



Creating Great Content for your Web GIS

Owen Evans, Esri

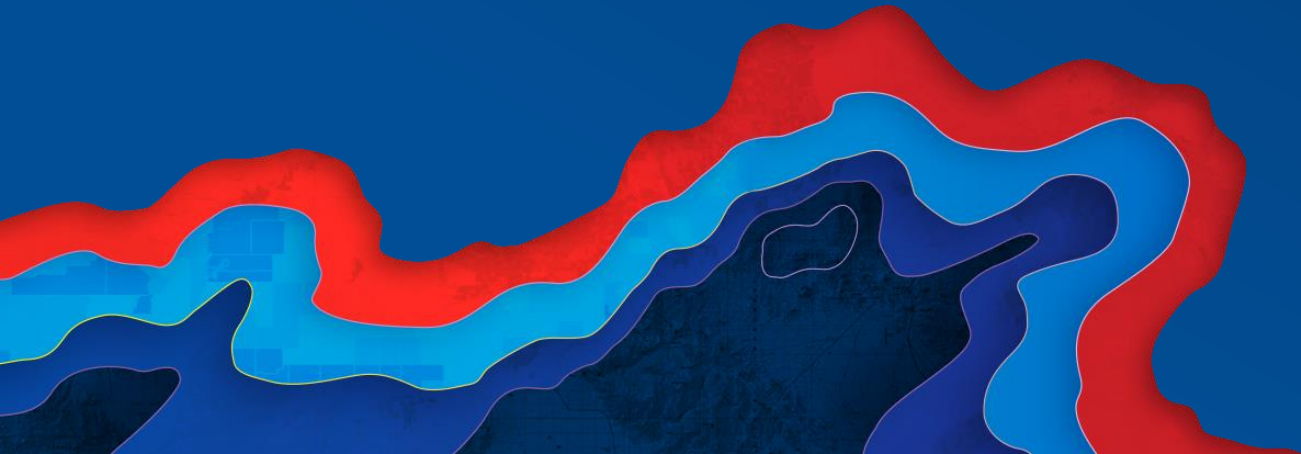
2018 Esri Federal GIS Conference | Washington, DC

Agenda

Creating Great Content for your Web GIS

- What is Web GIS?
- Web GIS from three perspectives
 - Content Consumer
 - Content Creator
 - Administrator
- Q & A

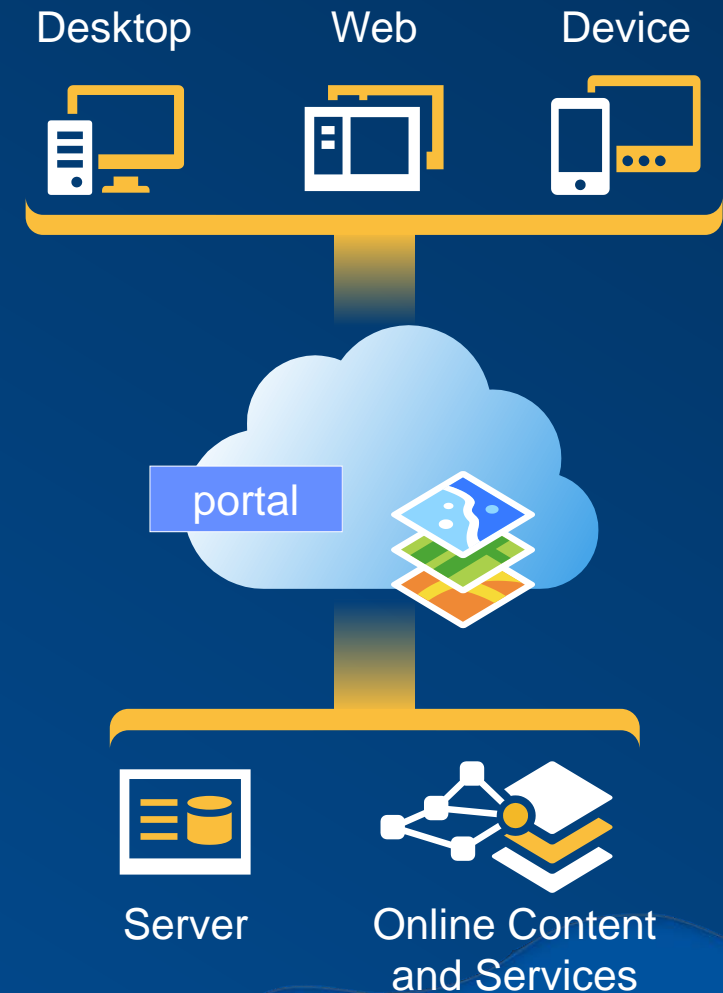
What is Web GIS?



What is Web GIS?

Foundation of a modern GIS

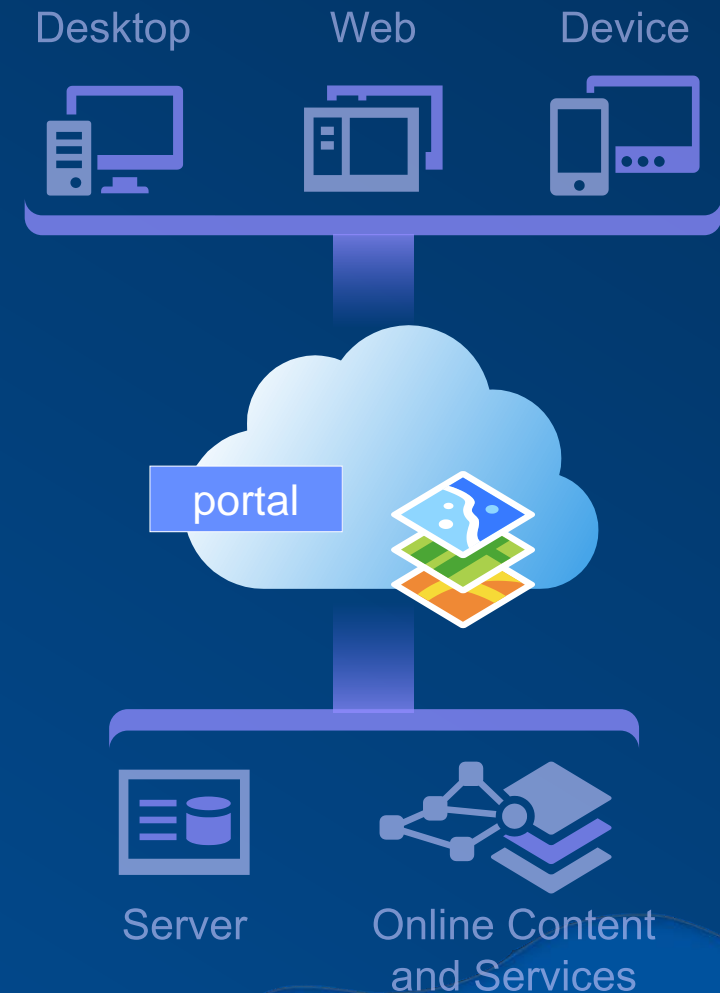
- A pattern, or architectural approach
- Powered by web services
- Components are connected
- Hosted...
 - in the cloud (ArcGIS Online)
 - on premises (ArcGIS Enterprise)
 - ...or some combination of both (hybrid)



What is a portal?

