

Esri Federal GIS Conference

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esri.com/fedcon



Managing Geospatial Content Production with Esri Production Mapping

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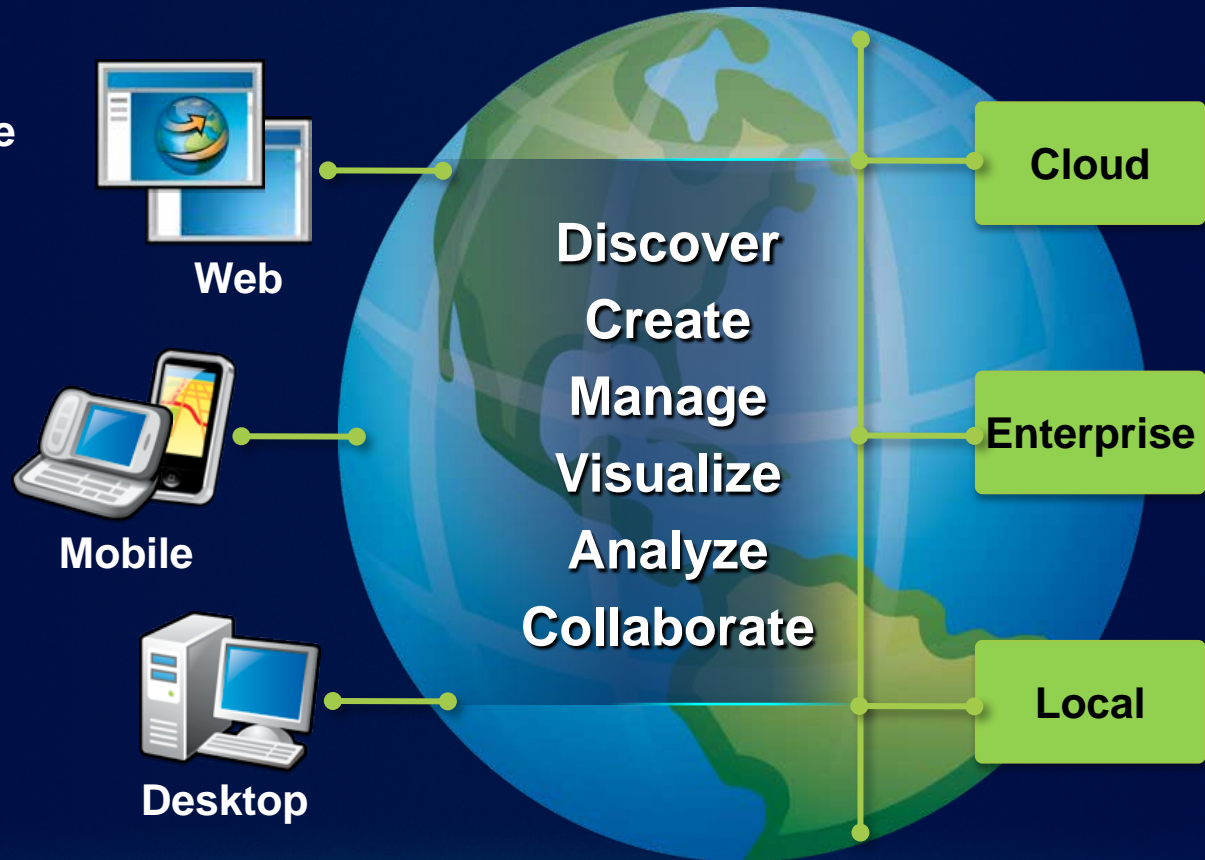
Agenda

1. **Business benefits of Production Mapping**
2. **Workflow and task management**
3. **Data management and editing**
4. **Quality control in data and map production**



ArcGIS 10 — A Complete System

Easier
More Powerful
and Everywhere



Approaches to Building an Enterprise GIS

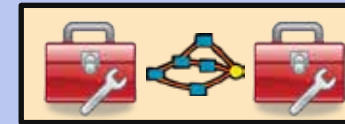
A spectrum of implementation patterns



Custom System
Custom code



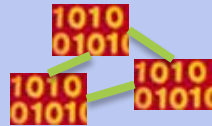
Component System
COTS components with
significant development



COTS System
Configured with minimal
development



Comparing Enterprise Implementations



Custom

Design based on detailed functional requirements

Emphasis on software development

Isolated environment

Static system



COTS

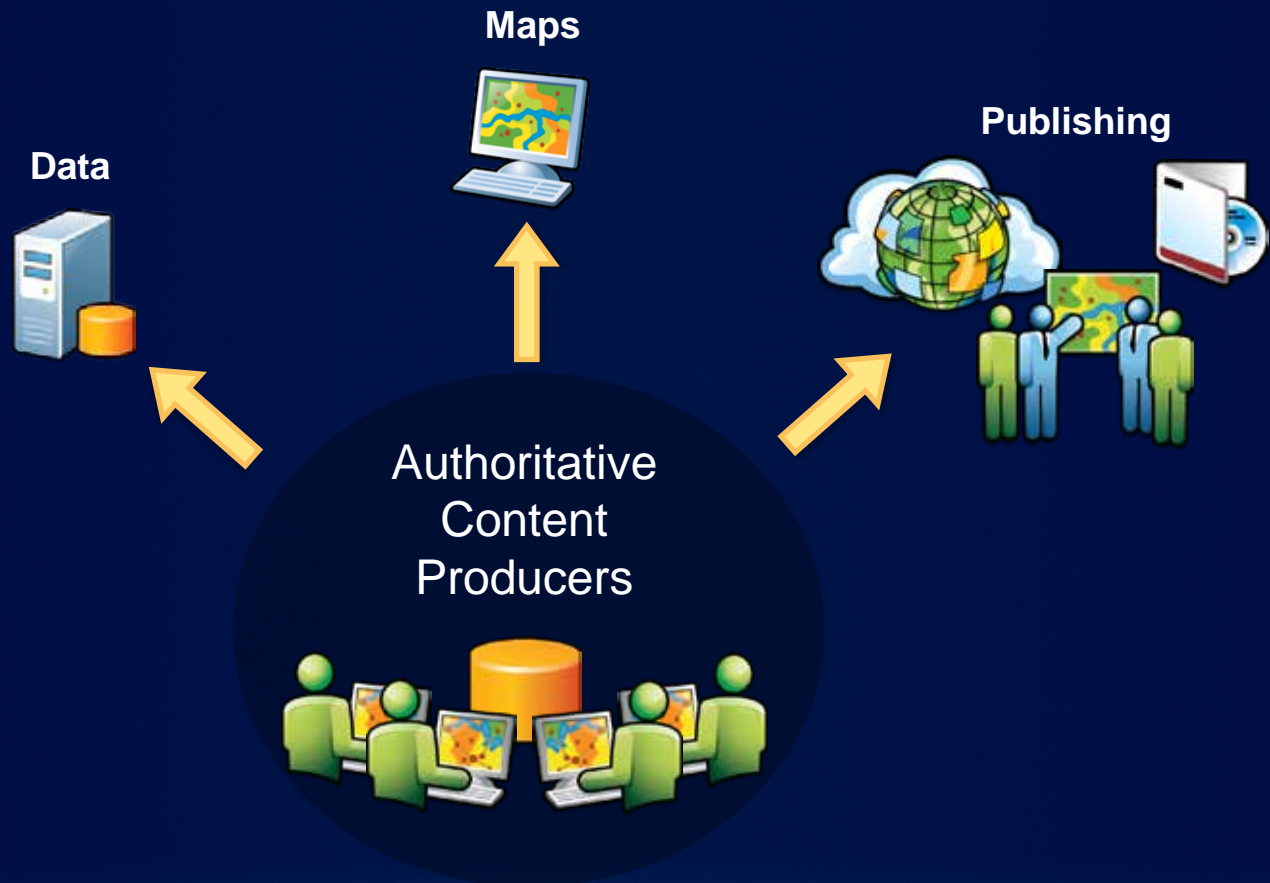
Design based on business goals and capability

