Using ArcGIS to Support Environmental Impact Studies

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Agenda

• Introduction/ArcGIS Solutions

• Understand and Communicate Environmental Impact Solutions

• Environmental Impact Reporting

• Your Feedback/Questions
ArcGIS as a Platform

Simple, Open, and Configurable

Knowledge Workers  Executive Access  Public Engagement  Work Anywhere  Enterprise Integration

Professional GIS

Web GIS

Making Mapping and GIS Available Across Your Organization

Transforming the Role of GIS
EXTENDING THE PLATFORM WITH SOLUTIONS

Ready to use workflows and apps that make implementation easier and sustainable.

ArcGIS for State Government

https://solutions.arcgis.com/
Solving business problems
To support organizational initiatives

Field Staff
Program Staff
Director & Executives
Citizens
ArcGIS Solutions

• Free
• Simple
• Configurable and extensible
• Supported and maintained
# State Government

## Transportation
- Reduce Traffic Fatalities
- Inventory ROW Assets
- Manage Snow Operations
- Inform Public
  - Pavement Marking Inventory
  - Railroad Inspection
  - Signal Inventory
  - Sign Inventory
  - Streetlight Inventory
- Manage Snow Operations
  - SnowCOP
  - Inform the Public
  - Transportation 511
  - Road Closures

## Public Health
- Analyze Birth Outcomes
  - Birth Outcome Analysis
  - Birth Outcome Briefing
  - My Health Services
- Conduct Restaurant Inspections
  - Restaurant Inspections
  - Restaurant Inspection Results
- Protect Water Quality
  - BMP Dashboard
  - BMP Reports
  - BMP Surveys

## Agriculture
- Monitor & Report Invasive Pests
  - Invasive Pest Status
  - Invasive Pest Surveys
  - Invasive Pest Viewer
- Protect Water Quality
  - BMP Dashboard
  - BMP Reports
  - BMP Surveys

## Natural Resources
- Engage Citizen Scientists
- Monitor Permit Status
  - Permit Inspection
  - Permit Status
- Analyze Environmental Impact
  - Environmental Analysis
  - Environmental Impact Briefing
  - Environmental Impact
  - Public Comment
  - Environmental Screening
- Monitor Water Quality
  - Water Quality Inspections
  - Water Quality Status
- Engage the Public
  - Environmental Analysis
  - Environmental Impact Briefing
  - Environmental Impact
  - Public Comment
  - Environmental Screening
- Protect Water Quality
  - BMP Dashboard
  - BMP Reports
  - BMP Surveys

## Fish and Wildlife
- Engage the Public
  - Wildlife Photo Survey
  - Wildlife Management
  - Area Locator
- Analyze Environmental Impact
  - Environmental Analysis
  - Environmental Impact Briefing
  - Environmental Impact
  - Public Comment
  - Environmental Screening
- Monitor Water Quality
  - Water Quality Inspections
  - Water Quality Status
- Engage the Public
  - Environmental Analysis
  - Environmental Impact Briefing
  - Environmental Impact
  - Public Comment
  - Environmental Screening

## Economic Development
- Attract Businesses
  - Incentive Zones
  - Property Lister
  - Property Listing Reviewer
- Manage Community Events
  - Events Calendar
  - Events Permit
  - Events Site Map
  - Events Coordination
  - Events Map Gallery

## Secretary of State
- Share Election Results
  - Early Voting
  - Election Polling Places
  - Election Results
  - Historical Election Results Gallery
  - My Elected Representative

## Entire Organization
- Organize Foundational Data
  - Community Addresses
  - Community Parcels
  - Public Land Survey Editing
Environmental Impact

A collection of applications to support environmental review
Environmental Impact
A collection of applications to support the identification of potential environmental impacts

- Evaluate potential implications
- Iterative evaluation of projects/boundaries
- Project summary information
- Community engagement
- Facilitate stakeholder communication
- Utilize authoritative sources
Environmental Screening
Web based analysis and reporting of potential impacts on the natural environment

- Enables scientists and planners to:
  - Identify and describe potential impacts
    - on sensitive species and protected areas
  - Communicate analysis results with stakeholders
  - Support management decisions
Driving Decisions
Provide insight and clarity through analysis

- Evaluate
  - Environmental Screening
- Analyze
  - Environmental Analysis
- Engage
  - Environmental Impact Polling
- Communicate
  - Environmental Impact Briefing
Environmental Impact Studies

- Conservation Planning
- Comprehensive Planning
- Development Initiatives
- Permitting Requirements
Environmental Impact Studies

• Screening
• Advanced Analysis
• Public Coordination
  - Convey Information
  - Receive Feedback

The NEPA Process

- Initiate the Planning Process
  - Develop a Proposal
  - Determine appropriate Level of Environmental Review
- Categorical Exclusion (CATEX)
  - Is the Action outside the bounds of the possible CATEX?
  - Are there Extraordinary Circumstances that merit further review?
- Environmental Assessment (EA)
  - Involve the public to the extent practicable
  - Will the action have significant environmental effects?
- Environmental Impact Statement (EIS)
  - Issue Notice of Intent (NOI)
  - Conduct public scoping and engage the public
  - Publish Draft EIS for public review & comment
  - Publish Final EIS & make available to the public
  - Sign Record of Decision (ROD)
  - Finding of No Significant Impact (FONSI)
  - Proceed

ROD
Help scientists and interested parties understand potential impacts of development and other projects on the natural environment. Brief executives and decision-makers on potential impacts, and elicit feedback from stakeholders and constituents on projects happening in the region.