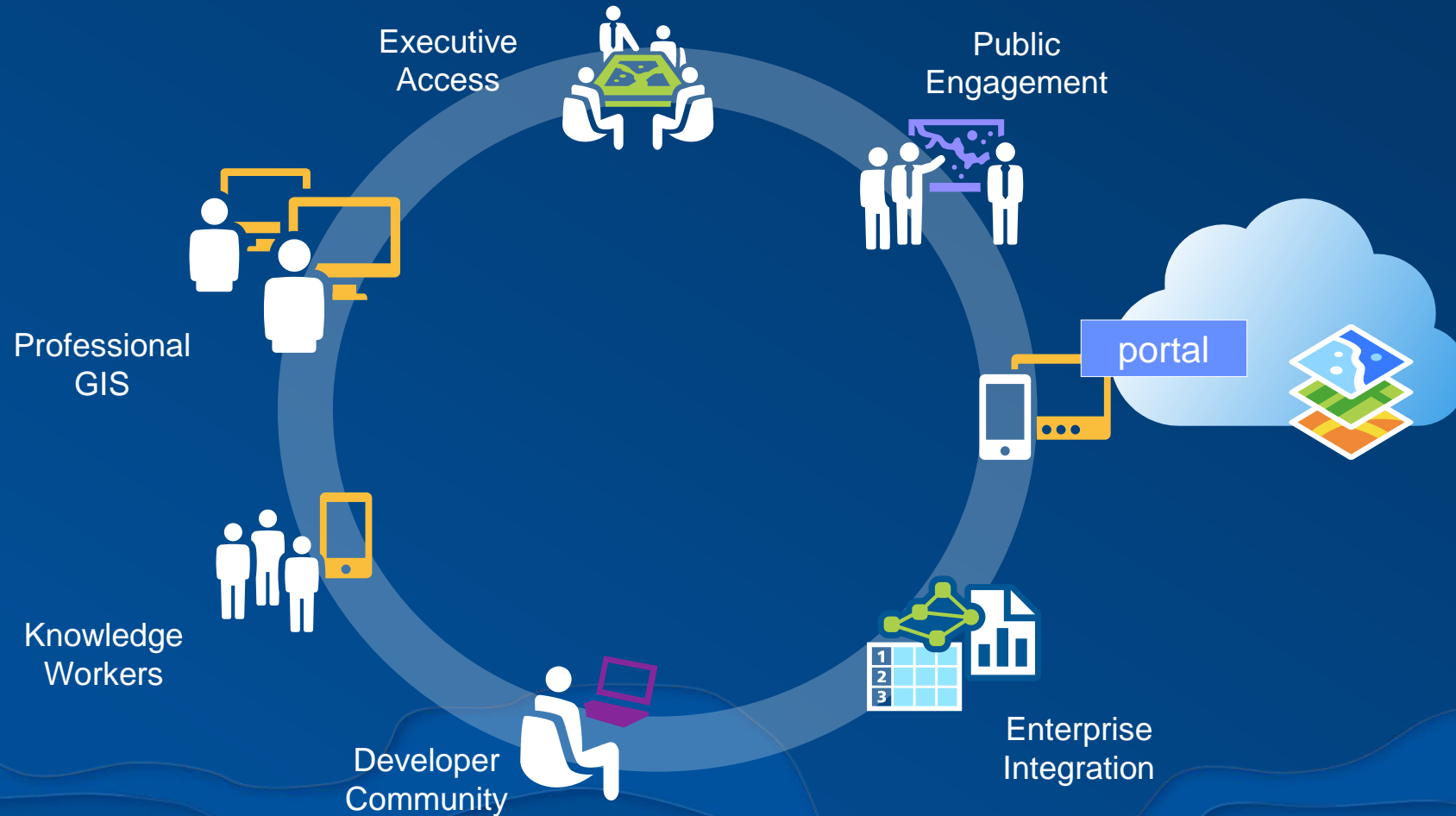
Essential, central component of a GIS

- **Framework for managing and using content**
- **Supports identity**
- **Manages users and collaboration**
- **Sharing**
- **GeoInformation model**



Your portal

The center of your geographic information ecosystem



What is Web GIS content?

- Apps >> “Information Products”
- Maps & Scenes
- Layers
- Data (as services)
 - Feature services, image services, scene services, geocoding services, ...

Content Consumers



Content Consumers

The people who use maps and apps

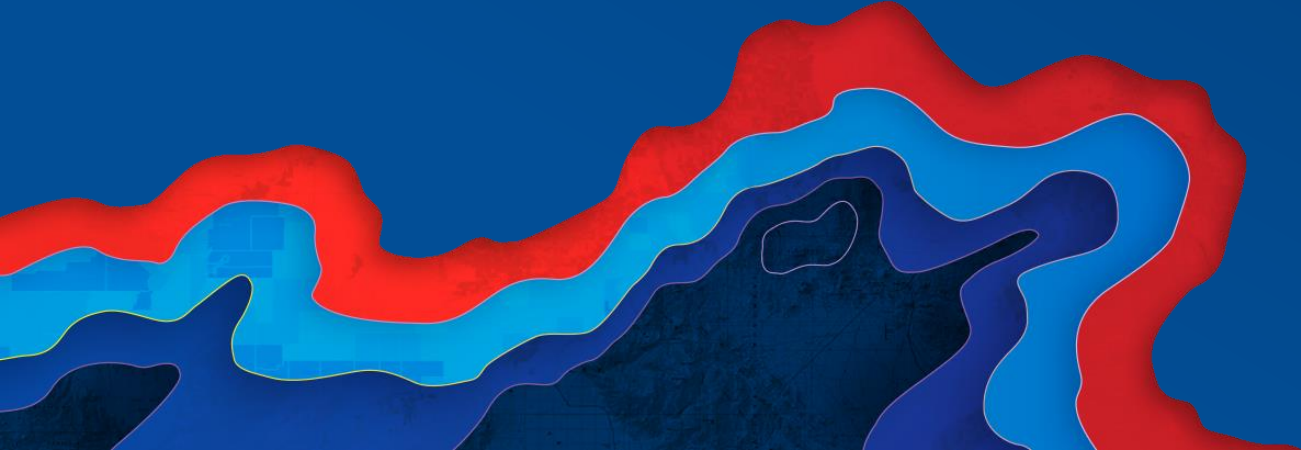
- Executives, Managers and other decision makers
- Knowledge Workers / Analysts
- Field Workers
- Collaborators / Partners
- “The Public”
 - Journalists, Researchers, Students, Citizens, ...
- ...

What do consumers need / want?

Requirements

- Easy / Simple
 - What is “easy?” It depends on the audience...
- Useful
 - Something that meets a need
- Performs
 - Fast, not broken
- Timely
 - Available in time to be used

Content Creators



What do (should) Content Creators do?

- Create useful content
- Prioritize what to publish
- Support good search and discovery
- Avoid confusion and overload
- Share content with the right people



Before creating or publishing...review existing content

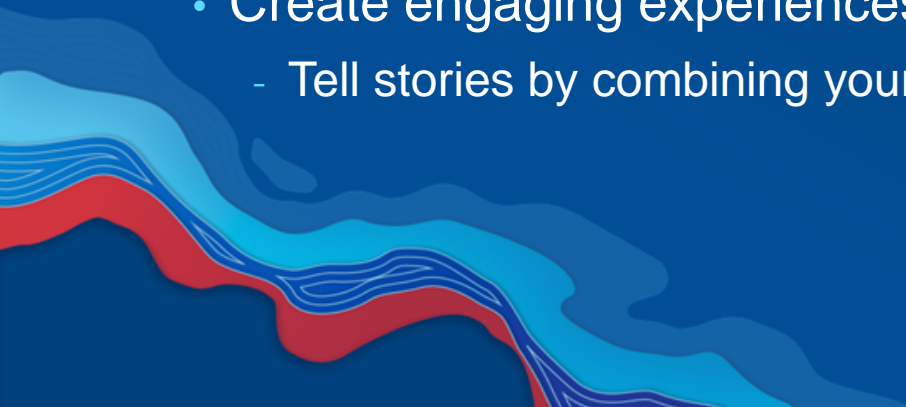
Don't reinvent the wheel

- Your Organization
- GIS community
 - Federal, state, local governments; NPOs; NGOs; ...
- Esri's Living Atlas
 - Online, and also in ArcGIS Enterprise 10.5+
- ArcGIS Marketplace



Create useful content

- Make great layers and maps
 - Smart Mapping, clustering, firefly symbols, ...
 - Leverage the cartographic tools of ArcGIS Pro
 - Experiment with 3D
- Share maps as useful apps
 - Web AppBuilder, Operations Dashboard, solution apps, ...
- Create engaging experiences with Story Maps
 - Tell stories by combining your maps with narrative, photos, charts, and videos



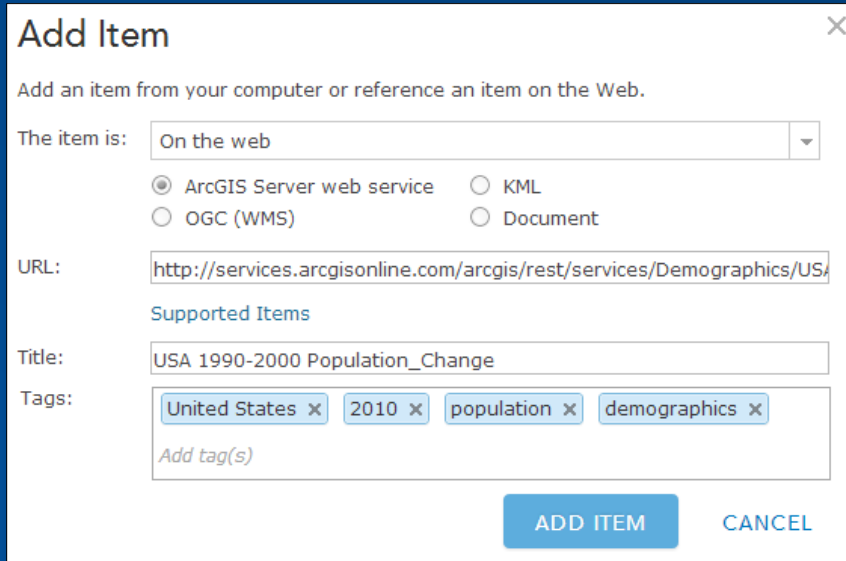
Prioritize what to publish

Most organizations have tons of data...

