



# ArcGIS Workflow Manager: An Introduction

Tope Bello and Michael Broadbent

# Our plan today

- **Definition of workflow**
- **Importance of standardizing GIS and non-GIS workflows**
- **ArcGIS Workflow Manager allows you**
  - **Configure**
  - **Organize**
  - **Centralize**
  - **Execute Workflows**
- **Additional Resources**

# What is a Workflow?

- A workflow is a sequence of steps that a piece of work has to pass from initiation to completion.



Planning



Forest Management



Crime Analysis



Emergency  
Management



Human Health



Are your workflows **automated** and **documented** today?

# Common Methods of Managing Work

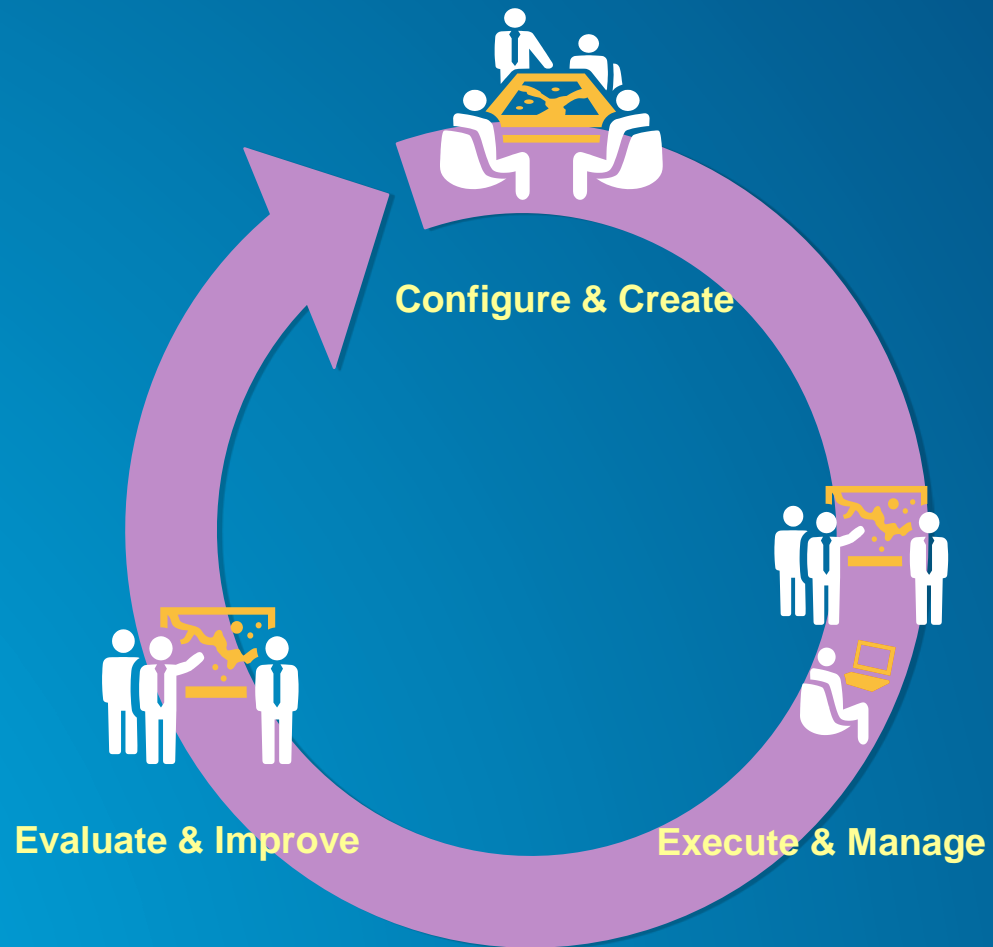
- Individual approach
- Mock-up workflows
- Whiteboards
- Ticketing systems
- Spreadsheets



# Benefits of Work Management

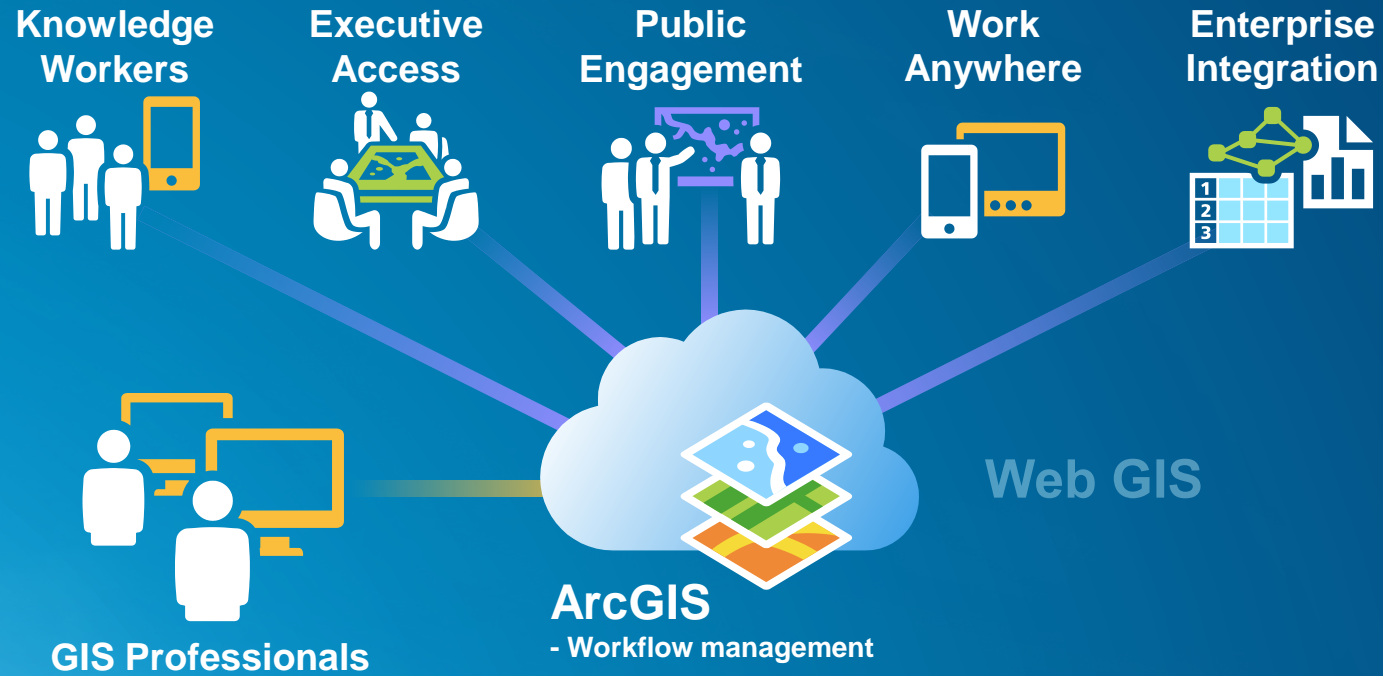
**Efficient**  
**Consistent**  
**Accurate**  
**Flexible**  
**Automate**  
**Collaborative**  
**Centralize**  
**Quality**  
**Enterprise**  
**Cost-Saver**  
**Integrated**  
**Consolidated**  
**Efficient**