Emphasis on workflows and configuration

Collaborative environment

Evolving system with COTS releases

Authoritative Content Producers



standardization, repeatability, batch processing

Common Expectations

Challenges

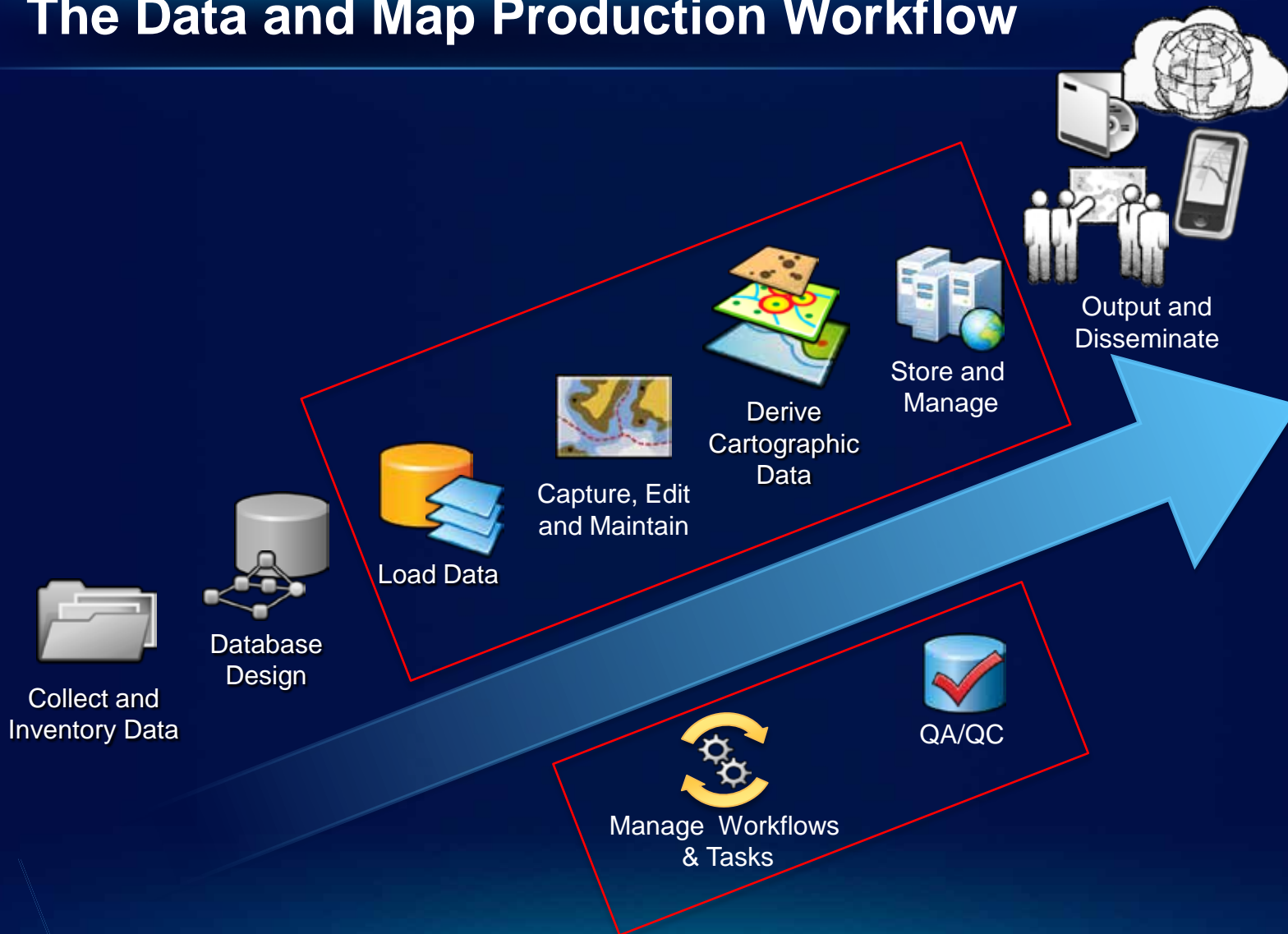
- Increasing demands and expectations
- Reduced funding and resources
- Increasing competition
- Steep technology curve

Solutions

- Authoritative content
- Standardized and streamlined
- Improve accuracy and production speed
- Reduce production cost
- Collaborative environment
- COTS technology



The Data and Map Production Workflow



Esri Production Mapping

Timely, cost-effective, authoritative data and map production

ArcGIS Workflow Manager
Task Assistant Manager

ArcGIS Data Reviewer

Data Loader

**Enhanced
Editing
Tools**

**Product
Library**

**Cartographic
Production
Tools**

Workflow Management



Why Manage Workflows and Tasks?

- Translate business goals into best practices
- Integrate business systems with clients and GIS staff
- Manage projects and resources
- Enforce standards and consistency
- Capture institutional knowledge



What is ArcGIS Workflow Manager?

- Enterprise workflow management application
- Server and Desktop components

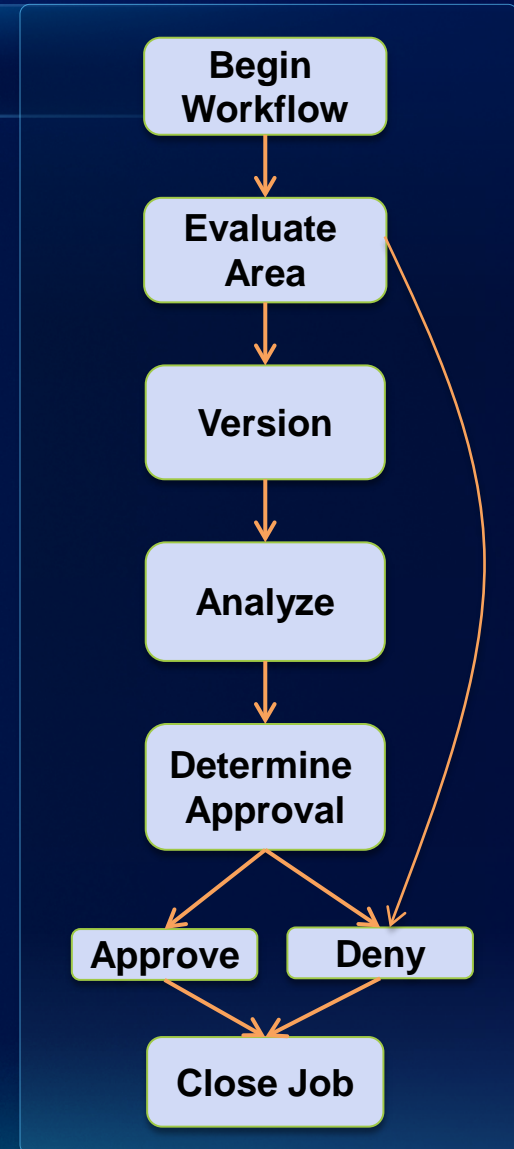
The screenshot displays the ArcGIS Workflow Manager web application interface. The main window is titled "ESRI | ArcGIS Workflow Manager | Web Edition". It features a navigation pane on the left with "Queries" and "Jobs" sections. The central area shows a map of the United States with a "Select a Job to Edit AIG" prompt. Below the map is a table of assigned jobs.