- Often publishing *everything* is not the most productive/useful strategy
 - ...and it may not be feasible anyway
- Prioritize based on need
 - Develop a request system
 - Administrators and content consumers can provide guidance and feedback



Registering your ArcGIS services



Add Item

Add an item from your computer or reference an item on the Web.

The item is: On the web

☒ ArcGIS Server web service ☐ KML
☐ OGC (WMS) ☐ Document

URL:

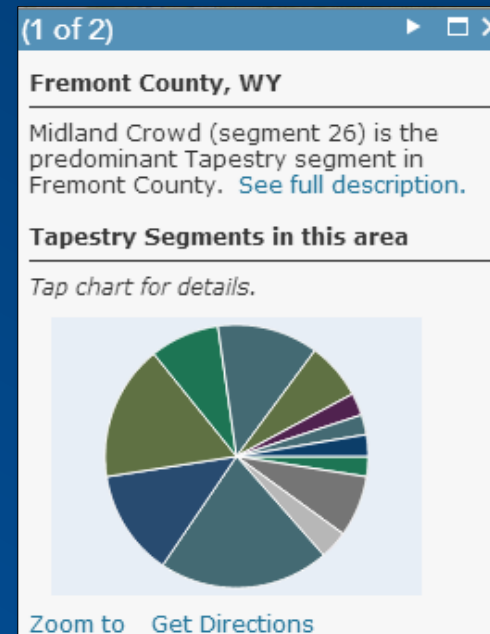
Supported Items

Title:

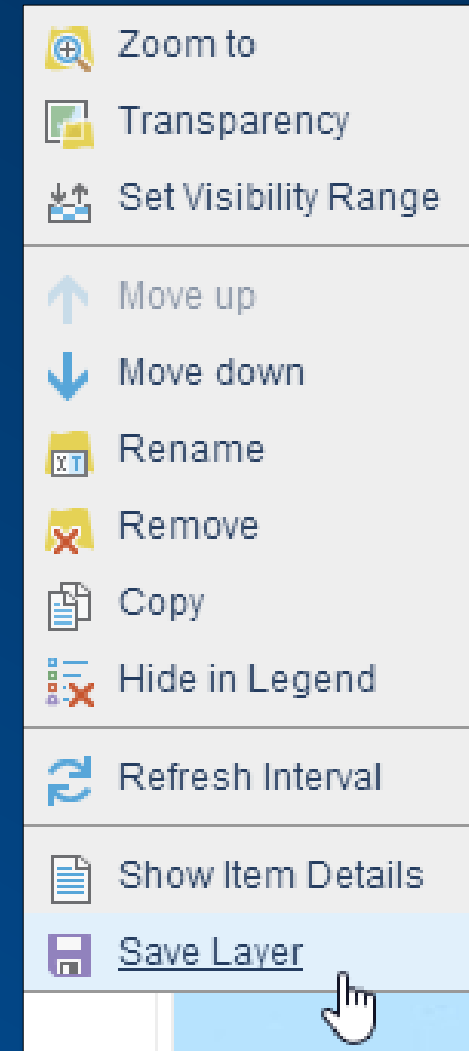
Tags: United States x 2010 x population x demographics x
[Add tag\(s\)](#)

ADD ITEM **CANCEL**

(1) Add service



(2) Configure



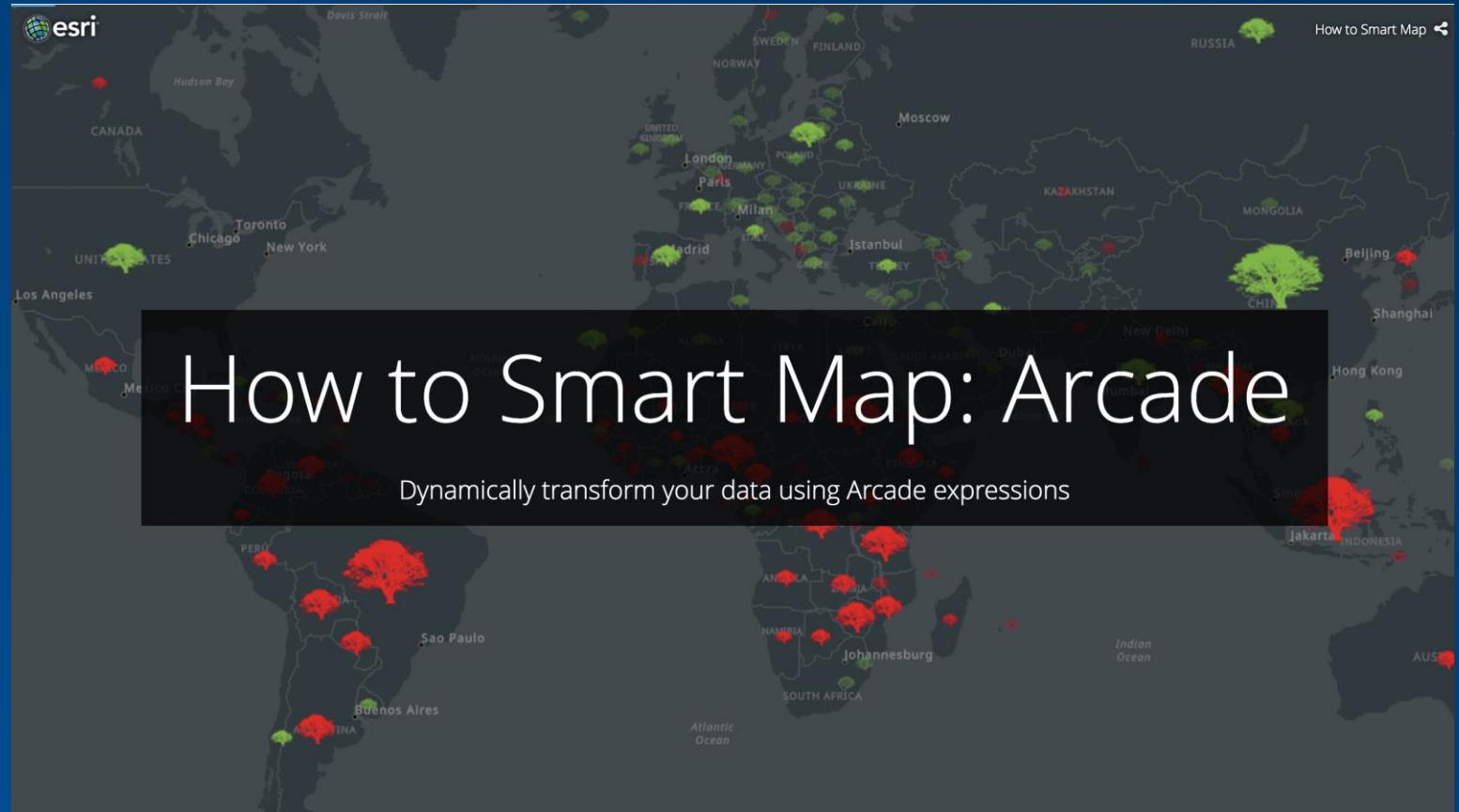
(3) Save layer



Use Arcade

Calculate on the fly

- Expression language
- Works across ArcGIS
 - Math
 - Logic
 - Manipulate text
 - Control symbols
 - ...



<https://arcg.is/0e5WnG>

Avoid confusion and stale content

- Mark **current** content as **Authoritative**
- Mark **retired** content as **Deprecated**

The screenshot displays the 'National Parks' map interface. At the top, there are tabs for 'Overview', 'Data', 'Visualization', 'Usage', and 'Settings'. Below these, a 'General' tab is selected, showing 'Feature Layer (hosted)'. A 'Content Status' section is visible, with two buttons: 'Mark as Authoritative' and 'Mark as Deprecated'. Orange arrows point from these buttons to the 'Authoritative' status icon (a green checkmark) on the map's item card. The item card also shows the title 'National Parks', the author 'owen.storymaps', and the update date '3/15/2018'. The 'Authoritative' status is indicated by a green checkmark icon next to the item title.