# What is ArcGIS Workflow Manager?



*A framework for operational efficiency*

# ArcGIS Supports the Enterprise

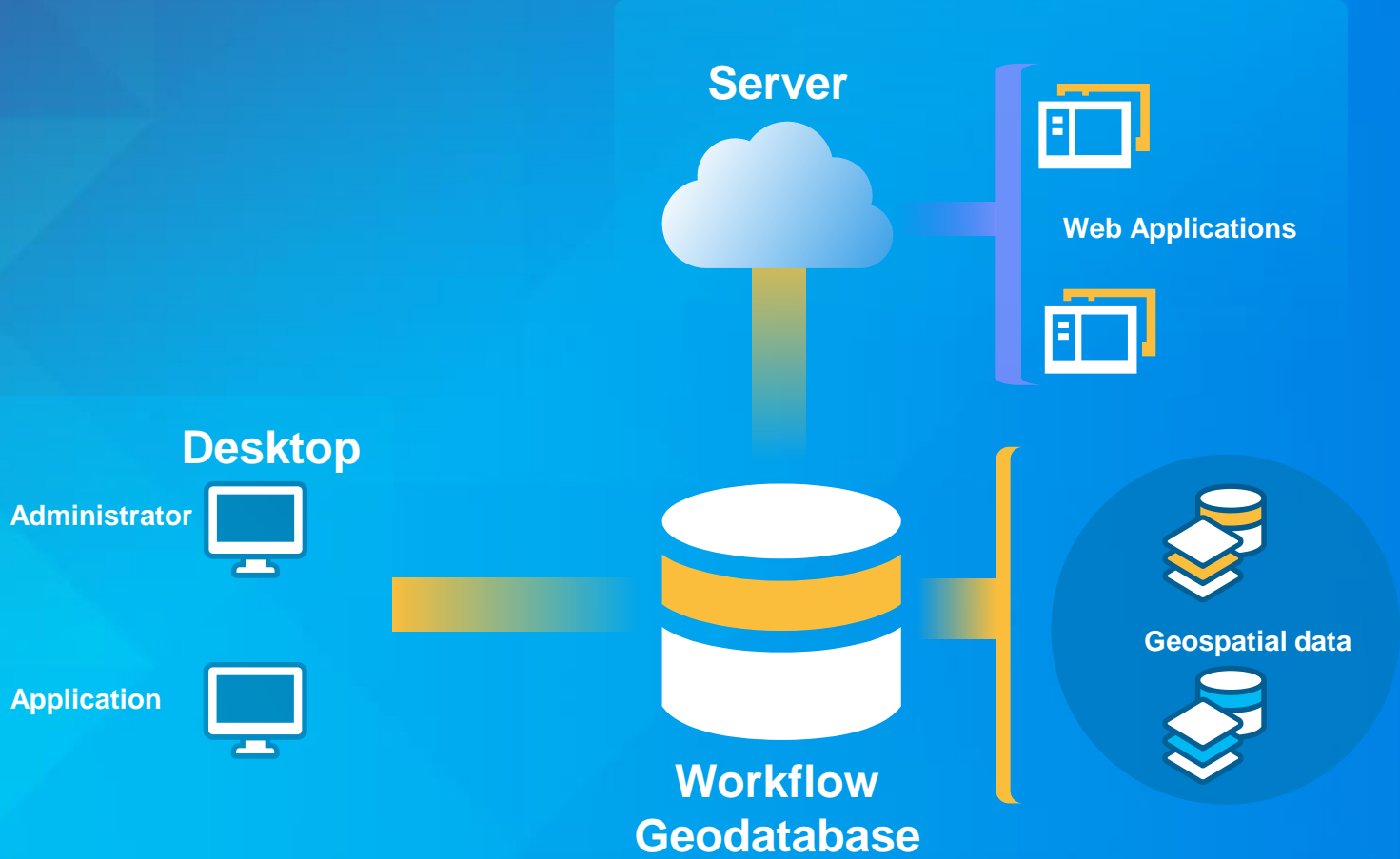


**Making Mapping and GIS  
Available Across Your Organization**

*Transforming the Role of GIS*



# System Framework



# Workflow Manager Administrator Roles

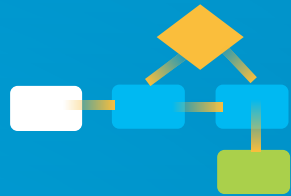
- **Basic Administrator**
  - Manage configuration items
- **Workflow Author**
  - Designs and authors Workflows
- **Workflow Developer**
  - Extends workflow with custom scripts/code



A stylized map of the United States is shown in the background, rendered in shades of blue and purple. The map is overlaid with a complex geometric pattern of overlapping squares and triangles in various shades of purple and blue. The text 'Key Features' is prominently displayed in white on a dark purple rectangular background that spans across the middle of the map.

