



ArcGIS Open Data

Getting Started + Best Practices

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Follow along!

<http://bit.ly/od-workshop-2017>

Agenda

1pm – 4pm

- What is Open Data – and why it matters
- What is ArcGIS Open Data?
 - *Exercise 1: Explore ArcGIS Open Data sites*
- Data preparation and organization workflows
 - *Exercise 2: Create content for ArcGIS Open Data*
- Creating an Open Data site
 - *Exercise 3: Create an ArcGIS Open Data site*
- Customizing the Open Data site
 - *Exercise 4: Customize your ArcGIS Open data site **
- Promoting your Open Data site
- Advanced topics

* Time permitting

What is Open Data – and why it matters

Open Data principles



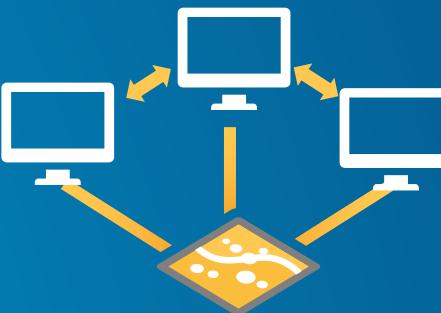
Accessible



Discoverable

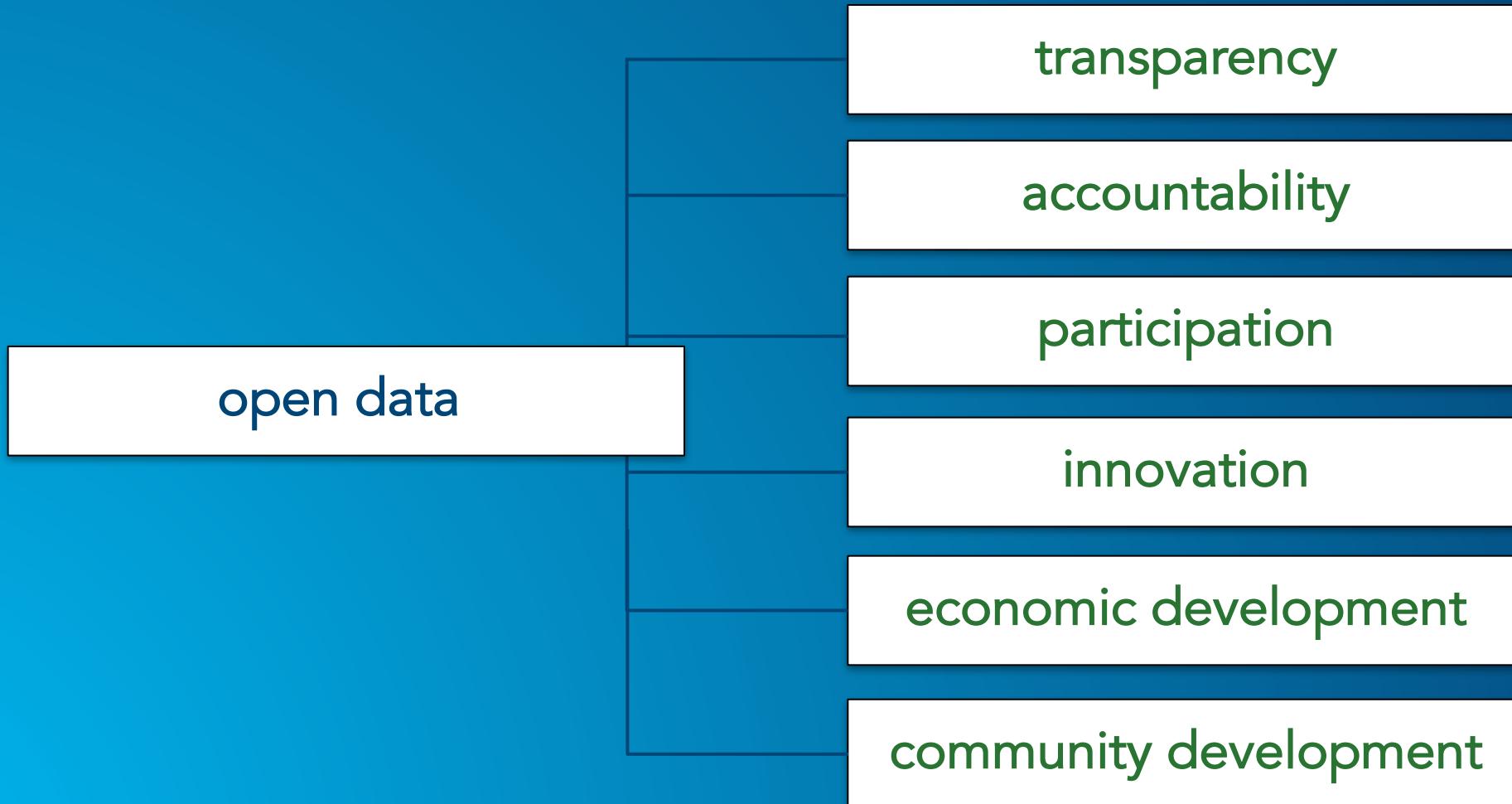


Explorable



Collaborative

Why does Open Data matter?



What is ArcGIS Open Data?

Share Live ArcGIS Open Data in Minutes

As part of your ArcGIS Online subscription, you can use ArcGIS Open Data to share your live authoritative open data. Esri-hosted ArcGIS Open Data gives you a quick way to set up public-facing websites where people can easily find and download your open data in a variety of open formats.



You Can Easily Share
Data with the Public



Anyone Can Use Open
Data for Free



Your Data Helps Real
People Solve Real
Problems



Explore ArcGIS Open
Data



You Can Create Your
Own Public Open Data
Sites



You Can Easily Share Data with the Public

ArcGIS Open Data uses the ArcGIS Online groups you already have to identify open data, allowing you to quickly publish or remove your open data. Your open datasets automatically sync with the latest version of your sources. It can even integrate with other open data platforms, such as CKAN.

[Explore ArcGIS Open Data](#)

