ArcGIS Workflow Manager
An Introduction
Michael Broadbent and Aarthi Dwarakanath
Our Plan Today

- Reasons for process improvement of GIS and non-GIS workflows
- Overview of ArcGIS Workflow Manager
  - Configure
  - Organize
  - Centralize
  - Execute Workflows
- Additional Resources
Our Organizations

People

Processes

Software/Hardware
What is ArcGIS Workflow Manager?

Configure & Create  Execute & Manage  Evaluate & Improve

WORKFLOW MANAGER PROCESS

A framework for operational efficiency
Benefits of Work Management

Reduce Risk and Uncertainty

Enhance Communication

Improve Data Quality and Accuracy

Reduce Production Cost

Optimize Resource Allocation

Simplify Process
System Framework

ArcGIS Workflow Manager: An Introduction
ArcGIS Supports the Enterprise

Knowledge Workers

Executive Access

Public Engagement

Work Anywhere

Enterprise Integration

GIS Professionals

ArcGIS - Workflow management

Web GIS

ArcGIS Workflow Manager: An Introduction
Meet the Team!

- Business/Product Manager
- Survey Manager
- GIS Specialist
- Field Acquisition
Key Features
Workflow Manager

- User Reassignment
- Geographical Area of Interest
- Graphical Representation
- Data Entry Form
- Identity Based Access
- Descriptive Information
- Report Generation
- Document Integration
- Geodatabase
- Email Notifications
- GP Processing
Anatomy of a Job

- Descriptive Information
- Activity Log
- Resource
- Workflow
- Geodatabase Version/Geospatial Data
- Geographical Location of Interest

ArcGIS Workflow Manager: An Introduction
Anatomy of a Workflow

Start

Check Version

Create version

Clip Imagery

Prepare

Inventory Update

Documentation

Edit Data

QC Data

Notify

Starting step

Conditional path

Concurrent steps

Step

Path

Merge Point (Dependence)

ArcGIS Workflow Manager: An Introduction
Workflow Assignment

- Automatically route work
- Target specific groups
- Varying staff skills
- Manage large teams
Identity Stores and Credentials

• Operating System Users
  - Active directory
  - Manual entry

• ArcGIS Online/Portal Users
Workflow Manager Administrator Roles

- **Basic Administrator**
  - Manage configuration items

- **Workflow Author**
  - Designs and authors Workflows

- **Workflow Developer**
  - Extends workflow with custom scripts/code
Application Access Control

- **Control User actions**
  - Creating jobs
  - Assigning jobs
  - Closing jobs

- **Show/hide functionality**
  - History
  - Map view tab
  - Reports
Software Demonstration
Find Properties in a Flood Zone

Survey Manager
Create a Workflow and Job
• Workflow to find properties
• Assign the job to the GIS Specialist

GIS Specialist
Update the Flood Zone
• Update the flood boundary
• Find properties
• Send data to Field to inspect

Field Crew
Inspect Property and Mark Job as Complete

Business Manager
View Job Progress, History and Reporting
Demo Recap
Geographic Location of Interest (LOI)

- Spatial orientation of all work
- Restrict work to a spatial extent
- Location of Interest can be:
  - Polygon (AOI) or Point (POI)
Geoprocessing

Data Processing
- Clip data
- Check out/in data

Spatial Analysis
- Spatial overlay
- Calculate field

More Edits?
Check In Replica
Clean Up

ArcGIS Workflow Manager: An Introduction
Default and Custom Properties

**Default Properties**
- Data
- Priority
- Dates
- Assignee
- Owner

ArcGIS Workflow Manager: An Introduction
Default and Custom Properties

**Default Properties**
- Data
- Assignee
- Dates
- Owner
- Priority

**Custom Properties**
- Parcel ID
- Station ID
- Vessel ID
- Meter Number
- Surveyor Info

ArcGIS Workflow Manager: An Introduction
Version Management

• Automate version management
  - Create version per job/user
  - Reconcile and post changes
Version Management

- Automate version management
  - Create version per job/user
  - Reconcile and post changes
  - Cleanup versions
Map Management

- Step to open a map in preconfigured state
  - Predefined layers and cartography in 2D and 3D
  - Zooms to job’s location of interest
  - Update layer source
Tasks and Workflow Manager
Micro and Macro workflows

- Tasks are tailored for repeatable GIS tasks in ArcGIS Pro
- Workflows are Enterprise wide
- Workflow Manager steps can load Tasks

ArcGIS Workflow Manager: An Introduction
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- View Job Progress, History and Reporting
Demo Recap
Alerts and Notifications