# Key Features

# Workflow Management System



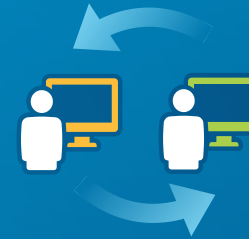
**Graphical  
Representation**



**Data Entry  
Form**



**Identity  
Based  
Access**



**User  
Reassignment**



**Report  
Generation**



**Document  
Integration**



**Geospatial  
Integration**



**Email  
Notifications**

...and more

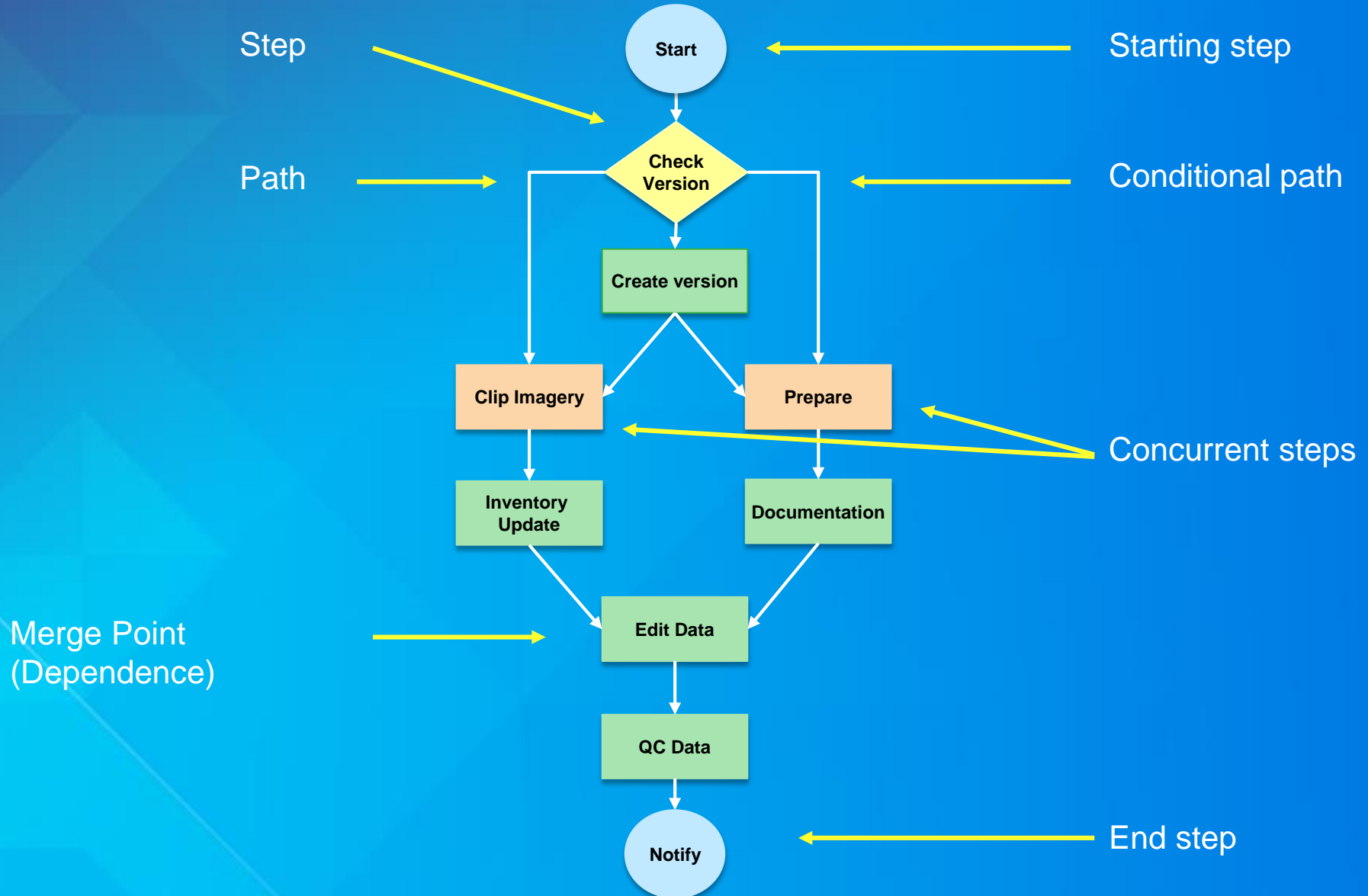
# Workflows

- **Document and automate processes**
- **Graphical representation of the work**
  - Canvas with shapes
- **Organized as Jobs**
  - Create data packet for field data collection
  - Updating data for vegetation boundaries