Assigned to	IC	Job Type	Name
Topic Bello	428	Fire Parameter St	Data Production 428
Topic Bello	1659	ArcGIS Integrati	AIG Integration 1659
Topic Bello	1665	Fire Parameter St	Fire Parameter Map Request 1665
Topic Bello	1681	Annual Yellow C	Job
Topic Bello	1682	ArcGIS Integrati	AIG Integration 1682
Topic Bello	1660	ArcGIS Integrati	AIG Integration 1660
Topic Bello	1671	ArcGIS Integrati	AIG Integration 1671
Topic Bello	836	Intro to JTI	Intro Job 836
Topic Bello	426	Intro to JTI	Intro Job 426

Overlaid on the main interface are two smaller windows. The top window, titled "AIGQueryResults: List View", shows a table of job details with columns for Name, Assigned To, and Job Type. The bottom window, titled "JobWorkflow", displays a flowchart of a workflow process with steps like "Request for Approval", "Request for Data", "Request for Map", and "Request for Review".

ArcGIS Workflow Manager

- Standardize repeat processing
- Automate tasks
- Assign resources and handoff
- Notifications
- Track and manage work



Defining Workflows

How do I “model” business processes?

- Outline steps
- Configure steps

Evaluate
Area

Version

Analyze

Determine
Approval

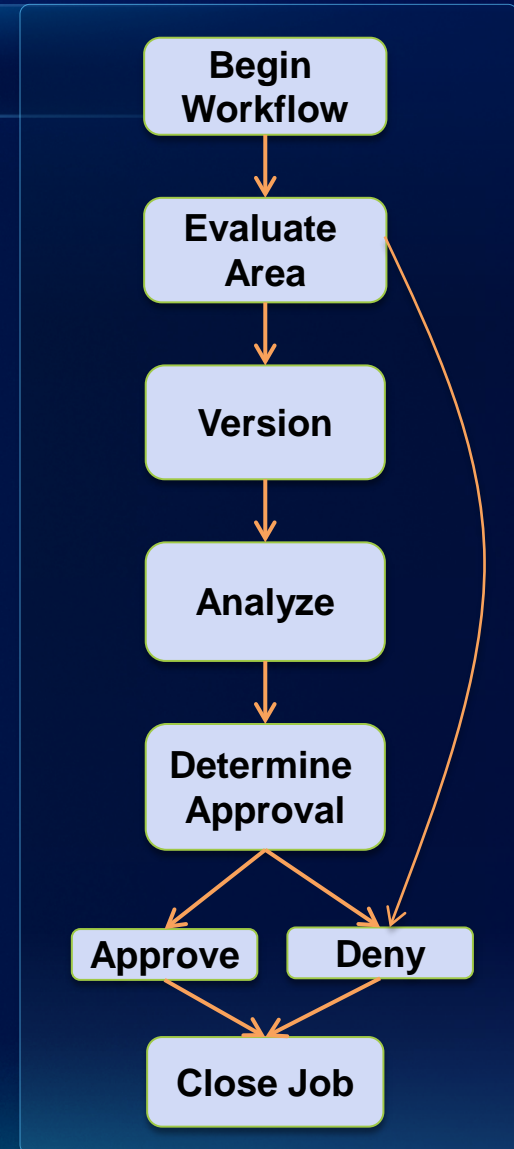
Approve

Deny

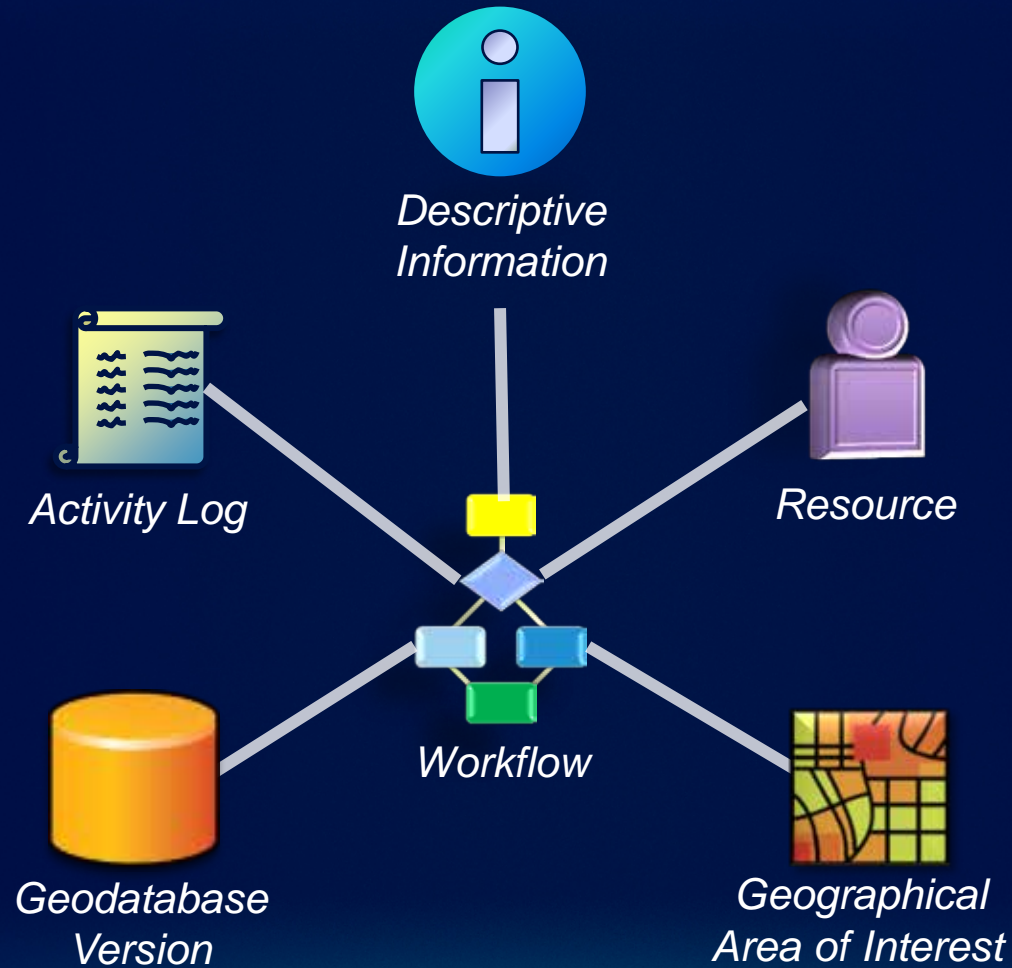
Defining Workflows

How do I “model” business processes?