- **Job Notifications**
  - Assign Job
  - Create Job
  - Close Job

- **Workflow Notifications**
  - QC step alert
  - Data received

- **Spatial Notifications**
  - Feature modification
Document Management

- Attachments are a useful tool
  - Link to Files
  - Link to websites
  - Store items directly in the workflow database
Offline Jobs

• Consistent workflows across organizations is key!
• Provide documentation for staff in and around
• Support remote staff
Reports

• One stop shop for all job information
• Built-in reporting capabilities
• Database tables
  - Support additional reporting tools
Enterprise Offering

- Non-GIS staff
- Ready to use web apps
  - No programming
Software Demonstration
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Demo Recap
Extensibility
Developer Options

- Integrate with other systems
  - Extended Properties
  - Desktop APIs
  - Web APIs
- Dashboards for GIS Work
Workflow Manager Python API

- Automate your business workflow through Python
- Integrate with other Python and Geoprocessing functionality
### Compatibility with ESRI Apps

<table>
<thead>
<tr>
<th>App</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce</td>
<td>Create Workforce Assignments from Workflow Manager</td>
</tr>
<tr>
<td>Collector</td>
<td>Create Feature Service for collection and distribute the URL using Workflow Manager</td>
</tr>
<tr>
<td>Operations Dashboard</td>
<td>See the Status of Jobs in your Organization</td>
</tr>
<tr>
<td>Web AppBuilder Widget</td>
<td>Create Workflow Manager jobs</td>
</tr>
<tr>
<td><em>Coming soon</em></td>
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</tbody>
</table>

*Samples available on Github*
Team – Wrap Up

Project tracking with the Javascript Viewer

Ops Dashboard Widget
Team – Wrap Up

Job Creation, Step Help, Task Integration

Standard Workflows and Templates
Team – Wrap Up

GP and Python Integration, Extended Properties, Version Management
Resources

• Geonet

• Product Page
  - http://esri.com/workflowmanager

• Training
  - http://training.esri.com/

• Samples
  - https://github.com/Esri/workflowmanager-viewer-js
  - https://github.com/Esri/workflowmanager-samples
<table>
<thead>
<tr>
<th>Session Title</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esri Production Mapping: Distributed Generalization Workflows</td>
<td>12:30pm – 1:15pm</td>
<td>SDCC Demo Theatre 03</td>
</tr>
<tr>
<td>ArcGIS Workflow Manager: Managing Workflows via the Server Extension</td>
<td>1:30pm – 2:15</td>
<td>SDCC Demo Theatre 08</td>
</tr>
<tr>
<td>ArcGIS Workflow Manager and ArcGIS Workforce Integration</td>
<td>4:30pm – 5:15</td>
<td>SDCC Demo Theatre 06</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
<td>Location</td>
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<tr>
<td>8:30am – 9:45</td>
<td>ArcGIS Extensions: Tools for Improving Data and Map Production</td>
<td>SDCC Demo Theatre 06</td>
</tr>
<tr>
<td>9:30am – 10:15</td>
<td>ArcGIS Workflow Manager: Getting Started with Out-Of-The-Box Templates</td>
<td>SDCC Demo Theatre 06</td>
</tr>
<tr>
<td>10:15am – 11:30</td>
<td>ArcGIS Workflow Manager: Advanced Topics</td>
<td>SDCC Room 31</td>
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<tr>
<td>11:30am – 12:15</td>
<td>ArcGIS Workflow Manager: Integrate Tasks into Your Workflow Process</td>
<td>SDCC Demo Theater 06</td>
</tr>
<tr>
<td>3:30pm – 4:15</td>
<td>ArcGIS Workflow Manager: Integrating Geoprocessing and Python into Your Business Processes</td>
<td>SDCC Demo Theater 06</td>
</tr>
<tr>
<td>3:30pm – 4:15</td>
<td>Esri Production Mapping: Automate Map Production with ArcGIS Workflow Manager</td>
<td>SDCC Demo Theater 03</td>
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## Sessions and Demonstrations

**Thursday – July 13th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Room</th>
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<tbody>
<tr>
<td>8:30am – 9:45</td>
<td>Supporting Daily Workflows with Tools</td>
<td>SDCC - Room 29 A</td>
</tr>
<tr>
<td>3:15pm – 4:30</td>
<td>ArcGIS Extensions: Tools for Improving Data and Map Production</td>
<td>SDCC - Ballroom 06 B</td>
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</tbody>
</table>
Please Take Our Survey on the **Esri Events App**!

**Download the Esri Events app and find your event**

**Select the session you attended**

**Scroll down to find the survey**

**Complete Answers and Select “Submit”**