# Anatomy of a Job

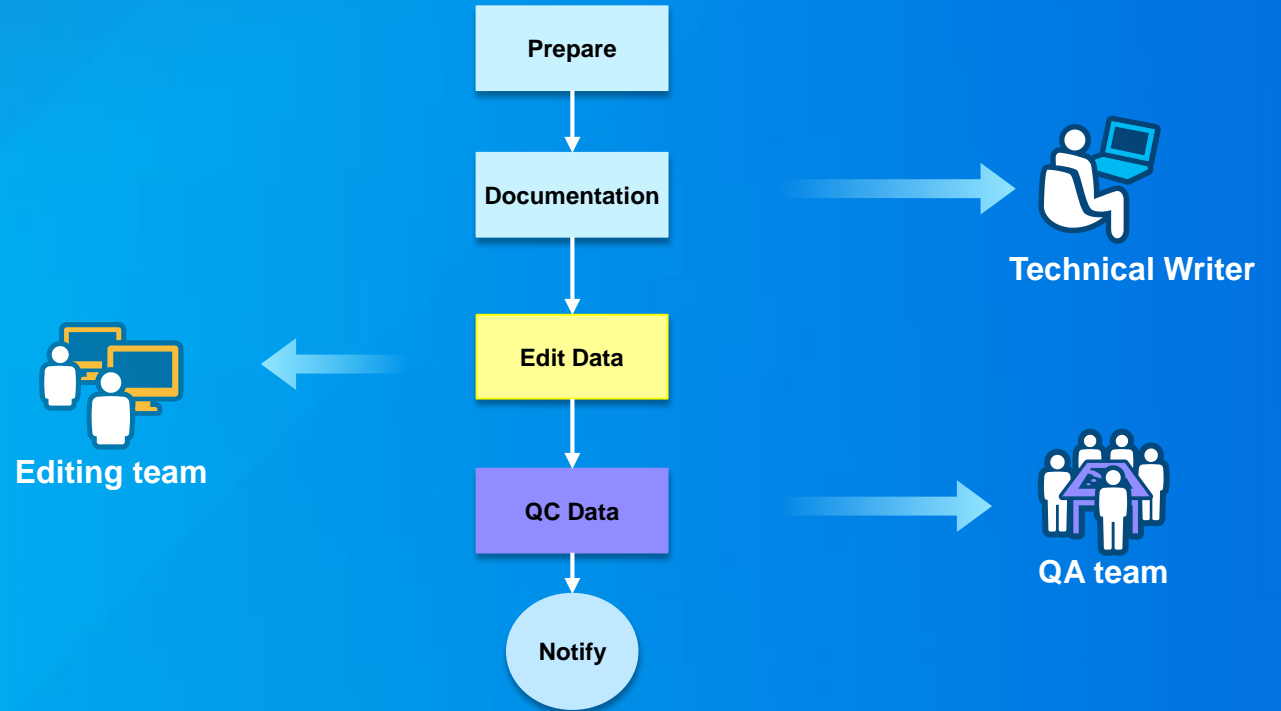


# Anatomy of a Workflow



# Workflow Assignment

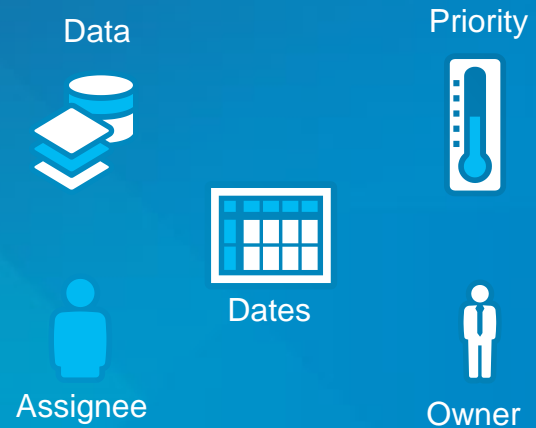
- Automatically route work
- Target specific groups
- Varying staff skills
- Manage large workforces



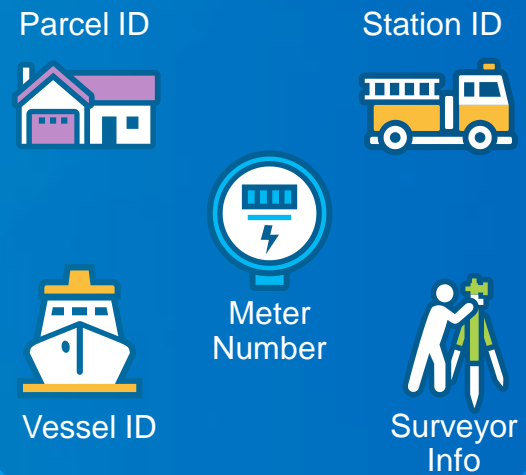


# Default and Custom Properties

## Default Properties



## Custom Properties



# Identity Stores and Credentials

- **Operating System Users**
  - Active directory
  - Manual entry
- **ArcGIS Online/Portal Users**



ACCESS ●●●○○  
SECURITIES ●●○○○  
CAPABILITIES ●●●○○



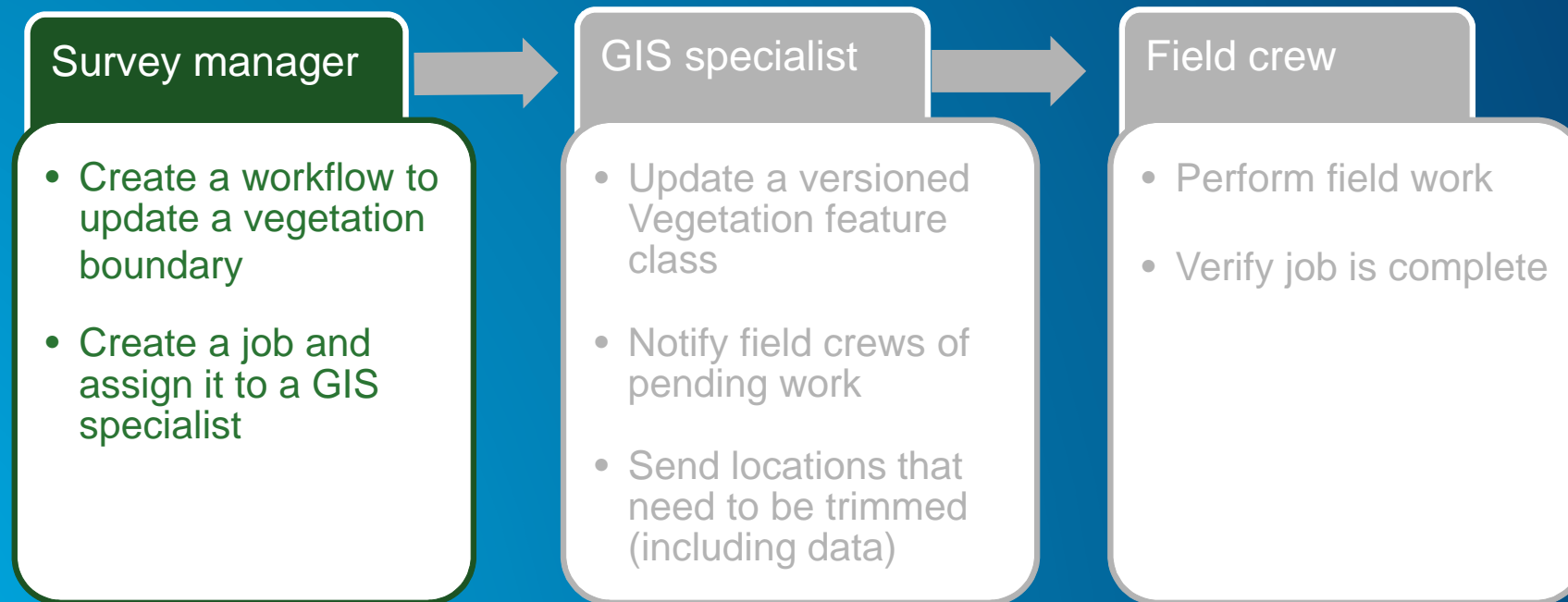
# Application Access Control

- **Control User actions**
  - Creating jobs
  - Assigning jobs
  - Closing jobs
- **Show/hide functionality**
  - History
  - Map view tab
  - Reports



# Software Demonstration

- Is vegetation growth encroaching on a rail line?



A stylized map of the United States is shown in the background, rendered in shades of blue and purple. The map is overlaid with a complex geometric pattern of overlapping squares and triangles in various shades of purple and blue. The overall aesthetic is modern and technical.