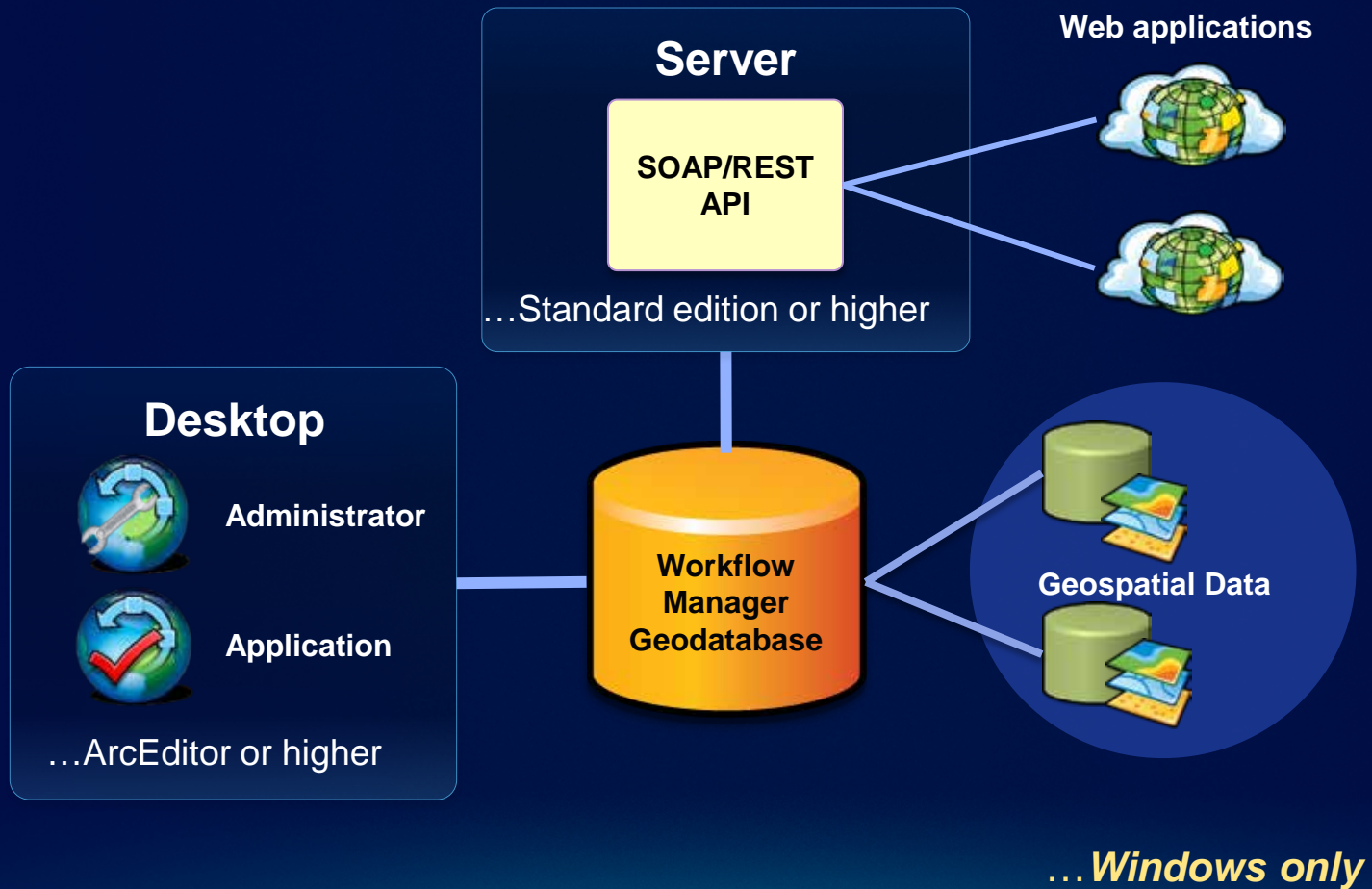
- Outline steps
- Configure steps
- Connect steps
- Update job properties



Components of a Job



Workflow Manager System Framework



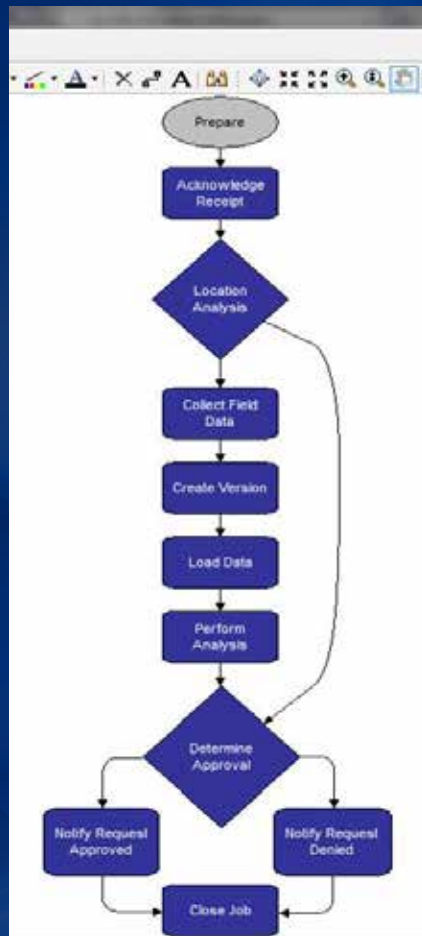
Customization Options

- ArcGIS WMX Viewer (for Flex and JavaScript)
- ArcGIS Viewer (for Flex, JavaScript and SilverLight)
- ArcGIS APIs (for Flex, JavaScript and SilverLight)