Share

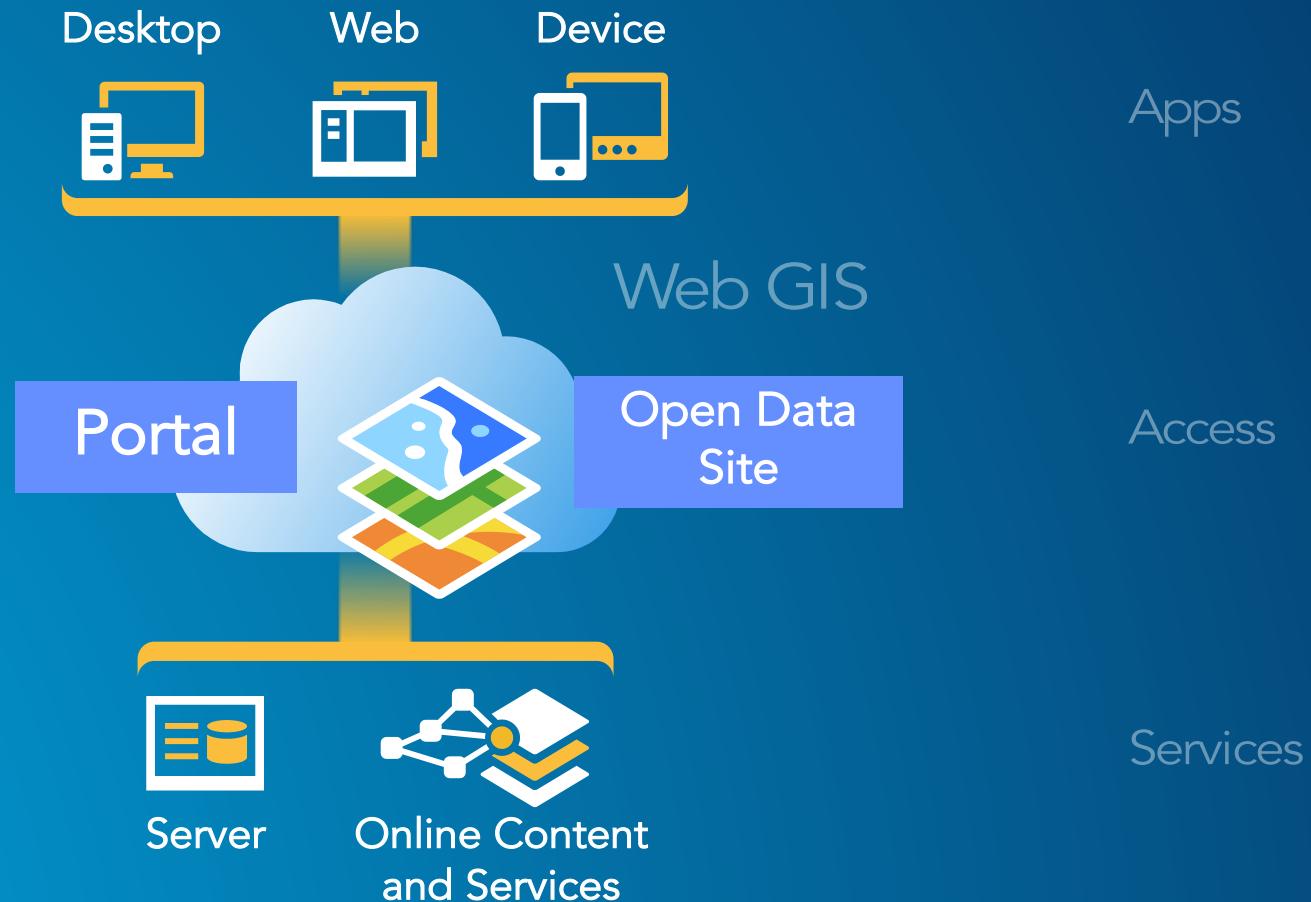


Your data will be available via:

ArcGIS Open Data is part of the ArcGIS Platform

Providing open access to your published data

Simple
Integrated
Open



ArcGIS Open Data is accessible

- Users can easily access the data they want
- Users can connect with the data at the source
- Users know the licensing information



FTP websites

Transportation					
Description	Date of Data	SHP (zipped)	DWG	KML	
Snowmobile Bylaw Trails	10 May 2012	SHP	DWG	KML	
Trails - NonMotorized	2005	SHP	DWG	KML	
Trails - Ski	2003	SHP	DWG	KML	
Trails - Ski - GPS	2003	SHP	DWG	KML	
Trails - Motorized	2005	SHP	DWG	KML	
TRAIL - Motorized Winter	2012	SHP	DWG	KML	
TRAIL - Motorized Summer	2012	SHP	DWG	KML	
Transit Bus Routes	2012	SHP	DWG	KML	
Transit Bus Stops	2012	SHP	DWG	KML	
Roads - Right of Ways	2014	SHP	DWG	KML	
Roads - Center Lines	2014	SHP	DWG	KML	

Environment					
Description	Date of Data	SHP (zipped)	DWG	KML	Extra
Vegetation Inventory 2005	Sept 2005	SHP	DWG	KML	Manual
Soil Inventory 2005 (Text)	Sept 2005	SHP	DWG	KML	
Soil Inventory 2005 (Polygons)	Sept 2005	SHP	DWG	KML	
Terrain (Text)	Sept 2005	SHP	DWG	KML	
Terrain (Polygons)	Sept 2005	SHP	DWG	KML	
Draft Water Inventory - Lakes	approx 2004	SHP	DWG	KML	
Draft Water Inventory - Rivers	approx 2004	SHP	DWG	KML	
Draft Water Inventory - Streams	approx 2004	SHP	DWG	KML	
Draft Water Inventory - Streams Indefinite	approx 2004	SHP	DWG	KML	
Draft Water Inventory - Watersheds	approx 2004	SHP	DWG	KML	
Draft Water Inventory - Wetlands	approx 2004	SHP	DWG	KML	
Sensitive Areas	approx 2004	SHP	DWG	KML	
Sensitive Areas as used by Bylaw for 2011/12 ATV and Snowmobile bylaws	approx 2011	SHP	DWG	KML	
Additional Slopes as used in the ATV/Snowmobile bylaw as additional sensitive areas	approx 2004	SHP	DWG	KML	
Protected Areas 2004	approx 2004	SHP	DWG	KML	

ArcGIS Open Data is discoverable

- Users can view all datasets on a site
- Users can search for specific datasets
- Users can see suggested related datasets



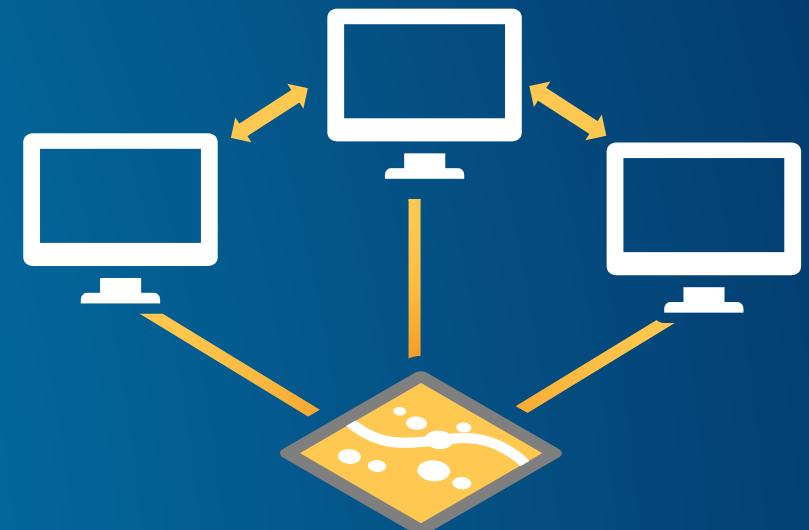
ArcGIS Open Data is explorable

- Users can filter and sort data
- Users can search by location
- Users can visualize data in different smart mapping and chart options



ArcGIS Open Data is collaborative

- Users can download data in multiple open formats
 - Spreadsheet (CSV)
 - KML
 - Shapefile
 - File Geodatabase
 - API access: GeoJSON, GeoService, OGC WMS
- Users can share and embed datasets
- Users can add data to ArcMap or ArcGIS Online
- Data can be linked with CKAN & data.gov