# Key Features

.....continued

# Client Applications



ArcGIS Pro



ArcMap



Workflow Manager



Web Apps

# Client Applications



ArcGIS Pro



ArcMap



Workflow Manager



Web Apps

# Geographic Area of Interest

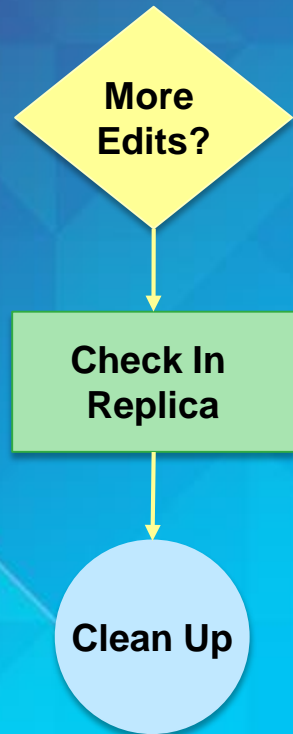
- Spatial orientation of all work
- Restrict work to a spatial extent



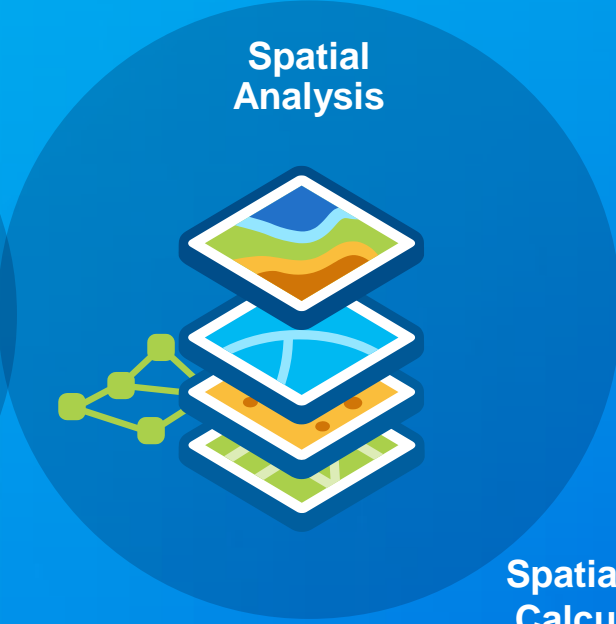
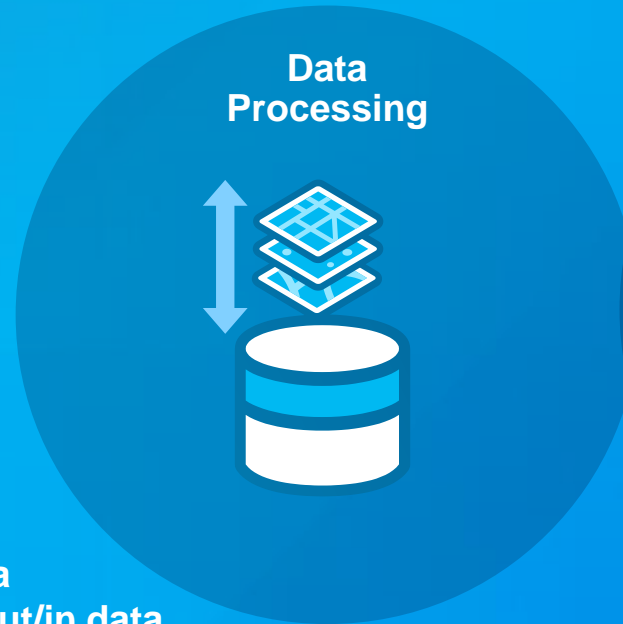


# Geoprocessing

Launch GP Step Type



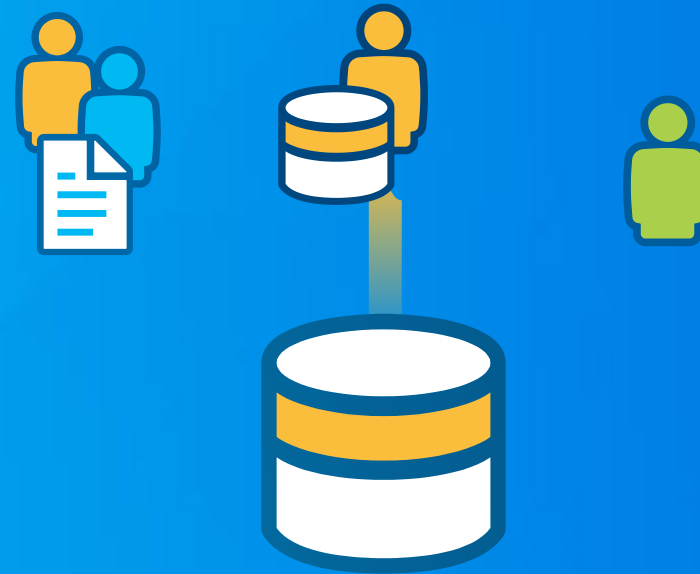
Clip data  
Check out/in data



Spatial overlay  
Calculate field

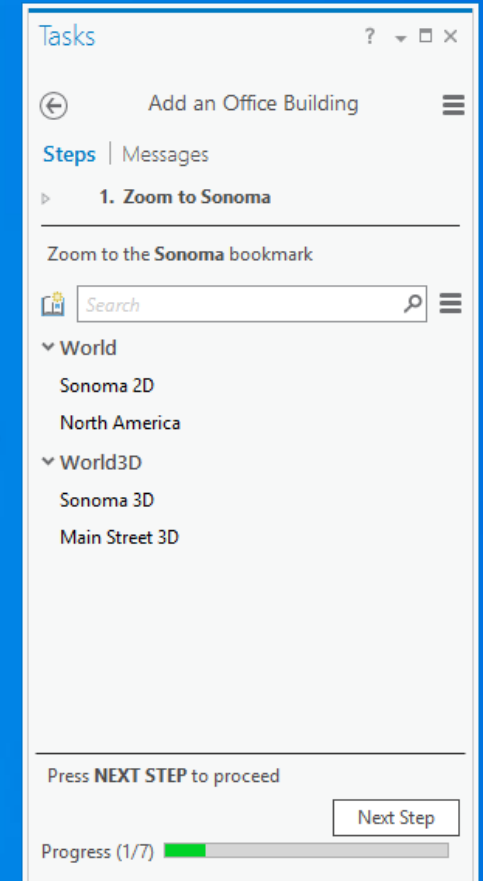
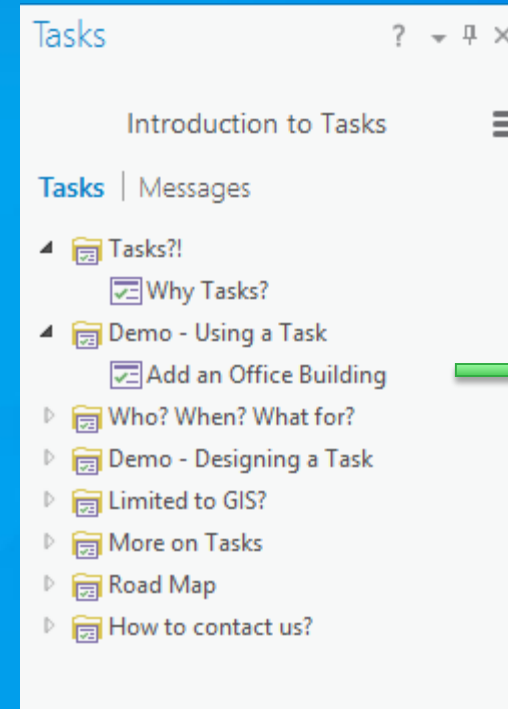
# Version Management