Conduct Analysis

Environmental Analysis is a configuration of Esri that helps scientists, planners, and other analysts to understand the potential impacts of development and other projects on the natural environment.

Get Started

Learn how to leverage your geographic information and use ArcGIS Platform to increase stakeholder buy-in.

Download

Learn More

Understand Impact

An application configuration that enables interconnected parties to discover potential impacts to the natural landscape, species, and species habitat due to development and mitigation activities.

Online Mapping Platform

Our ArcGIS Online web portal implementation helps you organize your geospatial information and promote collaboration in your organization.

Download

View Application

Learn More

From our Blog

ArcGIS for State Government

The ArcGIS for State Government team presents an introduction to the solution.

From our Videos

Allison Muise
What’s Next - Supporting Environmental Impact Reporting
Living Atlas of the World
ArcGIS includes a Living Atlas of the World
Maps and Layers from Esri and Thousands of Contributors – Many used for EIS Reports

The Collection is growing and changing on a daily basis…

…with Curated Content on Many Topics
Esri Content Portfolio within Living Atlas

- Basemaps
- Demographics and Lifestyle
- Transportation
- Urban Systems
- Boundaries and Places
- Imagery
- Landscape
- Oceans
- Earth Observations

Supports Environmental Impact Studies
Accessing the Living Atlas through ArcGIS

- Living Atlas of the World Website
  - Browse and preview maps, layers, and tools

- ArcGIS Online & ArcGIS Enterprise (Portal) 10.5
  - Gallery: Esri Featured Content
  - Add Data: Browse Living Atlas Layers
  - Analysis: Choose Living Atlas Layers

- ArcGIS for Desktop
  - ArcGIS Pro 1.2+
  - Open Maps, Add Layers, Perform Analysis
Vector Basemaps
Vector tile basemaps

- Available on ArcGIS.com since November 2015
- Street (with and w/o relief), Topo, Night, Navigation, Dark Canvas, Light Canvas, Hybrid
Vector Tiles Overview

• What are Vector Tiles?
  - Tiled containers of your data
  - Separate style provides rendering instructions for how to draw your map

• Client device / browser is responsible for drawing the map

• Tileset components:
  - Tiles
  - Styles
  - Sprites
  - Fonts
  - Index
Overview | Advantages of Vector Tiles

• Display quality
  - Best possible resolution for HD displays
  - Small, efficient format

• Dynamic labeling
  - Clearer, more readable text
  - On the fly labeling for heads up display

• Map Styling
  - Many styles from one tileset
Vector Tile Basemaps
Available for production use now!

- Increase in updated frequency
- Better performance on high-resolution displays and mobile devices
- Authoritative organization’s content in more basemaps
- More customization
- Update your stuff!
ArcGIS Vector Tile Style Editor
Streamlined web-based editing to standardize your EIS maps!
Two ways to make a map book

• Layout Map Series
  - User interface approach to building map pages

• Python Map Automation
  - Scripting framework for automating map output
  - Can be used to automate complete map book production
Types of map books
Streamline the production of EIS maps

• Collection of map pages
  - plus additional pages like:
    - titles, Table of Contents, index pages, etc.

• Most common are Reference map books
  - series of pages that iterate across a geographic area
  - reference grid based, strip maps, or feature based
  - Layout Map Series or Python Map Automation
Types of map books (cont.)

Streamline the production of EIS maps

• Thematic
  - all pages have the same extent
  - each page shows unique layers
  - built with Python Map Automation
Environmental Impact Reporting Demo
Allison Muise
Closing

• Deliver solutions that enables success
  • Easier to deploy and sustain

• Evolve and grow the collection of apps

• Community Feedback

• Provide a platform for partners to deploy their solutions
UC Events

• ArcGIS Solutions for State Government Sessions
  • Several tech workshops / demo theatre sessions

• Solution Island
  • Focused conversations / support
Please Take Our Survey on the App

Download the Esri Events app and find your event.

Select the session you attended.

Scroll down to find the feedback section.

Complete answers and select “Submit.”
Thank you
Be innovative, aware, and know you are not alone

http://solutions.arcgis.com/#State-Government

YouTube → ArcGIS for State Government

@ArcGISStateGov

http://esri.github.com