National Parks

Overview Data Visualization Usage Settings

General Feature Layer (hosted)

General

Content Status

Recommend the use of this item.

Mark as Authoritative

Discourage the use of this item.

Mark as Deprecated

Details + Add

← My

Q parks

1 items

Nati

Updated: 3/15/2018

National Parks

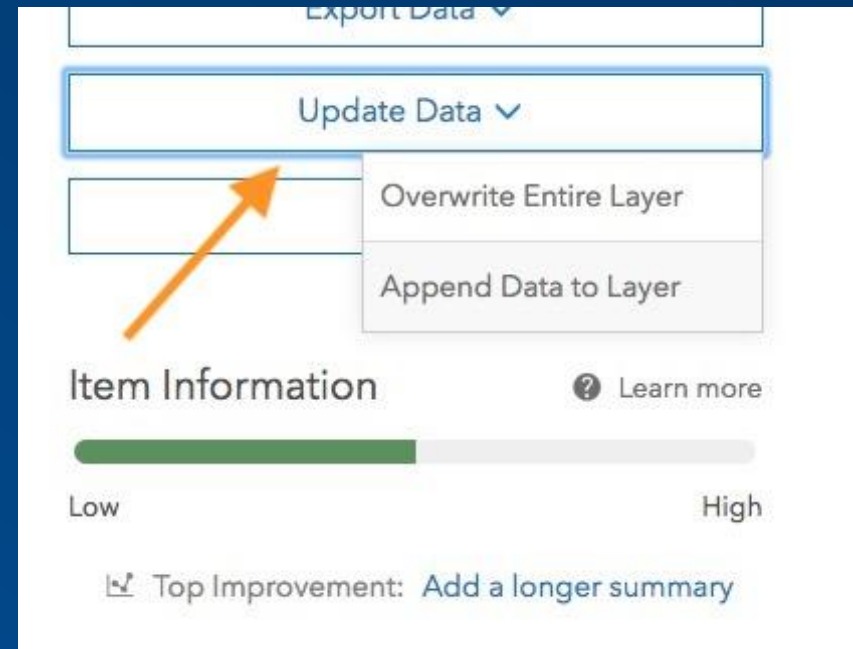
Feature Layer by owen.storymaps

Updated: 3/15/2018

✓ Authoritative

Avoid duplication when publishing new data




- Consider updating layers rather than creating new ones
- Use **Overwrite** to replace existing layer
- Use **Append** tool to add new data to same layer



Have a strategy for publishing new data

- Ways to handle layer updates

- Cumulative / Historic
- Time period
- Latest

<input type="checkbox"/>	 Historic Hurricane Tracks	Feature Layer (hosted)
<input type="checkbox"/>	 2016 Hurricane Tracks	Feature Layer (hosted)
<input type="checkbox"/>	 Current Season Hurricane Tracks	Feature Layer (hosted)

- Communicate scope of the data in the...


- Layer title
- Summary & Description
- Tags
- Thumbnail

Use Hosted Feature Layer Views to manage information

Minimize/eliminate data duplication


- Create and manage multiple, customized “windows” into your data without creating a copy

Public




- Add new sightings to the map
- Only view sightings that have been reviewed by city staff

City Staff (field)



- Add new sightings to the map
- View sightings regardless of their review status

City Staff (reviewers)



- Update and delete sightings when reviewing (duplicates, fake reports)
- View only sightings that are pending review

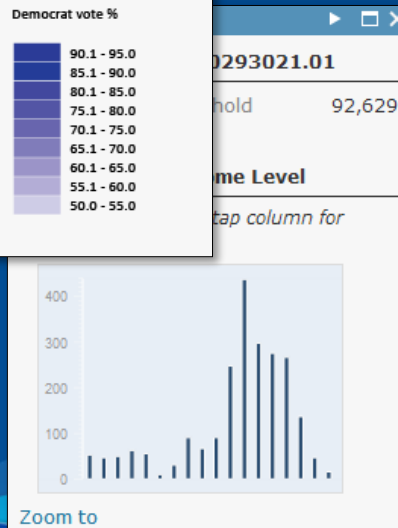
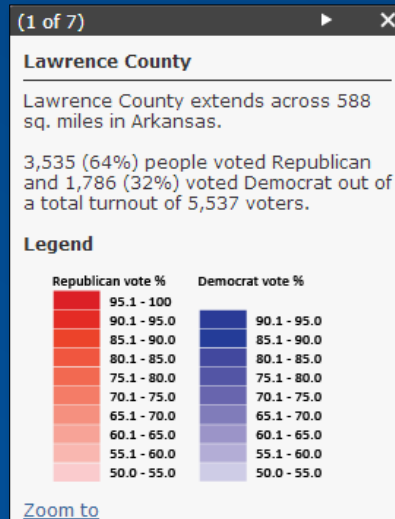


<http://arcg.is/0Gvarn>

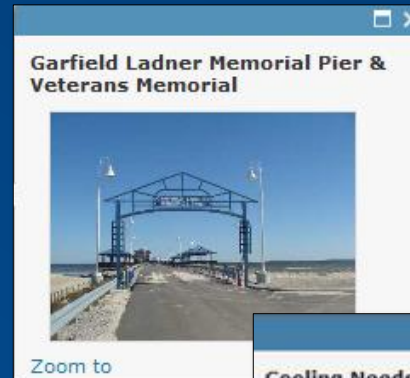
Pop-Ups

Consider the entire information product

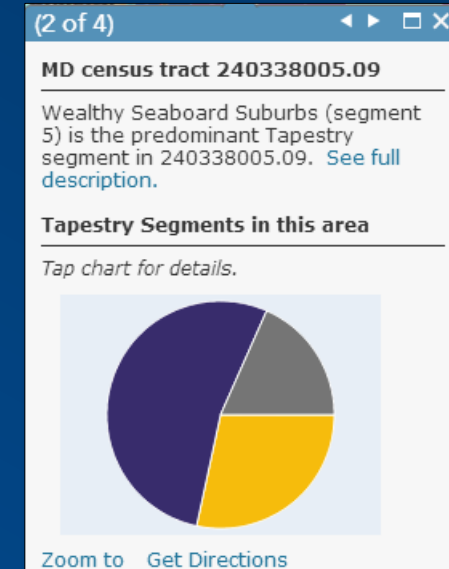
Charts



Images and Links



Formatted text and Charts



Item Info

Good example 😊

- ✓ Simple title
- ✓ Good summary
- ✓ Good description
- ✓ Good thumbnail
- ✓ Useful tags
- ✓ Credits
- ✓ Terms of use

Hospitals

Overview

Data

Visualization



Public Health

This feature class/shapefile contains Hospitals derived from various sources (refer SOURCE field) for the Homeland Infrastructure Foundation-Level Data (HIFLD) database. (<https://gii.dhs.gov/HIFLD>)

Feature Layer by [jrayr_geoplatform](#)

Created: Mar 15, 2018 Updated: Mar 15, 2018 View Count: 0

Description

This feature class/shapefile contains locations of Hospitals for 50 US states, Washington D.C., US territories of Puerto Rico, Guam, American Samoa, Northern Mariana Islands, Palau, and Virgin Islands. The dataset only includes hospital facilities based on data acquired from various state departments or federal sources which has been referenced in the SOURCE field. Hospital facilities which do not occur in these sources will be not present in the database. The source data was available in a variety of formats (pdfs, tables, webpages, etc.) which was cleaned and geocoded and then converted into a spatial database. The database does not contain nursing homes or health centers. Hospitals have been categorized into children, chronic disease, critical access, general acute care, long term care, military, psychiatric, rehabilitation, special, and women based on the range of the available values from the various sources after removing similarities.

Layers

Hospitals

[Open In](#) [Service URL](#)

Terms of Use

None (Public Use). Users are advised to read the data set's metadata thoroughly to understand appropriate use and data limitations.

Comments (0)



[Sign in](#) to add a comment.

Open in Map Viewer



Open in Scene Viewer

Metadata

Details

Source: [Feature Service](#)

Data Last Updated: Mar 15, 2018, 8:45:35 AM

Size: 7 MB

★★★★★



Owner



[jrayr_geoplatform](#)

Tags

Alaska, homeland security, emergency response, Continental United States, Puerto Rico, status, Guam, Hawaii, specialty hospitals, USA, name, homeland defense, type, helipad, population, Northern Mariana Islands, Palau, trauma, children hospitals, hospitals, Virgin Islands, District of Columbia, facility characteristics, address, American Samoa

Credits (Attribution)

Oak Ridge National Laboratory (ORNL) Geographic Information Science and Technology (GIST) Group; National Geospatial-Intelligence Agency (NGA) Homeland Security Infrastructure Program (HSIP) Team.