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



# Tasks

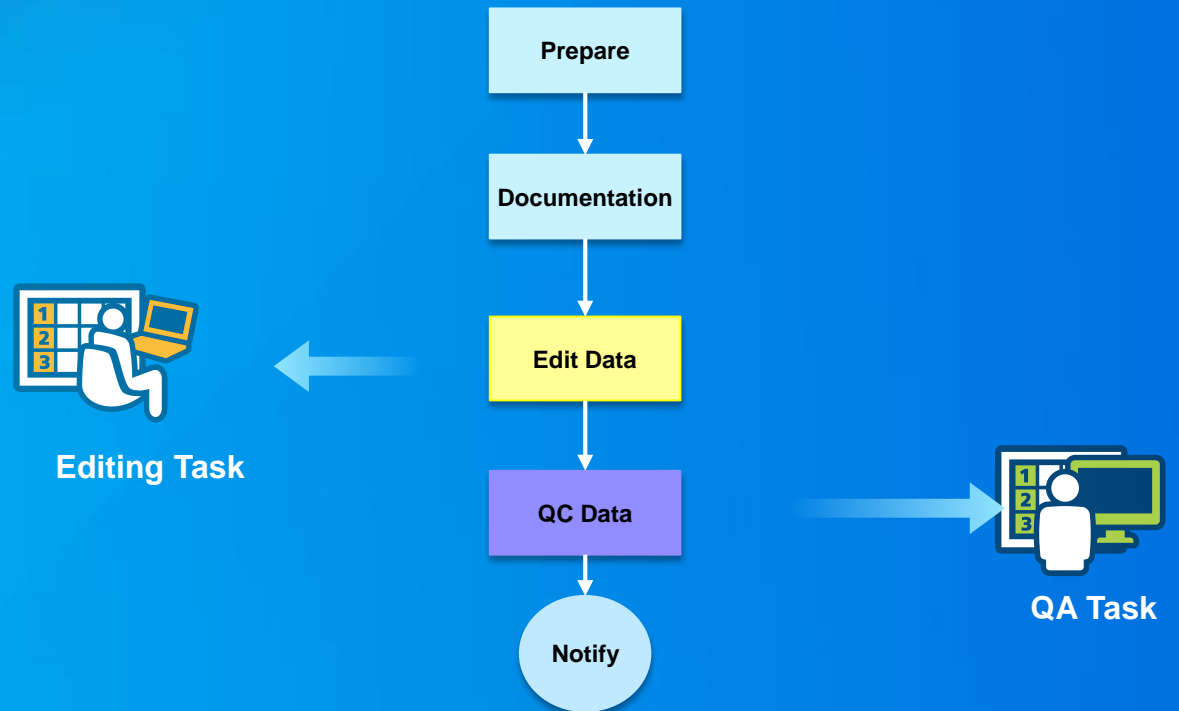
- Repeatable interactive workflows
- Represent a micro level workflow in Pro
- Integrates with Workflow Manager
  - Support macro level workflows
  - Associate task with many users
  - Ensures consistency across organizations



# Tasks and Workflow Manager

## Micro and Macro workflows

- Tasks are tailored for GIS tasks
- Workflows are enterprise wide
- Allows multiple sessions
- The right tool in the right time



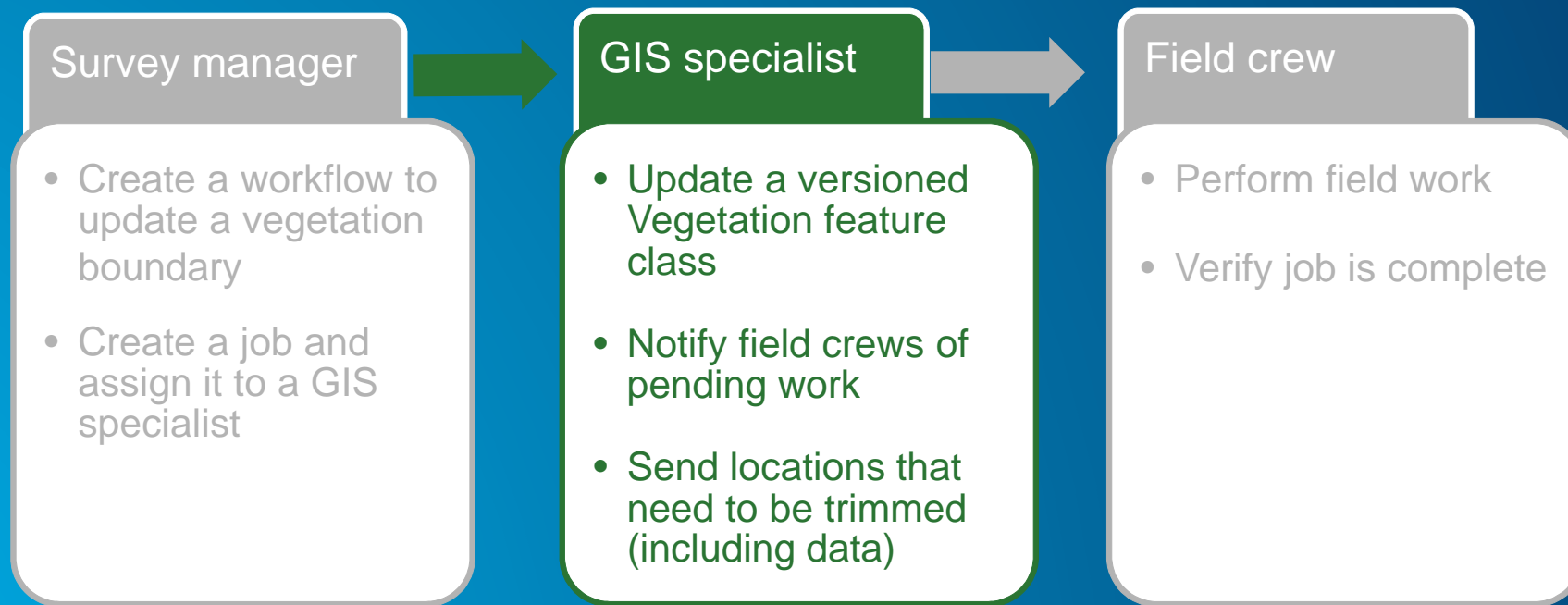
# Map Management

- Step to open a map in preconfigured state
  - Predefined layers and cartography in 2D and 3D
  - Zooms to job's area of interest
  - Update layer source



# Software Demonstration

- Is vegetation growth encroaching on a rail line?