Workflow Management

Demonstration

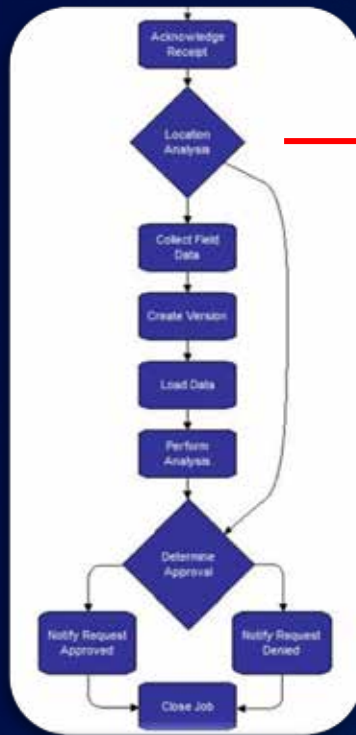


Task Management and Data Editing

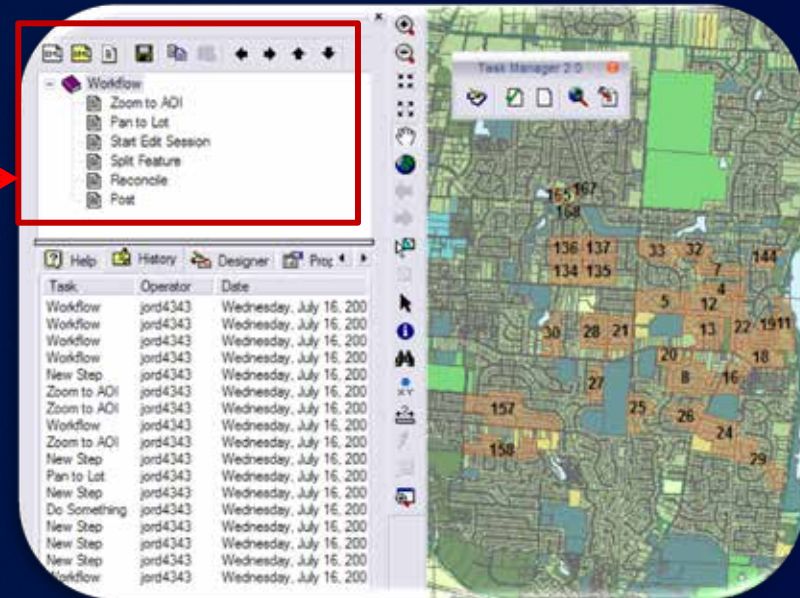


Manage workflows at multiple levels

- Macro – link to multiple systems at a high level
- Micro – tasks inside ArcMap



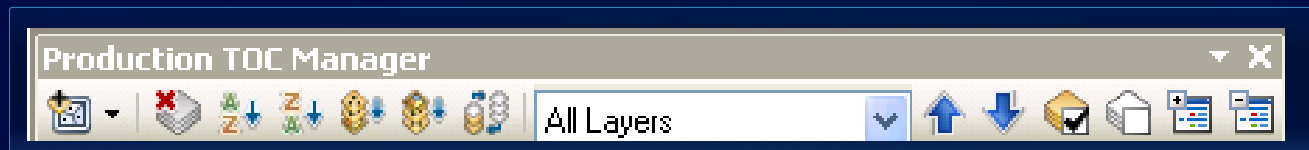
Workflow Manager



Task Assistant Manager

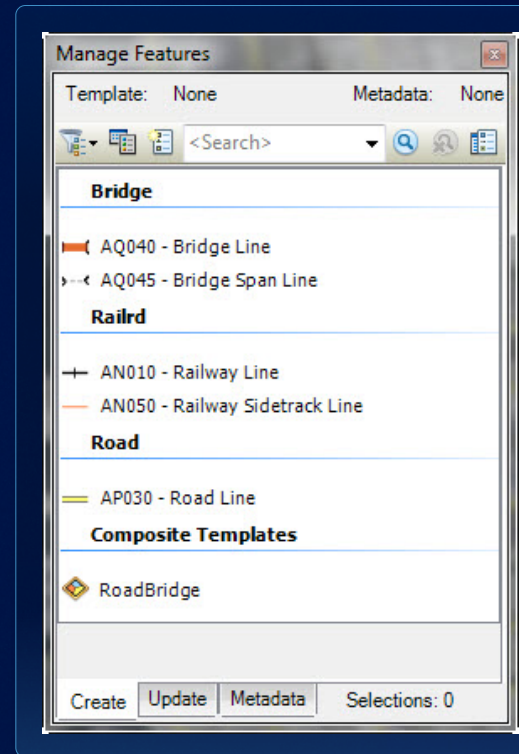
Enhanced Editing Tools

- Extensive tool sets for editing and managing data



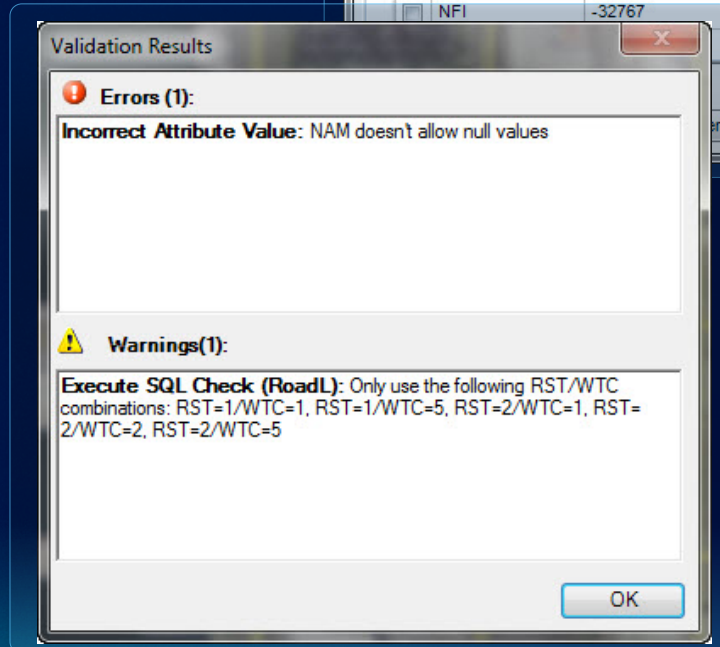
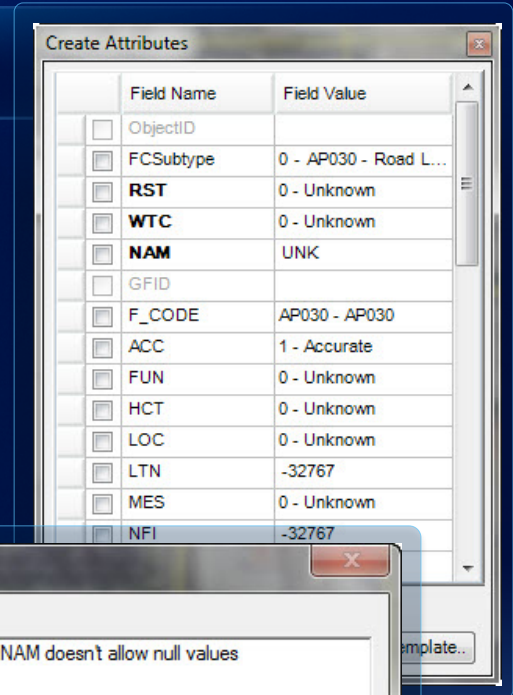
Enhanced Editing Tools

- Extensive tool sets for editing and managing data
- Composite templates



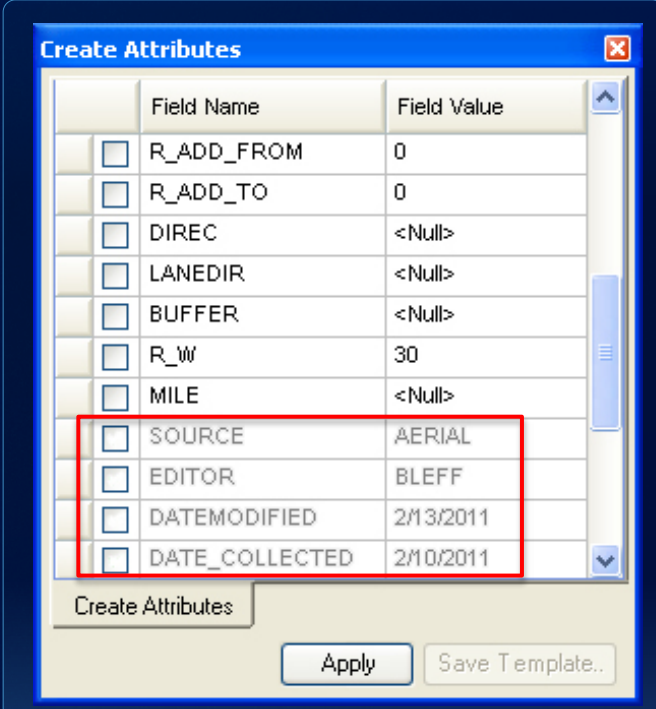
Enhanced Editing Tools

- Extensive tool sets for editing and managing data
- Composite templates
- Configurable attribute display
- On-the-fly attribute validation



Enhanced Editing Tools

- Extensive tool sets for editing and managing data
- Composite templates
- Configurable attribute display
- On-the-fly attribute validation
- Automated feature-level metadata tracking



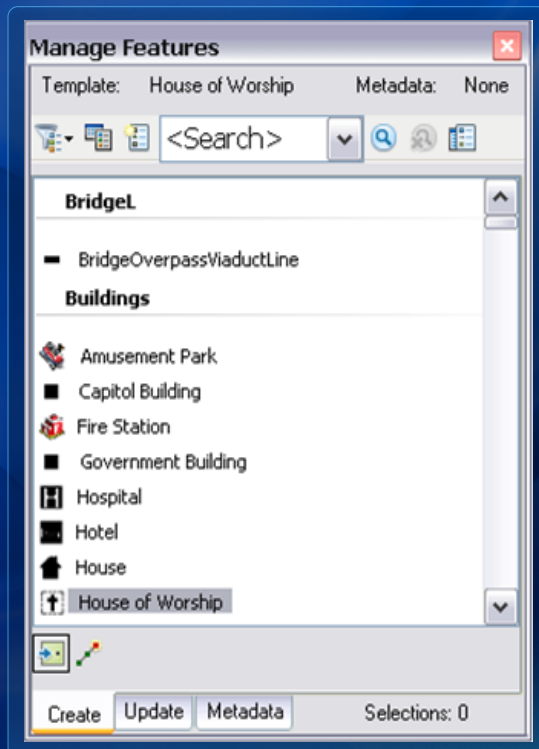
The screenshot shows a dialog box titled "Create Attributes" with a table of field names and values. The table has two columns: "Field Name" and "Field Value". The rows are as follows:

	Field Name	Field Value
<input type="checkbox"/>	R_ADD_FROM	0
<input type="checkbox"/>	R_ADD_TO	0
<input type="checkbox"/>	DIREC	<Null>
<input type="checkbox"/>	LANEDIR	<Null>
<input type="checkbox"/>	BUFFER	<Null>
<input type="checkbox"/>	R_W	30
<input type="checkbox"/>	MILE	<Null>
<input type="checkbox"/>	SOURCE	AERIAL
<input type="checkbox"/>	EDITOR	BLEFF
<input type="checkbox"/>	DATEMODIFIED	2/13/2011
<input type="checkbox"/>	DATE_COLLECTED	2/10/2011

At the bottom of the dialog box, there is a "Create Attributes" button, an "Apply" button, and a "Save Template.." button. A red box highlights the last four rows of the table.