Demonstration

Using ArcGIS Open Data Sites

ArcGIS Hub - Open Data

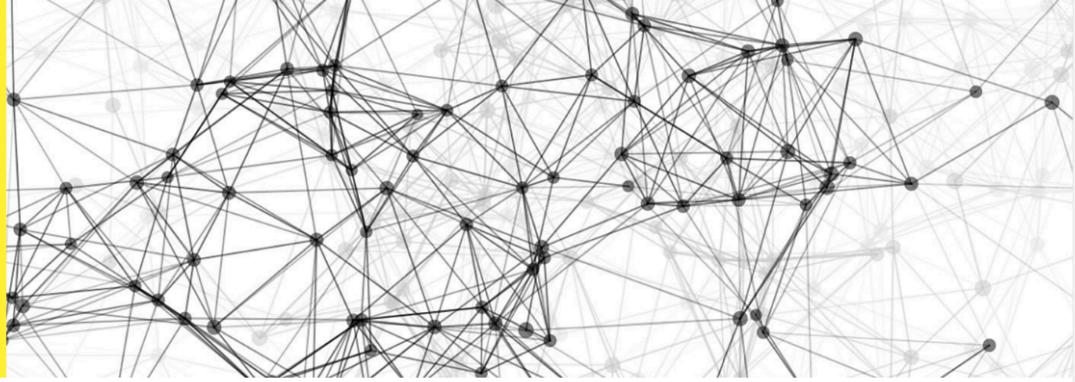
https://hub.arcgis.com/pages/open-data

ArcGIS Hub Community Initiatives Open Data Patrick

Open Data

/ōpēn dādə/

noun
data that can be freely used, re-used and redistributed by anyone.
(Open Definition)



Share Open Data in Minutes

As part of your ArcGIS Online subscription, you can share your authoritative open data. Use your existing ArcGIS Online groups to identify data to share, then quickly set up public-facing websites for people to easily find and download your data in a variety of open formats. Your open datasets are connected to the source and are automatically updated.

Enable Open Data



Search Open Data

Find Bus Routes, Park Services, Schools

Near City, Country

70,661

4,182

Total Datasets

Organizations Worldwide Sharing Open Data

Properties by Categories

Exercise 1: Explore ArcGIS Open Data sites



Exercise 1: Explore ArcGIS Open Data sites

- Explore sites
- Follow steps in the “For Consumers” section of the online documentation:
<https://doc.arcgis.com/en/hub/sites/find-data.htm>
 - Discover data
 - View details
 - Download data
 - Explore data
 - Chart data
 - Visualize data
 - Sign in
 - Comment on data
 - Use the preview map
- <https://hub.arcgis.com/pages/open-data>
(also lists featured open data sites)
- <http://dc.esri.com/>
- <http://geohub.brampton.ca/http://data-summitgis.opendata.arcgis.com/>
- <http://datahub.johnscreekga.gov/>
- <http://data-bc-gis.opendata.arcgis.com/>

Data preparation and organization workflows

Preparing your data

Make the data easy to understand

- Set attribute aliases
 - Less than ten characters
- Set an appropriate hover field
- Hide attributes that don't add meaning
 - Keep Object ID and Shape fields
- Online Doc has good section on "Improving data quality"



<https://doc.arcgis.com/en/hub/data/prepare-your-data.htm>

Metro School Districts

SAVE

CANCEL

Title **Metro School Districts**



Click thumbnail to change image.

Summary Enter an item summary

Description

The Louisville Municipal School District in collaboration with stakeholders is committed to providing a quality education that prepares students for a successful future.

Critical Item Details

Access and Use Constraints

None

Properties

URL

<http://ags2.lojic.org/ArcGIS/rest/services/External/MetroDistricts/MapServer/0>

Tags

Schools × Metro Districts × Louisville × Add tag(s)

Credits

lojic

Delete Protection

Prevent this item from being accidentally deleted.

Extent

Left: -85.96 Right: -85.4

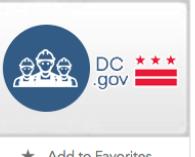
SET EXTENT

Top: 38.38 Bottom: 38

SAVE

CANCEL

Construction Permits in 2015

[Overview](#) [Data](#) [Visualization](#)

2015 occupied constructions and events ground permits applied for and approved by the District Department of Transportation.

by DCGISopendata

Last Modified: May 18, 2017

Feature Layer

Description

The dataset contains locations and attributes of 2015 above ground permits applied for and approved by the District Department of Transportation. They are occupied constructions and events. Examples include: moving trucks, roll off debris container, moving storage container, construction staging area, mobile crane work zone, other reserved parking. Public space permit process is described on the DDOT website <http://ddot.dc.gov>.

These data are shared via an automated process where addresses are batch matched (geocoded) to the District's Master Address Repository. Users may find that some data points will contain 0,0 for X,Y coordinates resulting in inconsistent spatial locations. Addresses for these data points could not be automatically geocoded and will need to be manually geocoded to 'best fit' locations in DC. Use the MAR Geocoder to help complete this.

Layers

[DDOT](#)

Open In Service URL

Access and Use Constraints



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Comments (0)

Leave a comment.



Leave a comment.

[Comment](#)

[Open in Map Viewer](#)

[Open in Scene Viewer](#)

[Share](#)

Details

(0) views: 41

Source: [Feature Service](#)

Created: December 17, 2015

Size: 1 KB



Owner



DCGISopendata

Tags

[dec2015](#), [Washington DC](#), [DC GIS](#), [District of Columbia](#), [Feeds](#), [cdw](#), [ddot](#), [public space](#), [permit](#)

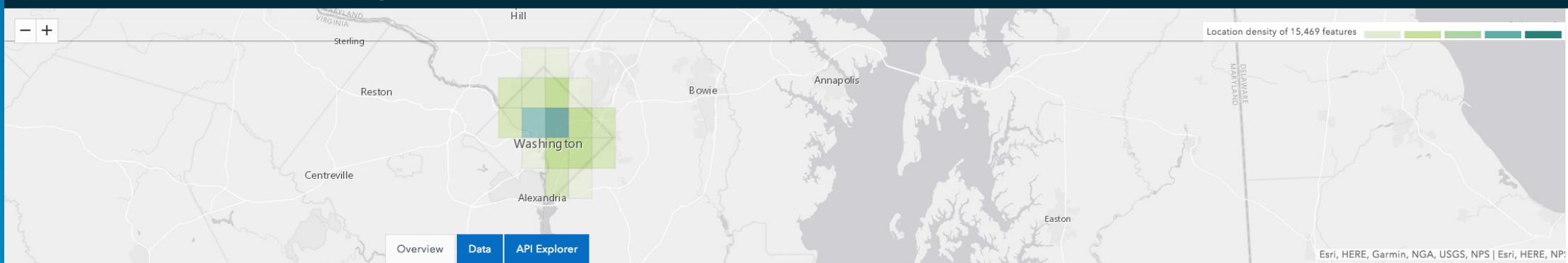
Credits (Attribution)

<http://octo.dc.gov>; <http://ddot.dc.gov>

URL

View

<http://maps2.dcgis.dc.gov/dcgis/rest/s>

[Overview](#) [Data](#) [API Explorer](#)

Esri, HERE, Garmin, NGA, USGS, NPS | Esri, HERE, NP:

Construction Permits in 2015

[★ Favorite](#) [Download Data](#) [APIs](#)

5/18/2017 Spatial Dataset 15,470 Rows

The dataset contains locations and attributes of 2015 above ground permits applied for and approved by the District Department of Transportation. They are occupied constructions and events. Examples include: moving trucks, roll off debris container, moving storage container, construction staging area, mobile crane work zone, other reserved parking. Public space permit process is described on the DDOT website <http://ddot.dc.gov>.