Item Info

Bad example ☹️

- ⊗ Bad title
- ⊗ OK summary
- ⊗ No description
- ⊗ Default thumbnail
- ⊗ Generic tags
- ⊗ No credits
- ⊗ No terms of use
- ⊗ Duplicate layers

soil_with_demographics_india

Overview



The map represents types of soil and its population concentration in it.

Web Map

Created: Mar 15, 2018 Updated: Mar 15, 2018 View Count: 7

Open in Map Viewer

Description

An in-depth description of the item is not available.




Layers

- Indian Cities on the Bank of River
- Demographics of India - State2011
- River and Freshwater Wetland Abundance - River and Wetland Abundance
- Demographics of India - District2011
- World Soils Harmonized World Soil Database - Chemistry
- India Homes with Restrooms
- India Homes with Restrooms
- World Globe 1790
- India Treated Drinking Water
- India Treated Drinking Water
- World Imagery
- World Imagery


Details

Size: 46 KB

★★★★★

Owner



Tags

soil, demographics

Credits (Attribution)

No acknowledgements.

Terms of Use

No special restrictions or limitations on using the item's content have been provided.

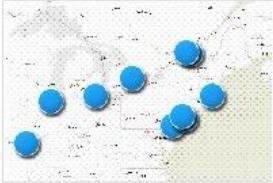
Item Info Helper

Support good search and discovery

NHL's Original Six [Edit](#)


[Overview](#) [Usage](#) [Settings](#)

[Edit Thumbnail](#)



★ Add to Favorites

Add a brief summary about the item.

 Web Map by owen.storymaps

Created: Feb 28, 2018 Updated: Mar 7, 2018 [View Count](#)

[Open in Map Viewer](#)

[Create Presentation](#)

Description

Add an in-depth description of the item.

Layers

New York Area Franchises

Early Teams

Original Six

Newspaper

Newspaper

Item Information

Low

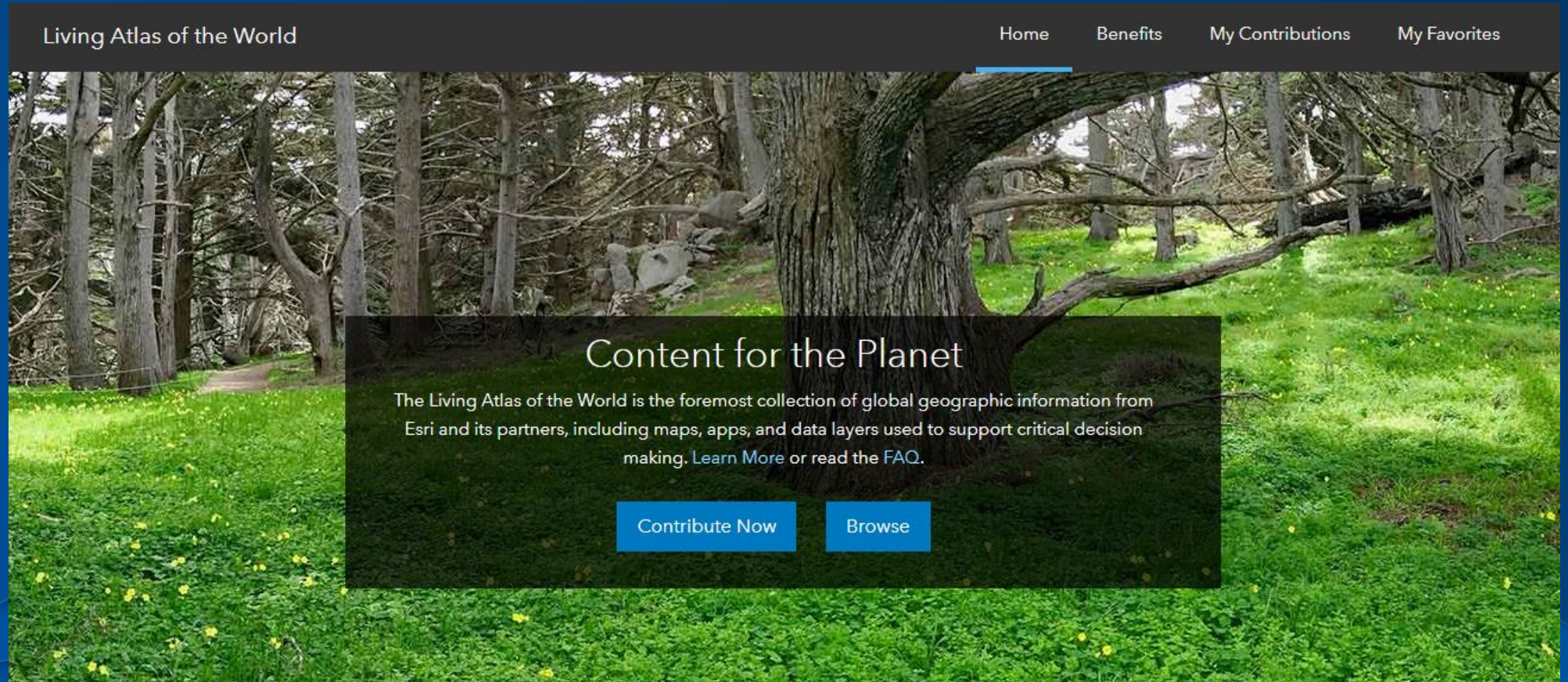
High

Make your item easy to find, understand and use by completing item information.

- ☐ Add a summary
- ☒ Add a thumbnail
- ☐ Add a description
- ☒ Add a title
- ☐ Add more tags
- ☐ Add terms of use

Living Atlas Contributor App

Useful content quality checks



Engage and Inform with Story Maps

Story Maps can be used for...

- Annual report
- Event summary
- Scientific study results
- Project information
- Teaching / Instruction
- “Binders” / Atlases
- Briefings / Presentations
- Newsletters

...and so much more



Saving the Southern Residents
By NOAA Fisheries – West Coast Region



A Story of Recovery
By US Fish and Wildlife Service



Asian Carp eDNA Monitoring
By US Fish and Wildlife Service



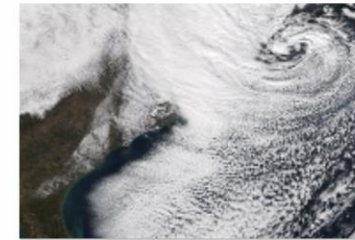
Community Stories
By US EPA Smart Growth



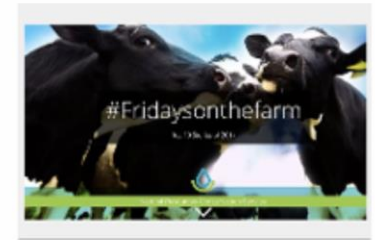
From Eyesores to Assets
By US EPA



Avalanches on the Going-to-the-Sun Road
By US National Park Service



Early January 2018 East Coast Winter Weather
By NOAA National Weather Service



#Fridaysonthefarm: 2017 Top Ten Stories
By USDA Natural Resources Conservation Service