Data Editing & Task Management

Demonstration



Data Quality Control



Defining Quality



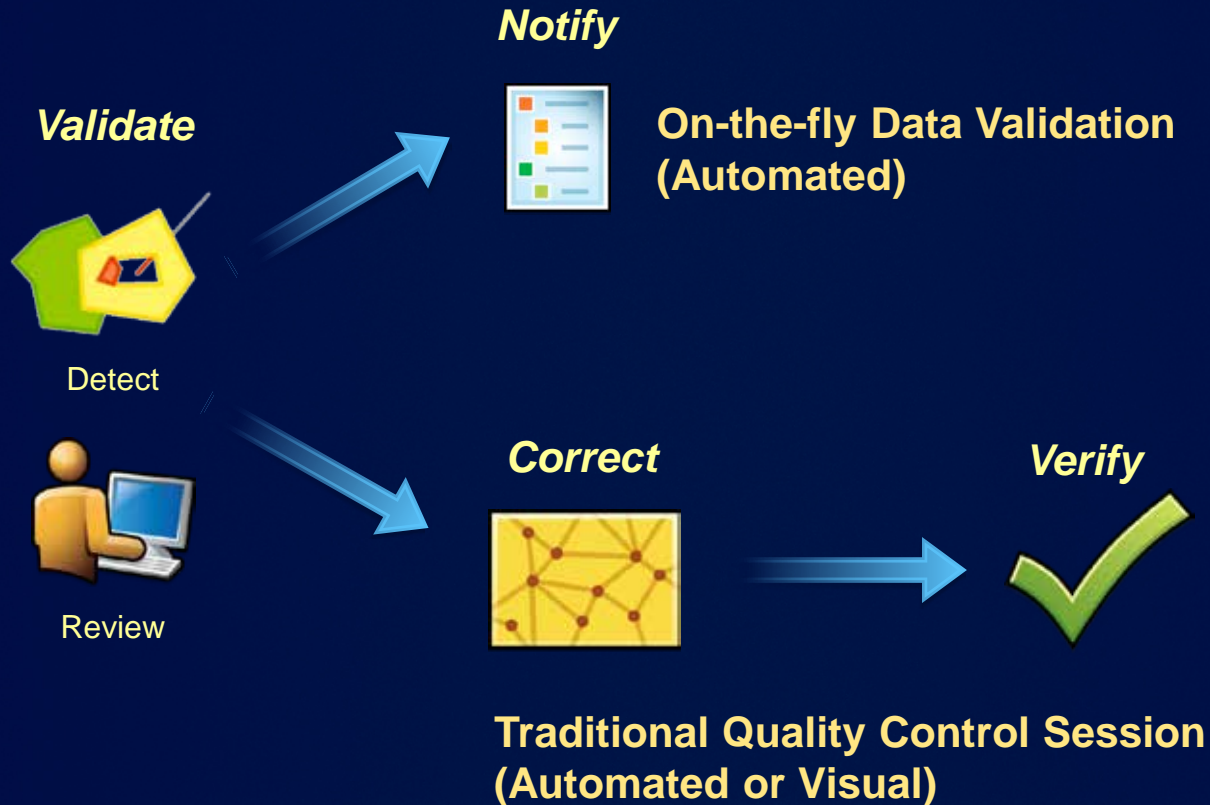
Business Perspective

- Intended purpose and use
- Client requirements
- Technical specifications
- Industry standards

Technical Perspective

- Positional Accuracy
- Attribute Accuracy
- Completeness
- Logical Consistency
- Lineage

How Does Quality Control Work?



Types of Quality Control



Automated Quality Control

**Fast, consistent
and repeatable**

**Objective and
provides 100%
coverage**



Visual Quality Control

**As subjective as
needed to focus on
priority areas**

**Better for finding
patterns and missing
elements**

Topology and ArcGIS Data Reviewer



Topology

Confined to feature datasets

Extensive for spatial checks

Alters data within tolerance setting



Data Reviewer

Multiple file formats

Spatial and non-spatial

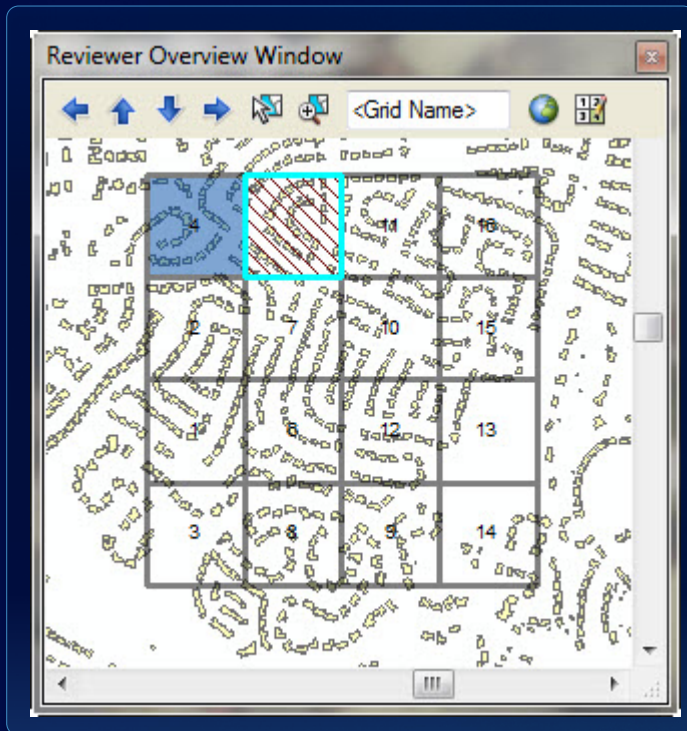
Configurable tolerance

Data filtering

Correction and verification tracking

Handles exceptions and error duplication

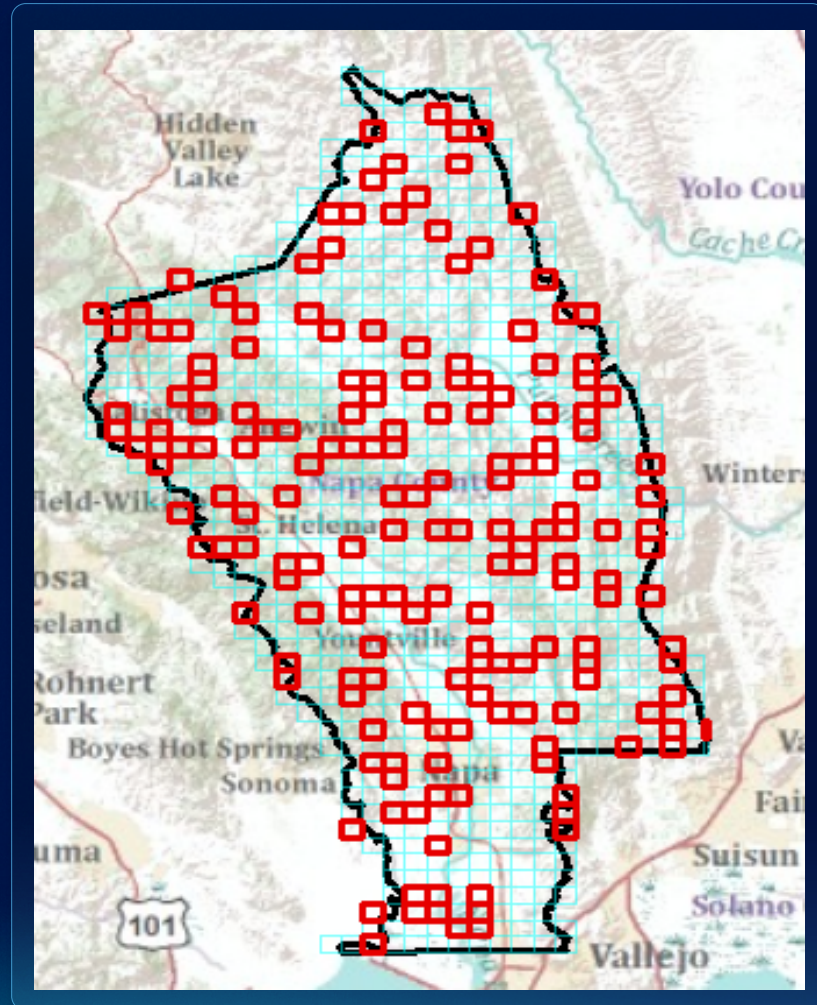
Systematic Review



- Custom overview grid
- Reviewer Overview Window

Sampling

- Visual or automated purposes
- Sample data elements
- Sample map grids
- Error reporting