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[Less](#)

Attributes

[Chart](#) [Map Visualization](#)

APPLICANTCOMPANYNAME Text	APPLICATIONDATE Date or Time	CONTRACTORNAME Text	EFFECTIVEDATE Date or Time	EXPIRATIONDATE Date or Time		
INTAKEDATE Date or Time	ISEXCAVATION Text	ISFixture Text	ISLANDSCAPING Text	ISPAVING Text	ISPROJECTIONS Text	ISPSRENTAL Text
ISSUEDATE Date or Time	OWNERNAME Text	PERMITNUMBER Text	PERMITTEENAME Text	READYFORREVIEWDATE Date or Time	STATUS Text	
TRACKINGNUMBER Text	WLFULLADDRESS Text	WORKDETAIL Text	XCOORD Number	YCOORD Number	SHOW MORE	4 Attributes

[Related Data](#)

About

[DCGIS Open Data: Transportation](#)

Shared By: DCGISopenData

Data Source: maps2.dcgis.dc.gov[View Metadata](#)[Create Webmap](#)[Create a Story Map](#)

Use an Authoritative ArcGIS Online Profile

- Profile name should convey authoritative source
- Profile description and photo needs to be
 - Professional
 - Informative
 - Authoritative
 - Include contact information

The screenshot shows an ArcGIS Online profile page for Shane Clarke. At the top, there is a placeholder for a profile picture. Below it, a blue box contains the user's name, bio, and other profile details. The bio states: "I work at Esri in the Olympia regional office. As part of the sales team we focus on sales in the states of Alaska, Idaho, Montana, Oregon and Washington." It also indicates "JOINED: 4 years ago" and "COUNTRY: US". To the right of the profile box, there is a summary of the user's contributions: "6 attributes | 560 locations | ". Below the profile box, there is a link to a dataset titled "WA Heritage Barns SP (Hosted)" which is shared by "Shane Clarke". The dataset is described as being from "Shane's Open Data Group" and is in "State Plane HARN projection (2927)".

State Plane HARN projection (2927)

Shane Clarke

I work at Esri in the Olympia regional office. As part of the sales team we focus on sales in the states of Alaska, Idaho, Montana, Oregon and Washington.

JOINED: 4 years ago

COUNTRY: US

Open Data Group

Provide a description.

6 attributes | 560 locations |

WA Heritage Barns SP (Hosted) (from Shane's Open Data Group)

Shared by [sclarke_pnw](#)

State Plane HARN projection (2927)

Add items to ArcGIS Online

- Leverage workflows you know
- Catalog all your data in ArcGIS Online
 - Upload local items from the web or ArcGIS Desktop
 - Register services from ArcGIS Server
- Open Data supports different file types:
 - Map services
 - Feature services
 - Image services
 - CSVs
 - PDFs and Word docs
 - URLs (e.g. for web apps)
 - Web Maps



Registering services to ArcGIS Online

- Registering services with multiple layers
 - Quicker
 - Less control over search results and item's metadata
 - All layers will have same tag, thumbnail
- Registering individual layers
 - More time consuming
 - Better search results and item's metadata
 - Recommended method
 - Sample python script to register service layers individually
 - <https://github.com/sirws/OpenData-MapServiceLayerRegistrar>



Create effective metadata

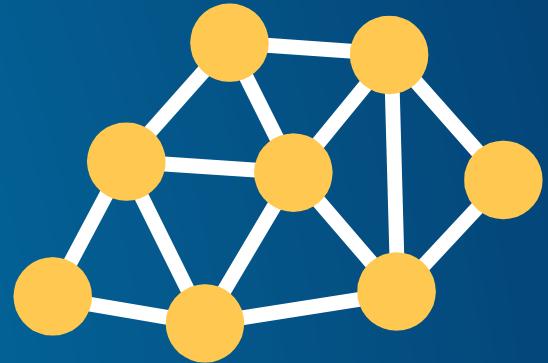
- Metadata helps make your data more authoritative and provides context
 - Titles
 - Description
 - Licensing
 - Tags
 - Icons
- Add official metadata files to ArcGIS Online item



<https://doc.arcgis.com/en/arcgis-online/share-maps/metadata.htm>

Persistent linkages

- Update your data in one place
- Automatic updates across all sites
- Users get authoritative and timely data



Demonstration

Preparing and organizing data for ArcGIS Open Data

Exercise 2: Create content for ArcGIS Open Data



ArcGIS Online credentials for exercises

- <http://localgovne.maps.arcgis.com>
 - Username: workuser01 to workuser20
 - Password: esri2017

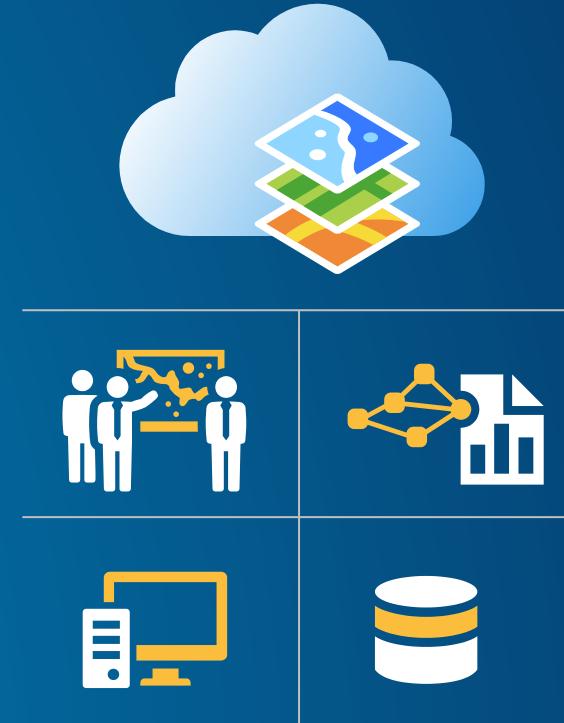
Exercise 2: Create content for ArcGIS Open Data

- Use <http://localgovne.maps.arcgis.com>
- Find interesting data or ArcGIS Server services
- Publish hosted feature layers (services)
 - Use ArcGIS Desktop or ArcGIS Online
 - <http://doc.arcgis.com/en/arcgis-online/share-maps/publish-features.htm>
- Reference ArcGIS Server services
 - Find ArcGIS Server REST endpoint (URL)
 - Add items from the web <http://doc.arcgis.com/en/arcgis-online/share-maps/add-items.htm>
- Share items to public
- Share items to “DVRPC Workshop Open Data” group

Creating an Open Data site

Creating an Open Data Site

- Enable the Online Organization
- Designate Groups for Open Data
- Create authoritative content
- Prepare spatial and non-spatial data
- Create custom role
- Enable staff in other departments
- Create an Open Data Site



Turn on Open Data

- Enable Open Data for your ArcGIS Organization
 - In your ArcGIS Online organization settings
- Set user roles as desired
- Does not mean all data is publicly accessible
- Optionally, enable metadata for the organization
 - In your ArcGIS Online organization settings



Enable Open Data for Organization

 **SAVE**

CANCEL

General

Home Page

Gallery

Map

Item Details

Groups

Utility Services

Roles

Security

Open Data

Open Data

You can enable Open Data capabilities for your organization in order to configure an Open Data web site that makes the data of designated groups in your organization, as well as the items in designated groups of other organizations, freely available to everyone to use and republish as they wish without restrictions from copyright, patents or other mechanisms of control.