Annual Forest Inventory Reports
By US Forest Service



SSE AIRTRICITY DUBLIN CITY MARATHON 2017
By An Garda Síochána, Ireland



Habitat Map of Scotland
By Scottish Natural Heritage



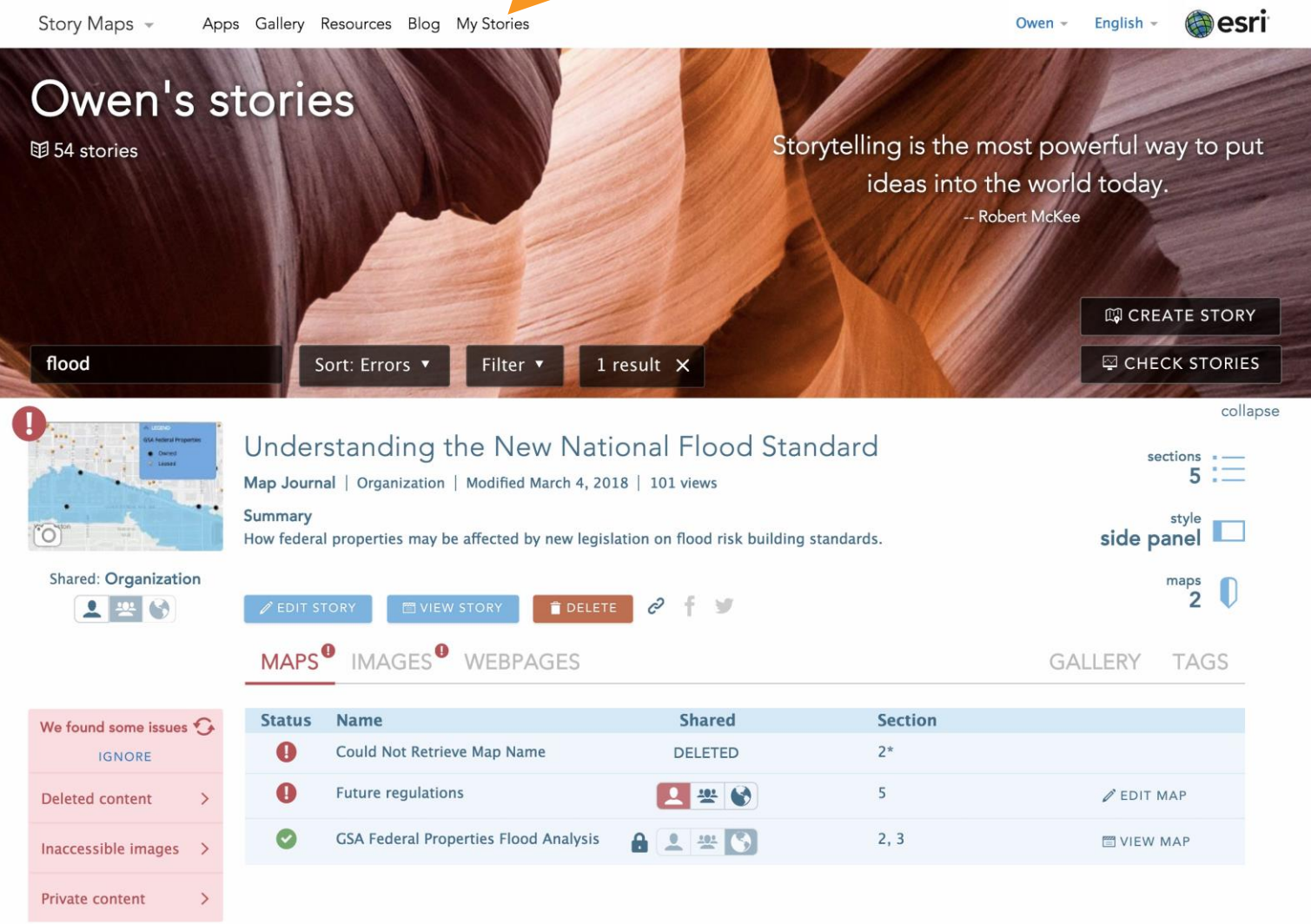
Plight of the Masked Bobwhite Quail
By Holly Eagleston, US Fish and Wildlife Service

<https://storymaps.arcgis.com>

Ensure Your Story Maps Are Healthy

Use **My Stories** to check for issues

- Missing / deleted content
- Sharing issues
- Web security issues
(coming soon)
- Edit item information
- Preview embedded view
- ...



Story Maps ▾ Apps Gallery Resources Blog My Stories Owen ▾ English ▾ esri

Owen's stories

54 stories

Storytelling is the most powerful way to put ideas into the world today.
-- Robert McKee

CREATE STORY CHECK STORIES

flood Sort: Errors ▾ Filter ▾ 1 result X

Understanding the New National Flood Standard

Map Journal | Organization | Modified March 4, 2018 | 101 views

Summary
How federal properties may be affected by new legislation on flood risk building standards.

Shared: Organization

EDIT STORY VIEW STORY DELETE

MAPS¹ IMAGES¹ WEBPAGES GALLERY TAGS

Status	Name	Shared	Section
!	Could Not Retrieve Map Name	DELETED	2*
!	Future regulations		5 EDIT MAP
✓	GSA Federal Properties Flood Analysis		2, 3 VIEW MAP

We found some issues

IGNORE

Deleted content >

Inaccessible images >

Private content >

<https://storymaps.arcgis.com>



Demo

Content Consumer Tips

Administrators



Administrator goals

- Configure the organization/portal to help promote success
 - Basemaps
 - App templates
 - Security, roles, and privileges
 - Use of Groups for collaboration
 - Responsible credit usage
 - Documentation of published content
- Provide a framework for organization



Be a proactive administrator!

Drive positive change in your organization

- Know when new releases are coming
- Follow the ArcGIS blog
- Read about what's new after each release
- Promote new features to your members
- Review work and contact members with suggestions for improvements
- Promote the good work of your organization members internally and externally



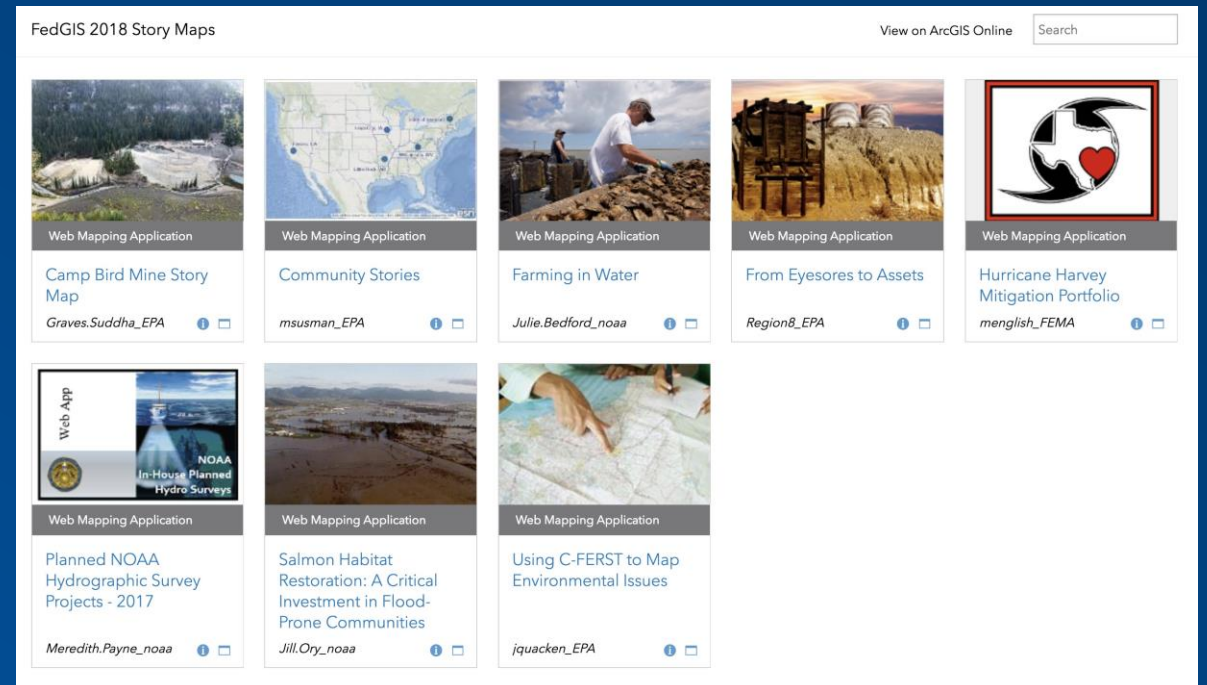
Promote good work

- Share content **externally**
 - Social media, press releases, conferences, ...
 - Work with public affairs department
 - Story Maps
- Share content **internally**
 - Make sure management knows the value of the work being done



Promote good work

- Use groups to collect useful items
 - Create gallery apps (Share a group >> Make a web app >> Minimal Gallery)
 - Liberally share the link and/or embed in web pages
- Give recognition and awards
 - “App of the month/year”
 - “Maps that make a difference”



Set better defaults

Esri Vector Basemaps

General

Home Page

Gallery

Map

Item Details


Groups

Utility Services

Map

Configure the components people in your organization will use to author maps.

Basemap Gallery



Select the group whose webmaps will be shown in the Basemap Gallery.

Esri Default

☒ Use Esri vector basemaps in supported ArcGIS apps. [?](#)

Set better defaults

Shared Theme

Shared Theme



Use the shared theme to apply your organization's brand colors and logo to information products created from configurable app templates, Story Maps, Web AppBuilder, and to your Open Data sites. Define the shared theme of your organization using the color pickers and logo options below.