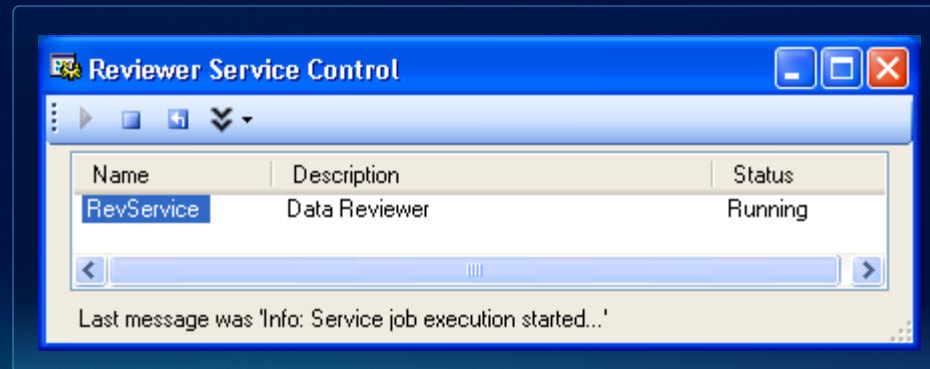
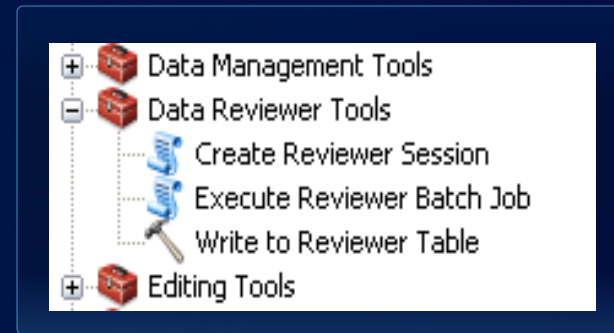


Data Batch Validation Options

Inside ArcMap

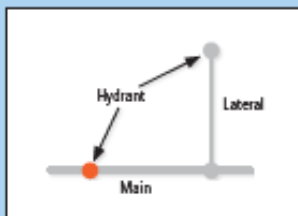
Outside ArcMap

- Step in Workflow Manager
- Windows Service
- Within a Python script
- From ArcToolbox
- Command Line




Quality Control

Demonstration



LAND USE	DESCRIPTION
000	UNCLASSIFIED
AGR	AGRICULTURE
SDP	PLAN
IND	INDUSTRIAL



Color-coded land use shapes: AGR (green), IND (yellow), and NRR (orange).

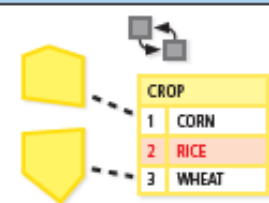


Diagram showing crop types (CORN, RICE, WHEAT) associated with land use shapes.