Note that you can disable Open Data capabilities associated with your organization at any time.

[Learn more about enabling Open Data for your organization.](#)



ENABLE OPEN DATA

Create Custom Role(s)

SAVE CANCEL

Roles

Create, edit, and manage roles in your organization. You may create a role based on an existing role or 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.

Role Name	Members	Action
Administrator	17	
aksmc	0	
Analyst	0	
Curator	0	
Custom Publisher	1	
No Geocoding	0	
Open Data Admin	0	

CREATE ROLE **ASSIGN ROLES**

SAVE CANCEL

Roles

Role Name: Open Data Admin
Description: Open Data Admin

TOGGLE ALL ON **COLLAPSE ALL** **SAVE ROLE** **DISCARD CHANGES**

General Privileges

Groups Content

Create, update, and delete
 Join organizational groups
 Join external groups
 Publish hosted scene layers

Sharing

Share with groups
 Share with organization
 Share with public
 Make groups visible to organization
 Make groups visible to public
 Make groups available to Open Data

Premium Content

Geocoding
 Network Analysis
 Spatial Analysis
 GeoEnrichment
 Demographics
 Elevation Analysis

Features

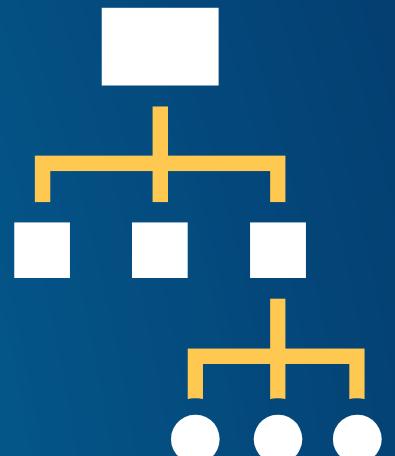
Edit
 Edit with full control

Open Data

Manage Open Data site(s)

Specify Open Data groups

- Control what content appears on your Open Data site
- Create or edit groups to organize Open Data content
 - One large Open Data group
 - Smaller thematic Open Data groups
 - Enables thematic group search
 - e.g. <https://hifld-dhs-gii.opendata.arcgis.com/>
- Set groups to public and designate as Open Data
- Share items to your Open Data groups
- Can add open data groups from other orgs (federation)



Designate Open Data Groups

Click to change thumbnail

Name: My Open Data

Summary:
Open data to save the world

Description:

Giving researchers, campaigners, journalists, NGOs, companies, policy-makers, individuals and citizens access to data means fundamentally empowering our societies, and strengthening our democracies. It is not about different sides opposing each other, but all sides winning insight and a better understanding, which can ultimately help to better understand and shape the world around us. A key aim of the Open Movement is to encourage and persuade governments and corporations who control publicly useful data to unlock it.

Tags: AGOLPM x Test x Add tag(s)

Status:

Private (Users cannot find this group and can join by invitation only.)

Organization (Users within your organization can search for and find this group.)

Public (Users can search for and find this group.)

Designate as available for use in Open Data sites

Users can apply to join group

Contributors:

All members

Only group owner

Sorted by:

Title Ascending

Create new Open Data site

The screenshot shows the ArcGIS Hub Admin interface at <https://hub.arcgis.com/admin/sites>. The top navigation bar includes links for ArcGIS Hub, Community, Initiatives, Sites (selected), Data, Team, and Settings, along with a user profile for Patrick.

A green box highlights the "Create New Site" button in the top right corner of the main content area.

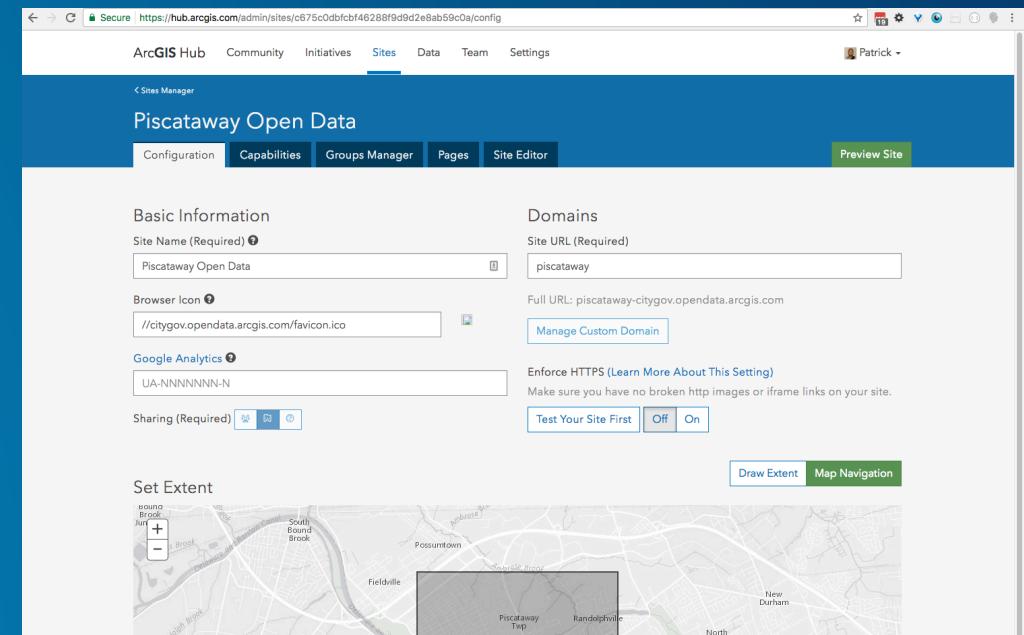
The main content area is titled "Site Manager" and contains two site entries:

- ArcGIS Online for City Government (<http://data1-citygov.opendata.arcgis.com>)**
 - Site Configuration, Capabilities, Site Editor buttons
 - 0 Groups, 0 Items, 0 Datasets
 - Groups Manager, Pages, Delete Site buttons
- ArcGIS Online for City Government (<http://city-citygov.opendata.arcgis.com>)**
 - Site Configuration, Capabilities, Site Editor buttons
 - 11 Groups, 723 Items, 729 Datasets
 - Groups Manager, Pages buttons

