users
- Non spatial search on ‘Item Descriptions’
- Very, very fast

Enhanced access to databases

New ‘Query Layers’

- SQL based Tables and Feature Layers
- More flexible access to data
  - GroupBy, Joins…
  - No need for ArcSDE tables
- Author in ArcMap, publish to Server
- Will look as simple features
- Read only
- Author in ArcMap, and publish as a service!

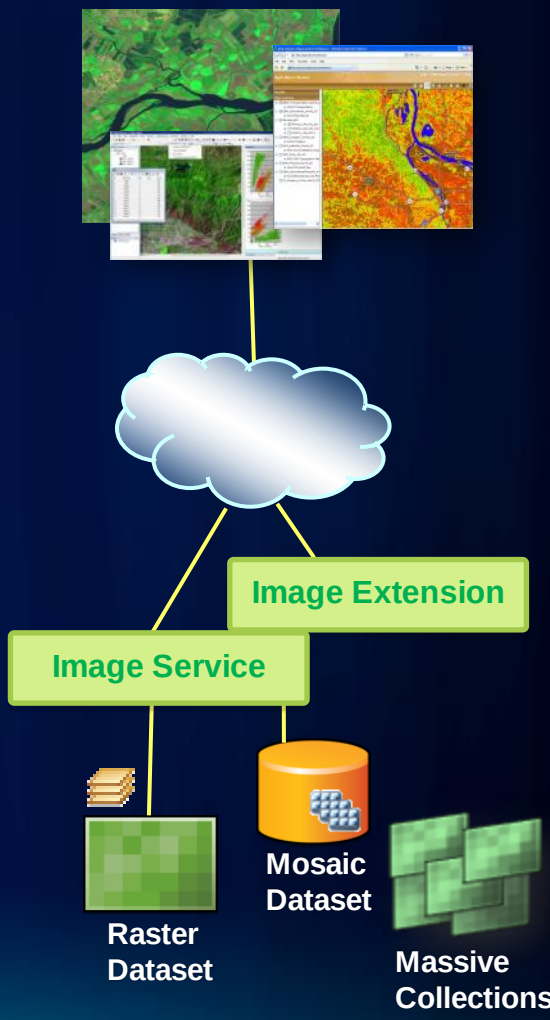


Native SQL access to databases

Enhanced Image Services

Optimized serving of Imagery and Rasters

- **Image Services**
  - Serve any raster dataset
  - Client defined projection, compression
  - Author and Client defined functions
  - SOAP/REST Improvements
- **Image Extension - was Image Server**
  - No longer a separate install
  - Serves Mosaic Datasets
    - New GeoDatabase Model
    - Large collections of imagery with
      - Dynamic Mosaicking
      - OnTheFly processing
  - **Improved Web Access**
    - Query, Identify and Download



Mosaic Datasets combine the best of Raster Catalogs and Image Service Definitions

Extending the Server

Server Object Extensions now support REST

- Create new GIS services with Server Object Extensions
- Java
  - Eclipse plug-in integration
- .Net
  - Visual Studio
- REST and SOAP support
  - Accessible from any ArcGIS Web Mapping API
  - And SOAP or REST capable client/environment

Enhanced OGC support

- Support for Time in WMS , KML and WCS Server.
- WFS:
  - Field aliases and visibility
  - *DefaultMaxFeatures* parameter
  - WFS-T edit non versioned feature classes
- WMS:
  - Improved SLD support
  - XSL-T templates with GetFeatureInfo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