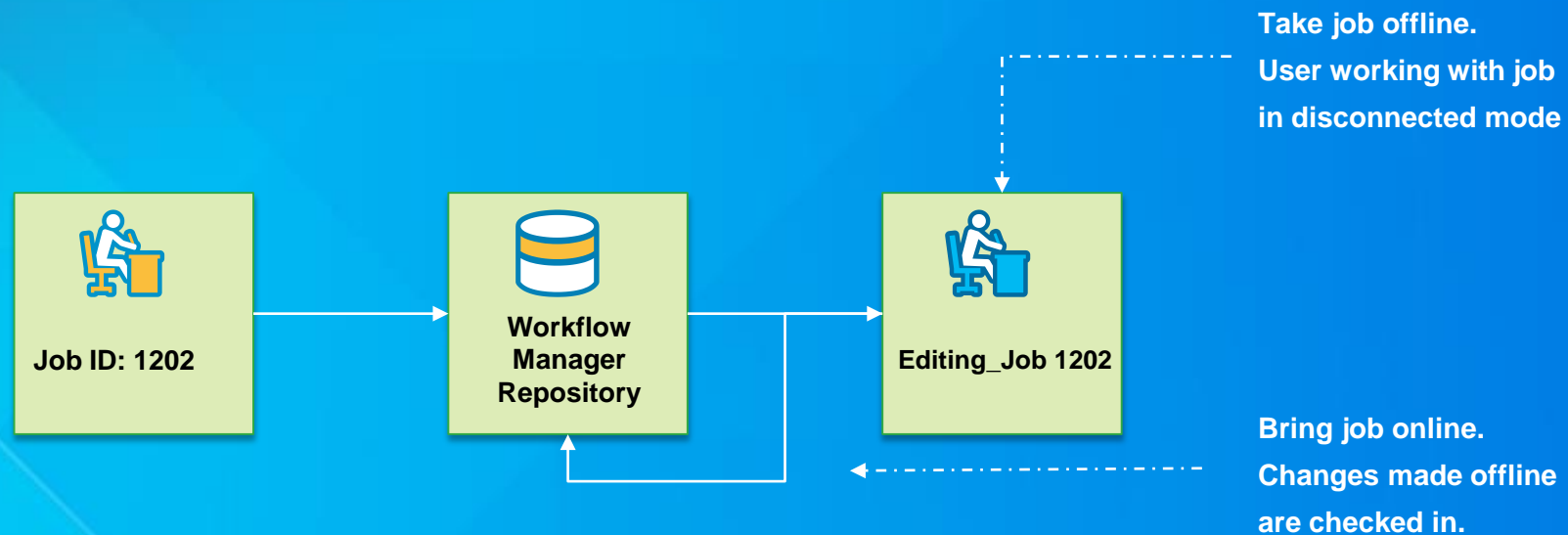


# Key Features

.....continued

# Offline Jobs

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





# Document Management

- Attachments are key
  - Linked to existing DMS
  - Linked to existing website
  - Embed in workflow database



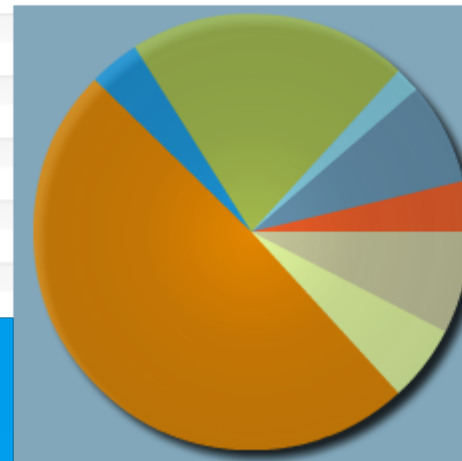
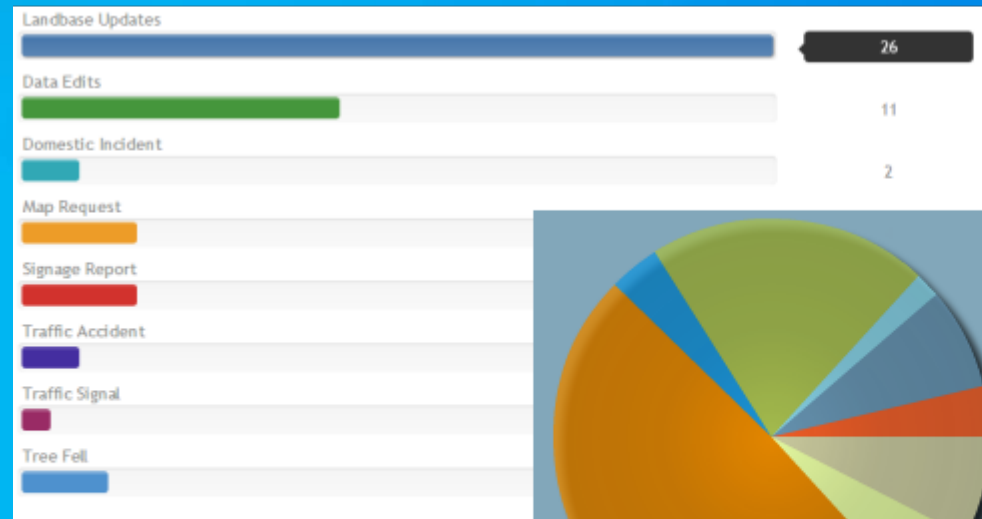
# Alerts and Notifications

- **Job Notifications**
  - Assign Job
  - Create Job
  - Close Job
- **Workflow Notifications**
  - QC step alert
  - Data received
- **Spatial Notifications**
  - Feature modification