Configuring your Open Data site

Setting basic information

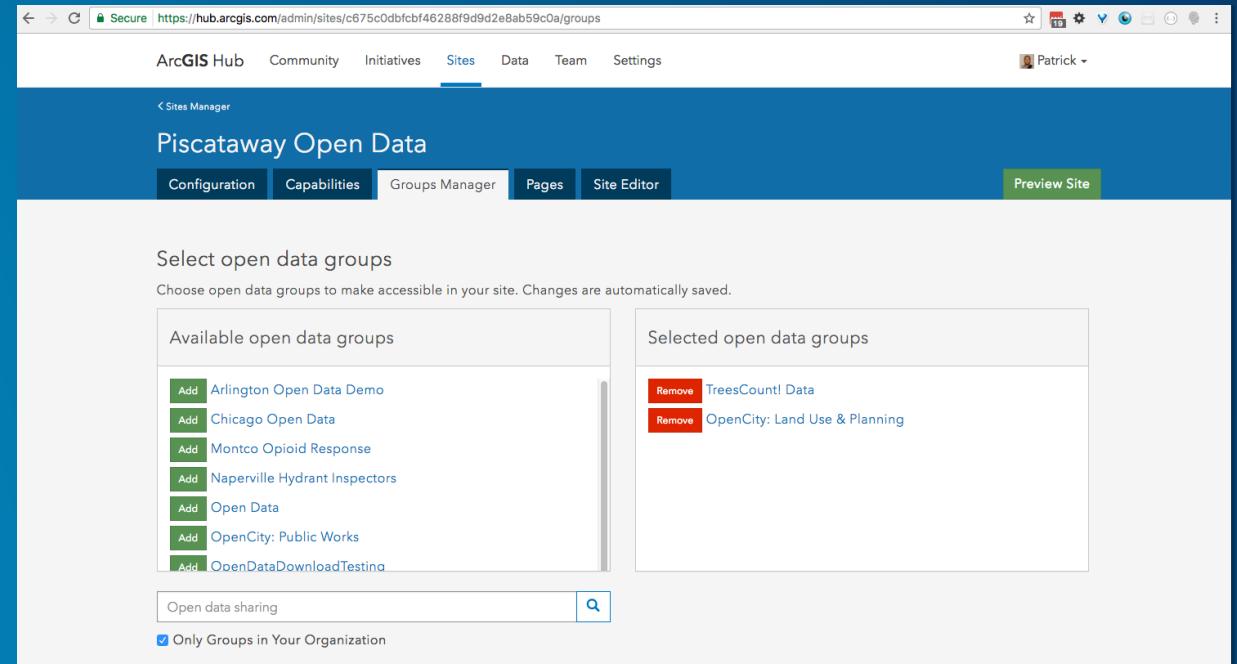
- Set title
- Site URL
 - [name].[yourorg].opendata.arcgis.com
 - Custom URL
- Map extent
- Public or private



Adding your data

Manage data and review status

- Search Open Data groups
- Add groups from your org
- Add groups from other orgs
- Review harvesting status



Designing your site layout

Design layout

- Use the WYSIWYG Editor

- Content Cards

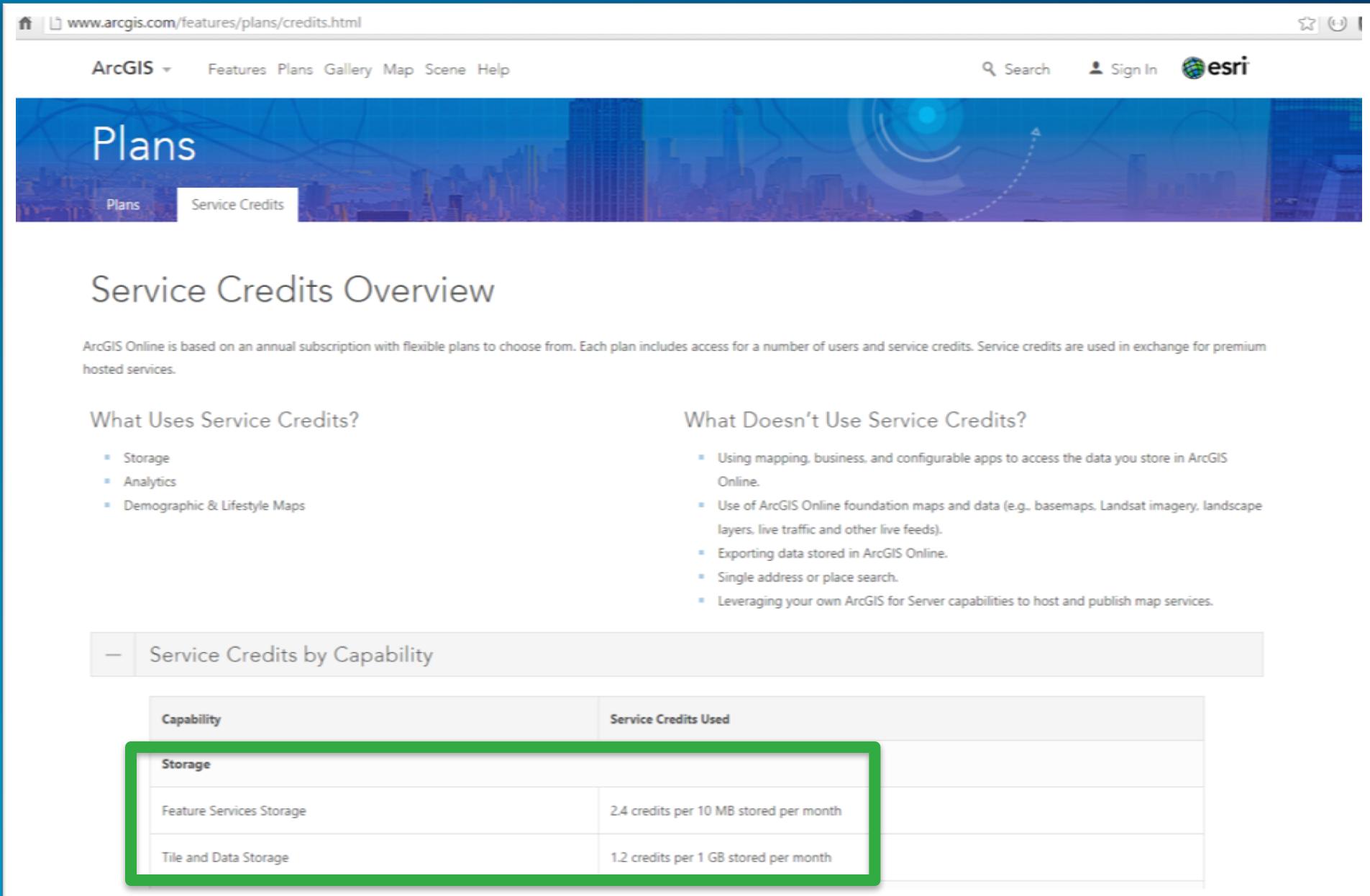
- Row
 - Banner
 - Category (tags, groups)
 - Summary Statistics
- Image
 - Text
 - Charts
 - Iframe

- Use custom HTML/CSS

- Site Header
 - Within cards



ArcGIS Online Service Credits



The screenshot shows the ArcGIS Online Service Credits page. At the top, there's a navigation bar with links for ArcGIS, Features, Plans, Gallery, Map, Scene, Help, Search, Sign In, and the Esri logo. Below the navigation is a banner with the word "Plans" and tabs for "Plans" and "Service Credits". The main content area has a title "Service Credits Overview" and a paragraph explaining that ArcGIS Online uses service credits for premium hosted services. It then splits into two sections: "What Uses Service Credits?" and "What Doesn't Use Service Credits?", each with a bulleted list. Finally, there's a table titled "Service Credits by Capability" showing storage details.