Header: Sample Text

Text Color:



Background:



Body: Sample Text [Sample Link](#)

Text Color:



Background:



Link Color:



Button: Sample Text

Text Color:



Background:



Logo:



Specify a logo image by entering a URL reference or by uploading an image file that will be stored as a public item in your content. The logo URL reference must use the HTTPS protocol. Optionally, you can make the logo clickable by entering the target website URL in the Logo Link box.

Logo Image:

UPLOAD LOGO

Logo Link:

Prevent Accidental Deletion

Delete protection

General Settings

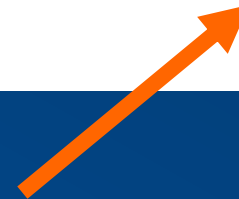
Save

Cancel

Delete Protection

☒ Prevent this item from being accidentally deleted.

Delete Item



Balance security with productivity

Be permissive, but protective

- Provide members the privileges they need to be successful
- Determine useful sets of privileges for your members and turn them into **Roles**

General

Home Page

Gallery

Map

Item Details

Groups

Utility Services

Roles

Marketplace

Credits

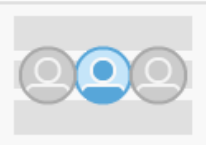
Security

Open Data

Roles ?














Create, edit, and manage roles in your organization. You may create a role based on an existing role or role template, allowing or denying privileges associated with the role as you deem necessary.

Note that when creating or editing a role, changes aren't saved until you click Save Role.



CREATE ROLE

ASSIGN ROLES

Role Name	Minimum Level	Members	
Administrator	2	1	
Data Admin and Author	2	0	  
Engineer	2	0	  
GIS Data Administrator	2	0	  
Publisher	2	2	
User	2	0	
Viewer	1	1	

Balance security with productivity

Be permissive, but protective

- Restrict unwanted / unplanned credit usage through credit allocations

SAVE

CANCEL

General

Home Page

Gallery

Map

Items

Groups

Utility Services

Roles

Marketplace

Credits

Security

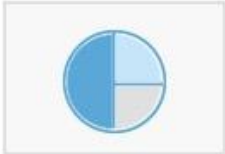
Open Data

Credits ?

Manage and control expenditures by crafting a budget that assigns a flexible allocation of credits to some or all organization members. An allocation of any amount can be assigned to your members one at a time or as part of a bulk operation. Allocations for members may be modified at any time.

If this method does not meet your needs you can revert to solely making use of the default organization-wide credit monitoring strategy.

Credit Budgeting and Allocation



Check the checkbox below to budget credits. Once you have enabled the credit budgeting tools you can set allocations for one or more members by clicking the button that will appear below and opt to specify that each member's available credits will appear on their profile page. You can also set the allocations in the Action menu associated with an individual member in the Organization page Members grid.

☒ Enable credit budgeting tools

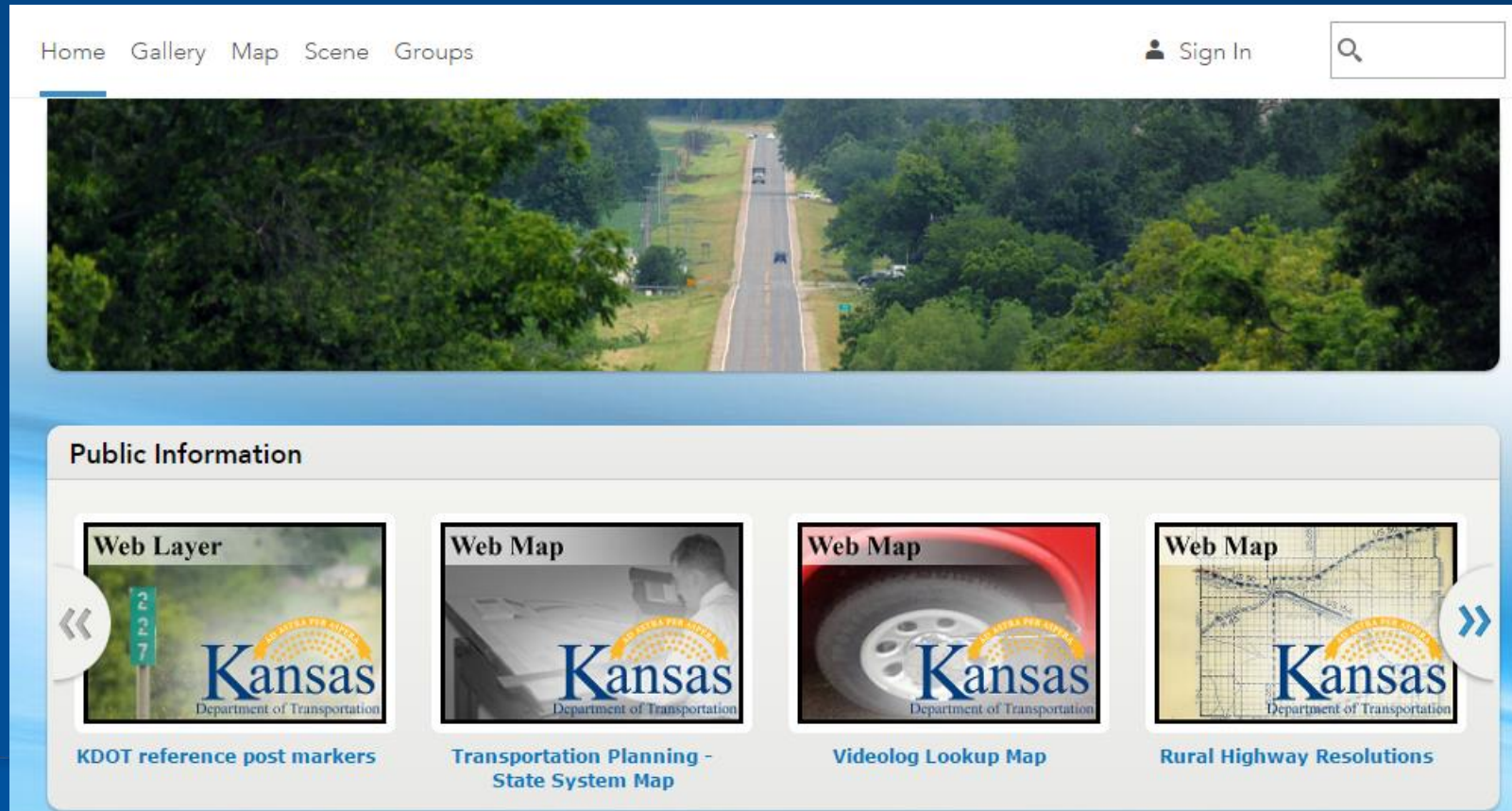
☐ Show each member's available credits on their profile page

SET DEFAULT ALLOCATION

MANAGE BUDGET

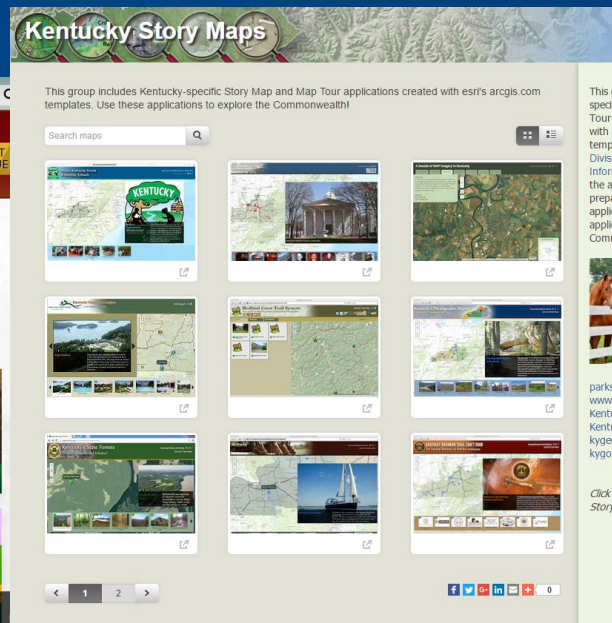
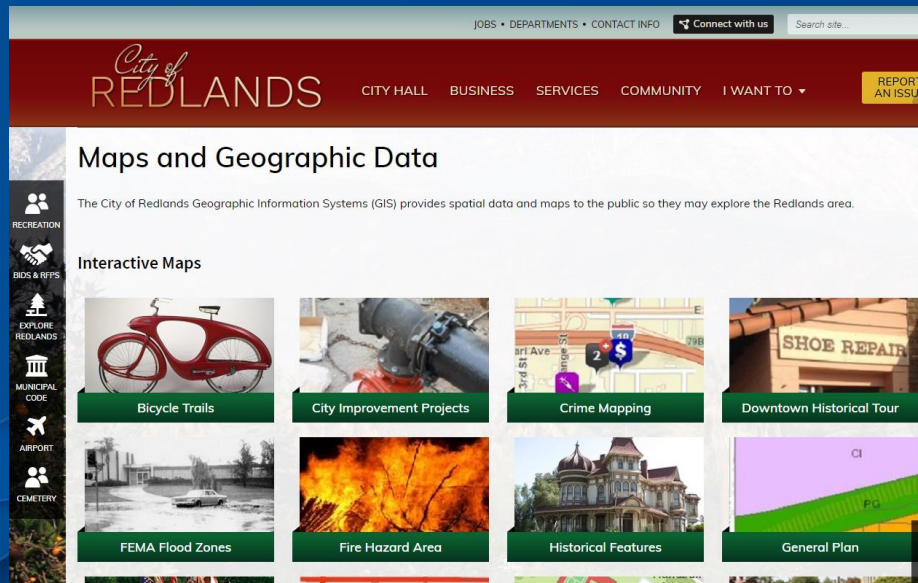
Organization Branding