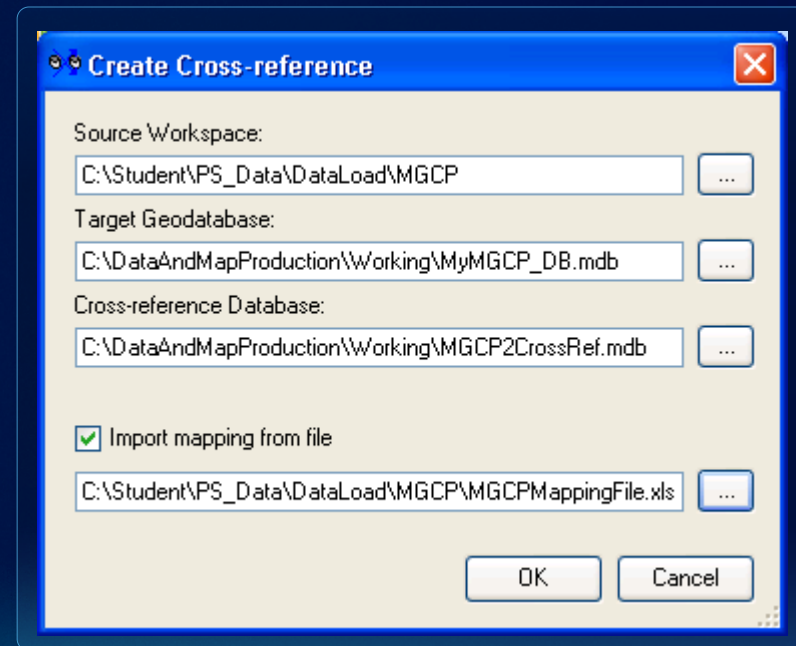
CROP	
1	CORN
2	RICE
3	WHEAT

Additional Tools and Resources



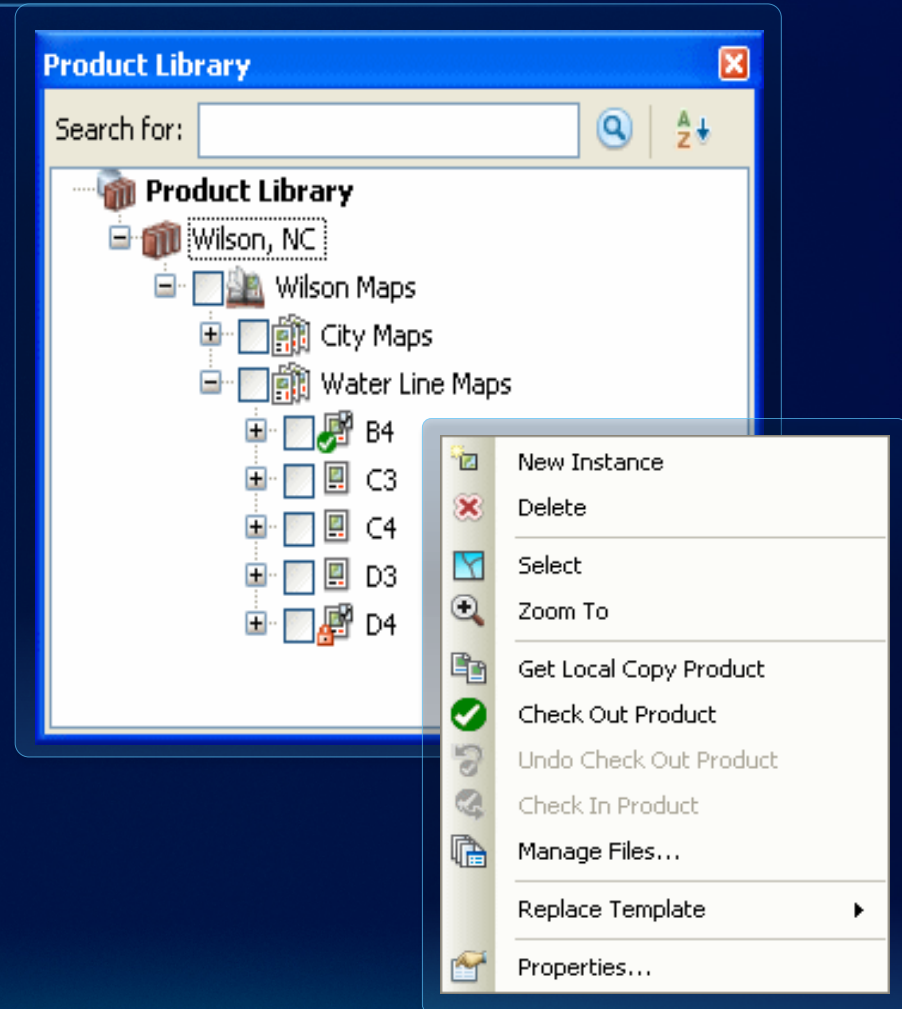
Data Loader

- Repeatable way to batch load data
- Uses a cross-reference database



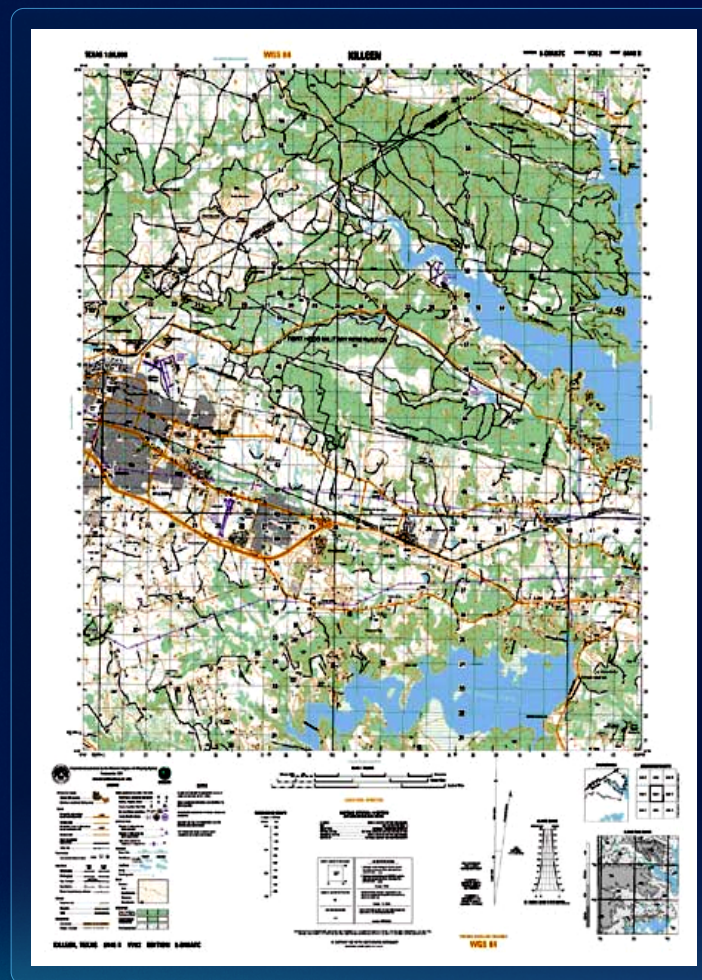
Product Library

- **Centralized management of production rules, maps and documents**
- **Version management**
- **Check in and out**



Cartographic Production Tools

- Grid and graticule creation
- Views
- Visual specifications tools
- Dynamic table element
- Layout control



Resources – Production Mapping

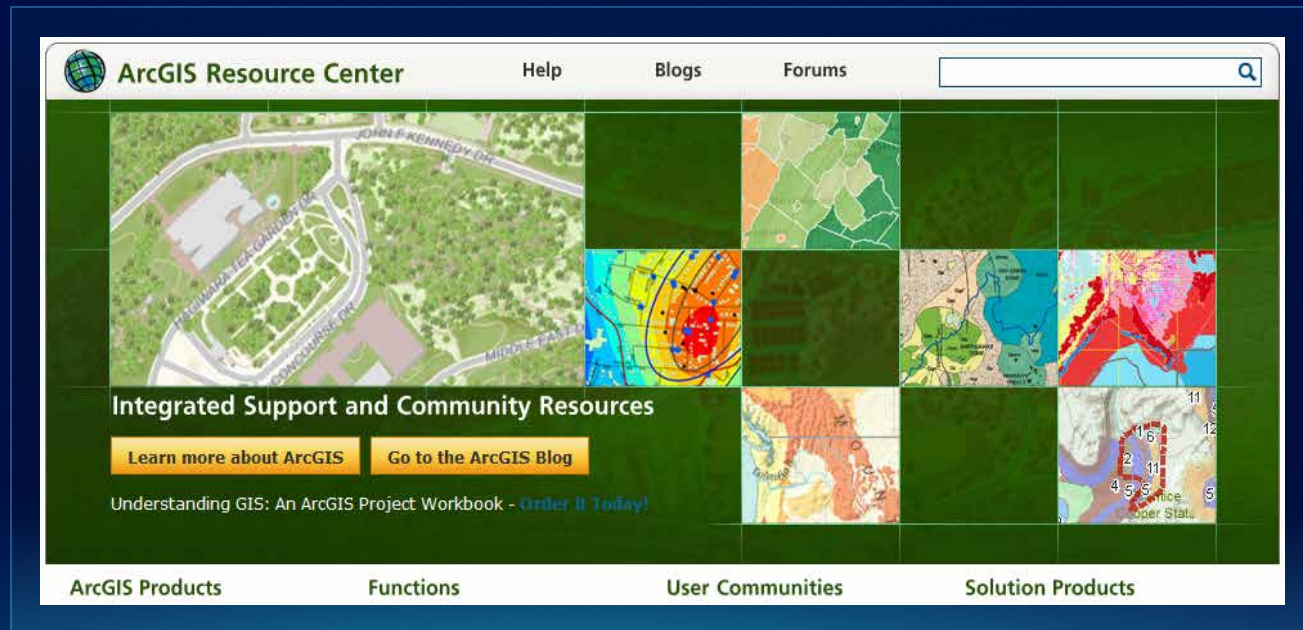
Resource Center - resources.arcgis.com/

Product Description - www.esri.com/

Help - help.arcgis.com/

Training- www.esri.com/training

Tech Workshops and Jumpstarts



Managing Geospatial Content Production with Esri Production Mapping

**Capturing
business
processes**



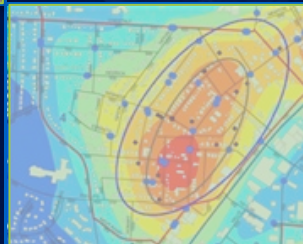
**Quality
Control**



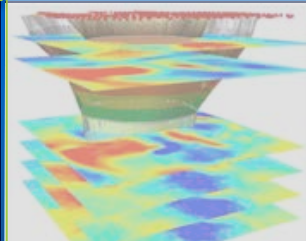
**COTS
Technology**



**Data editing
and map
production**



**Managing
workflows
and tasks**



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Upcoming Events (www.esri.com/events)

March 8 - MeetUp at Esri (Vienna, VA)

April 12 - MeetUp in DC area (location TBD)

Mar 24-27 – Esri Partner Conference (Palm Springs, CA)

Mar 26-29 – Esri Developer Summit (Palm Springs, CA)

July 21-24 – Esri Homeland Security Summit (San Diego, CA)

July 23-27 – Esri International User Conference (San Diego, CA)



Friday Closing Session and Hosted Lunch

- **Join conference attendees for lunch and closing session**
- **11:30 am – 1:30 pm**
- **Ballrooms A-C, Third Level**
- **Closing Speaker – Chris Smith, United States Department of Agriculture**
- **Wrap-up and request for feedback with Jack Dangermond**



Thank You

Please complete session evaluation form

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