Service Credits Overview

ArcGIS Online is based on an annual subscription with flexible plans to choose from. Each plan includes access for a number of users and service credits. Service credits are used in exchange for premium hosted services.

What Uses Service Credits?

- Storage
- Analytics
- Demographic & Lifestyle Maps

What Doesn't Use Service Credits?

- Using mapping, business, and configurable apps to access the data you store in ArcGIS Online.
- Use of ArcGIS Online foundation maps and data (e.g., basemaps, Landsat imagery, landscape layers, live traffic and other live feeds).
- Exporting data stored in ArcGIS Online.
- Single address or place search.
- Leveraging your own ArcGIS for Server capabilities to host and publish map services.

Service Credits by Capability

Capability	Service Credits Used
Storage	
Feature Services Storage	2.4 credits per 10 MB stored per month
Tile and Data Storage	1.2 credits per 1 GB stored per month

Demonstration

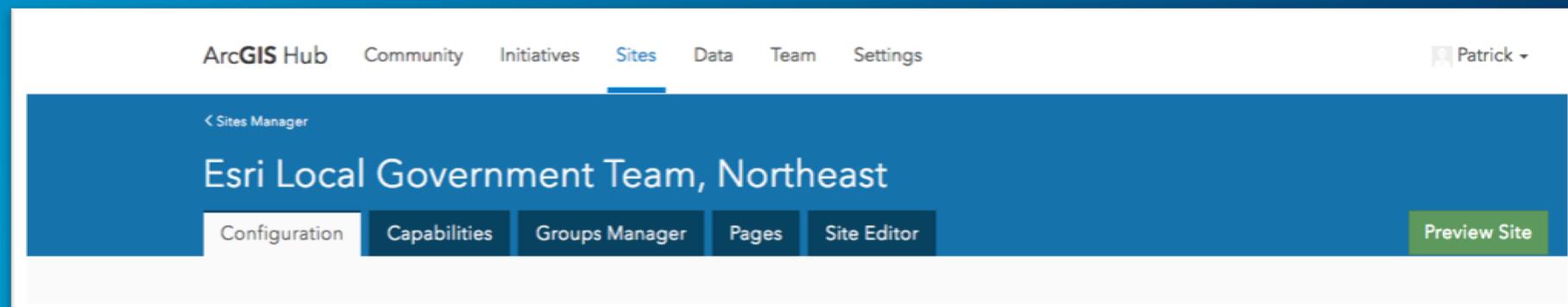
Creating an ArcGIS Open Data Site

Exercise 3: Create an ArcGIS Open Data site

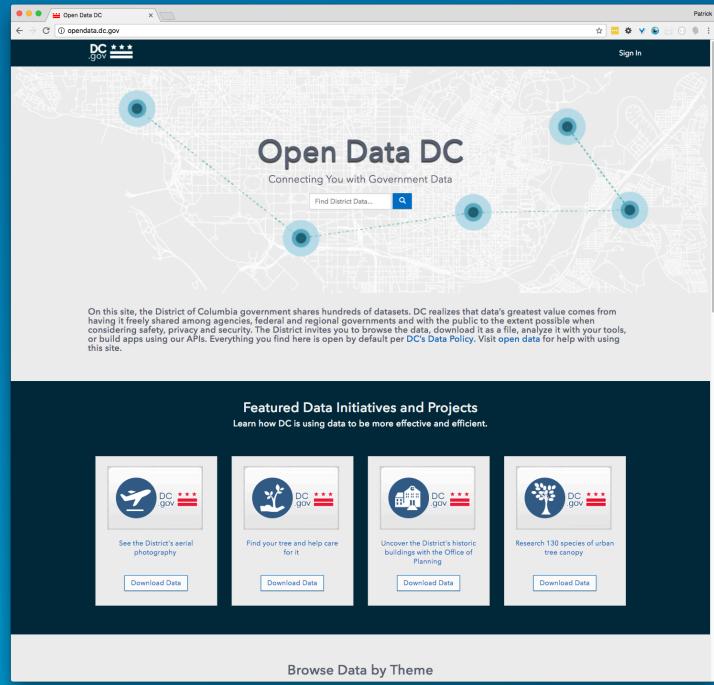


Exercise 3: Create an ArcGIS Open Data site

- Use <http://localgovne.maps.arcgis.com/>
- Create and configure an Open Data Site
 - <https://doc.arcgis.com/en/hub/sites/create-an-open-data-site.htm>
- Manage Site Capabilities
- Explore
 - Groups Manager
 - Data Manager
 - Site Editor



Customizing the Open Data site



Open Data DC
Connecting You with Government Data

Find District Data...

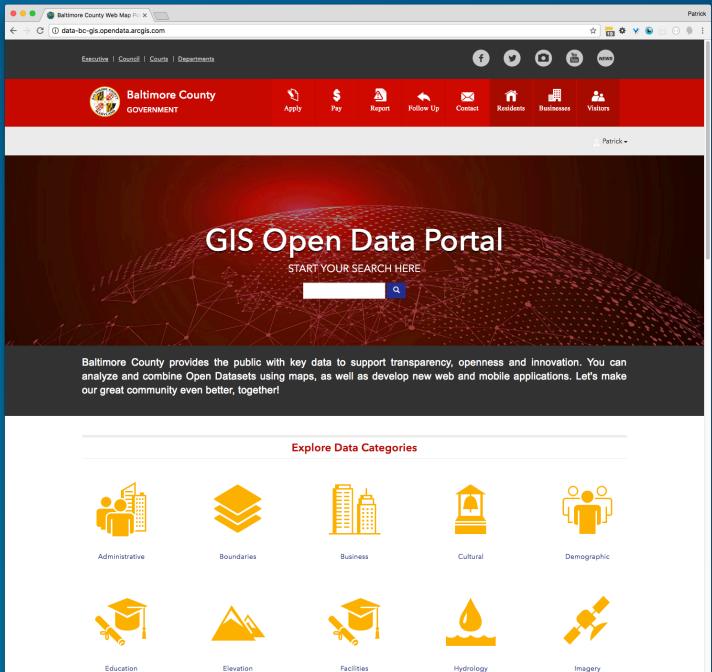
This site, the District of Columbia government shares hundreds of datasets. DC realizes that data's greatest value comes from having it freely shared among agencies, federal and regional governments and with the public to the extent possible when considering safety, privacy and security. The District invites you to browse the data, download it as a file, analyze it with your tools, or build apps using our APIs. Everything you find here is open by default per DC's Data Policy. Visit [open data](#) for help with using this site.

Featured Data Initiatives and Projects

Learn how DC is using data to be more effective and efficient.