Create a visual identity for your organization's content

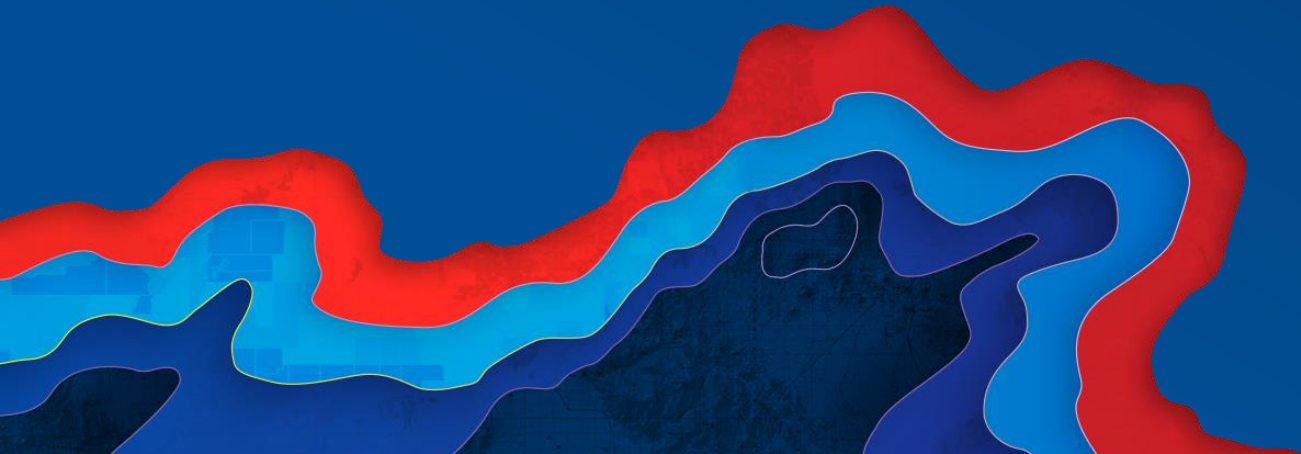


More ways to deliver content

- Embed maps and apps in your website
- Create gallery apps and ribbons by sharing groups
- Open Data for ArcGIS



Wrap-Up



Print Your Certificate of Attendance

Print stations located in the 140 Concourse

Tuesday

12:30 pm – 6:30 pm

GIS Solutions Expo

Hall B

5:00 pm – 6:30 pm

GIS Solutions Expo Social

Hall B

Wednesday

10:30 am – 5:15 pm

GIS Solutions Expo

Hall B

6:30 pm – 9:00 pm

Networking Reception

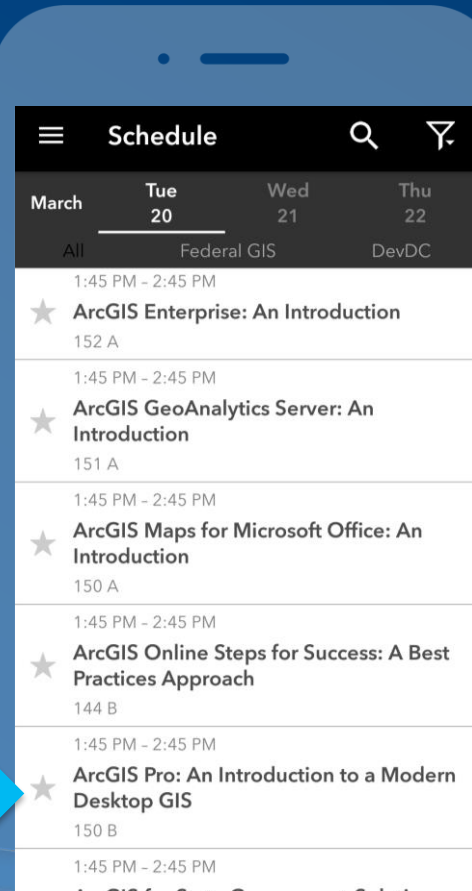
Smithsonian National Portrait Gallery

Please Take Our Survey in the Esri Events App

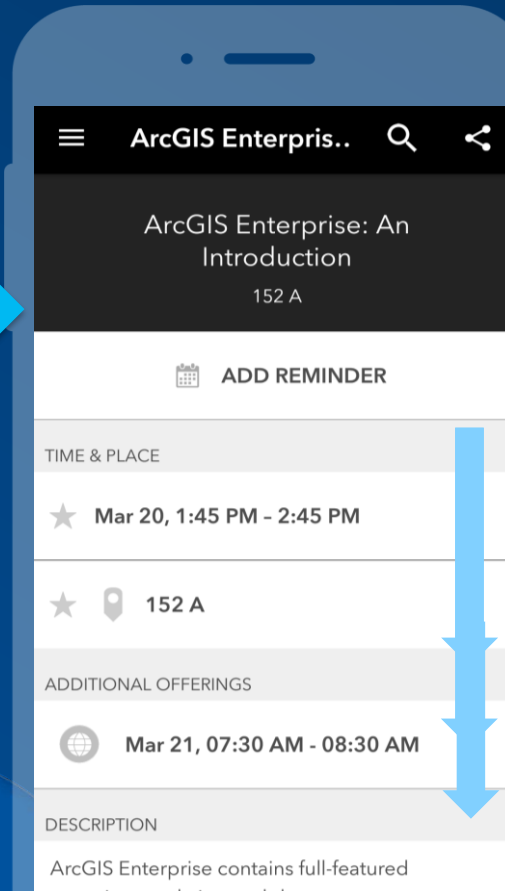
Download the Esri Events app and find your event



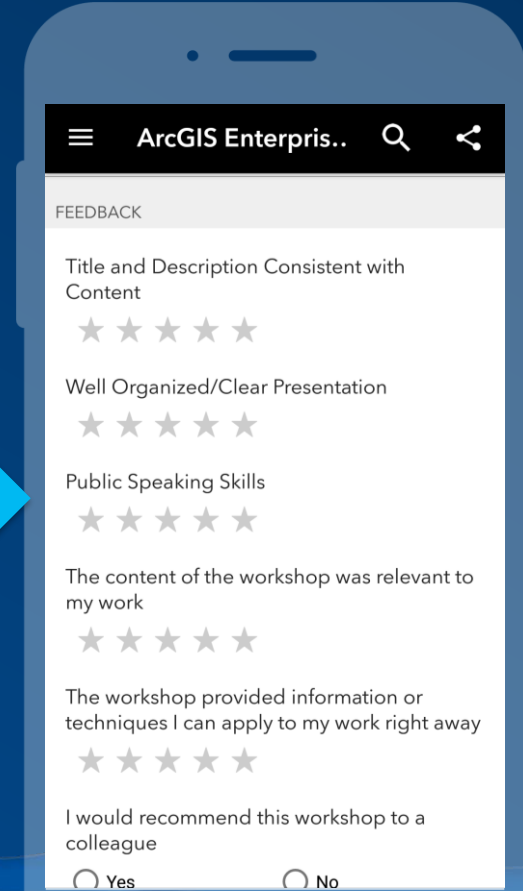
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"





esri

THE
SCIENCE
OF
WHERE