# Reports

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



Percentage Complete	Job Type Name	Total Jobs
7.3625		
	Landbase Updates	1
<b>Overall Total:</b>		<b>1</b>

Percentage Complete	Job Type Name	Total Jobs
75		
	Map Request	1
<b>Overall Total:</b>		<b>1</b>

Percentage Complete	Job Type Name	Total Jobs
100		
	Domestic Incident	2
	Landbase Updates	1
	Map Request	2
<b>Overall Total:</b>		<b>5</b>

# Enterprise Offering

- Non-GIS staff
- Ready to use web apps
  - No programming



esri ArcGIS Workflow Manager Web Edition

Logged in as Topo Bello  
Last visit

Queries

- Public Queries
  - Organization Queries
    - All Jobs
    - Unassigned Jobs
    - Offline All Jobs
  - Jobs assigned to me
  - Jobs with stage assigned to me
  - Group Queries
    - Jobs assigned to my groups
    - Jobs with stage assigned to my groups
  - User Queries

Select a Job to Edit

Jobs assigned to me

Job Name	Assigned to	Job Type	Percent Complete	Due Date
Digitize_JOB_14	topo4977	Digitize Building	50	4/27/2014 12:00:00 PM
EDITS_RELLOT_1	topo4977	Data Edits	40	5/12/2014 12:00:00 PM
EDITS_RELLOT_1	topo4977	Data Edits	0	5/12/2014 12:00:00 PM
Helicopter_Land	topo4977	Digitize Helicopter	100	4/23/2014 12:00:00 PM
EDITS_RELLOT_1	topo4977	Data Edits	40	5/8/2014 12:00:00 PM
Helicopter_Land	topo4977	Digitize Helicopter	15	5/4/2014 12:00:00 PM
Data Contrib 4644	topo4977	Data Contribution	100	2/1/2014 12:00:00 PM

esri ArcGIS Workflow Manager Web Edition

Welcome Demo User, Logout

Queries: Jobs assigned to me or find job: Find Job Create New Job

Categorized by Job Type Grouped by None Bar Pie

Landbase Updates 9

Data Edits 4

Domestic Incident 2

Map Request 3

Job Name	Assigned to	Job Type
JOB_401	demo	Landbase Updates
JOB_3201	demo	Landbase Updates
testJOB_400ishiko	demo	Landbase Updates
JOB_4401	demo	Landbase Updates
JOB_6401	demo	Landbase Updates
JOB_7601	demo	Landbase Updates
JOB_12402	demo	Landbase Updates

# Extensibility

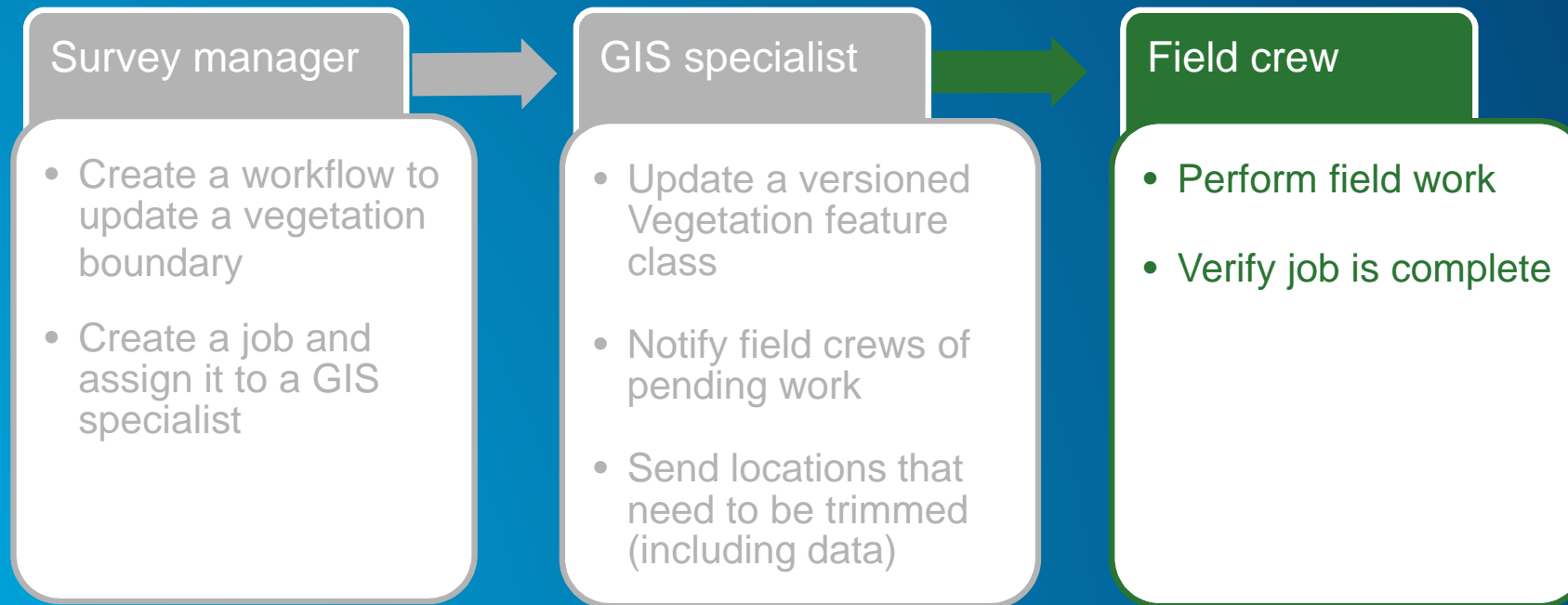
## Developer Options

- Integrate with other systems
  - Extended Properties
  - Desktop APIs
  - Web APIs
- Dashboards for GIS Work



# Software Demonstration

- Is vegetation growth encroaching on a rail line?



## Prepare workflow geodatabase

- Import users and templates

## Manage user access

- Add users to groups
- Assign privileges to groups

## Configure Business process

- Author workflows and job types
- Configure notifications

## Deploy to all users

- Install and share connection



Workflow Manager to **automate** and **document** your workflows!



# Resources

- **Geonet**
  - <https://geonet.esri.com/community/gis/solutions/workflow-manager>
- **Product Page**
  - <http://esri.com/workflowmanager>
- **Training**
  - <http://training.esri.com/>
- **Resource Center**
  - <http://resources.arcgis.com/en/communities/workflow-manager/>



Understanding our world.