-  See the District's aerial photography
-  Find your tree and help care for it
-  Uncover the District's historic buildings with the Office of Planning
-  Research 130 species of urban tree canopy

Browse Data by Theme



Baltimore County GOVERNMENT

Apply Pay Report Follow Up Contact Residents Businesses Visitors

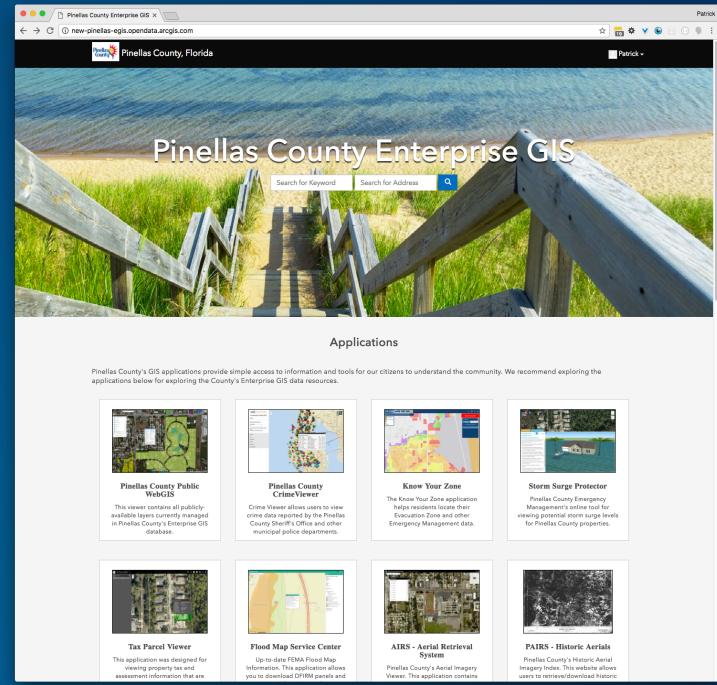
GIS Open Data Portal

START YOUR SEARCH HERE!

Baltimore County provides the public with key data to support transparency, openness and innovation. You can analyze and combine Open Datasets using maps, as well as develop new web and mobile applications. Let's make our great community even better, together!

Explore Data Categories

 Administrative	 Boundaries	 Business	 Cultural	 Demographic
 Education	 Elevation	 Facilities	 Hydrology	 Imagery



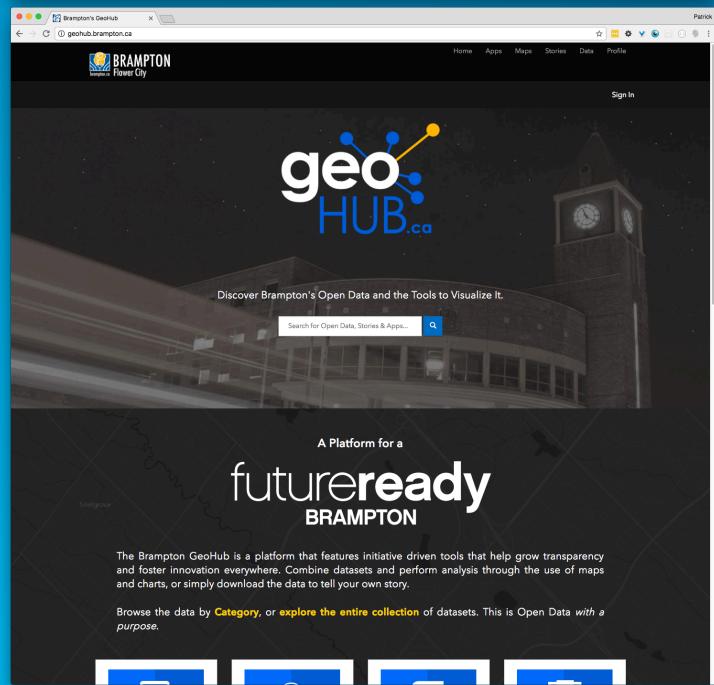
Pinellas County, Florida

Search for Keyword Search for Address

Pinellas County Enterprise GIS

Pinellas County's GIS applications provide simple access to information and tools for our citizens to understand the community. We recommend exploring the applications below for exploring the County's Enterprise GIS data resources.

 Pinellas County Public Works This viewer allows users to quickly view various layers currently managed in Pinellas County's Enterprise GIS database.	 Pinellas County CrimeView Crime data reported by the Pinellas County Sheriff's Office and other municipal police departments.	 Know Your Zone The Know Your Zone application helps residents locate their Know Your Zone and other Emergency Management data.	 Storm Surge Protector Pinellas County Emergency Management uses this application for viewing potential storm surge levels for Pinellas County properties.
 Tax Parcel Viewer This application was designed for viewing property tax and assessment information that are up-to-date ESRI Flood Map Information. This application allows you to download OFIRM parcels and	 Flood Map Service Center Up-to-date ESRI Flood Map Information. This application allows you to download OFIRM parcels and	 AIRS - Aerial Retrieval System Pinellas County's Aerial Imagery Viewer. This application contains	 PAIRS - Historic Aerials Pinellas County's Historic Aerial Imagery Index. This website allows users to retrieve/download historic



BRAMPTON

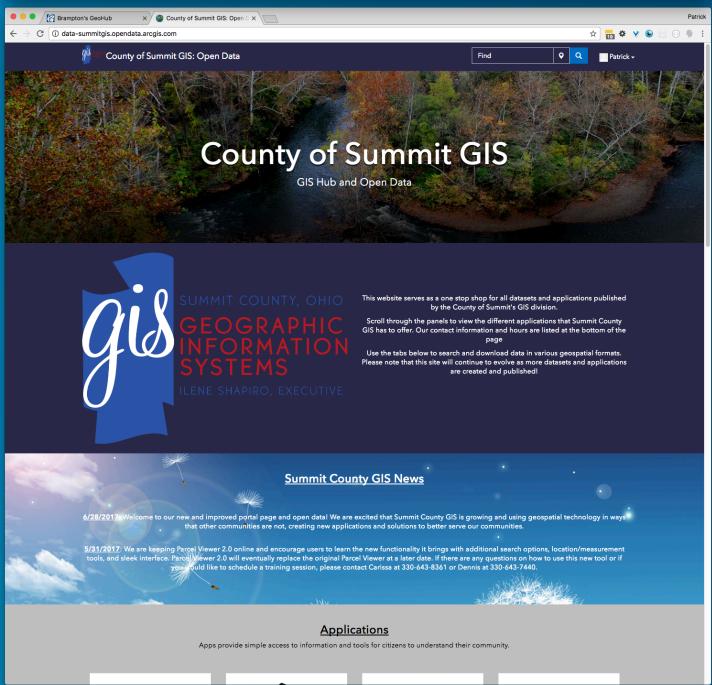
Discover Brampton's Open Data and the Tools to Visualize It.

geo HUB.ca

A Platform for a **futureready** BRAMPTON

The Brampton GeoHub is a platform that features initiative driven tools that help grow transparency and foster innovation everywhere. Combine datasets and perform analysis through the use of maps and charts, or simply download the data to tell your own story.

Browse the data by **Category**, or explore the entire collection of datasets. This is Open Data with a purpose.



County of Summit GIS: Open Data

Find

County of Summit GIS
GIS Hub and Open Data

SUMMIT COUNTY, OHIO
GEOGRAPHIC INFORMATION SYSTEMS
ILENE SHAPIRO, EXECUTIVE

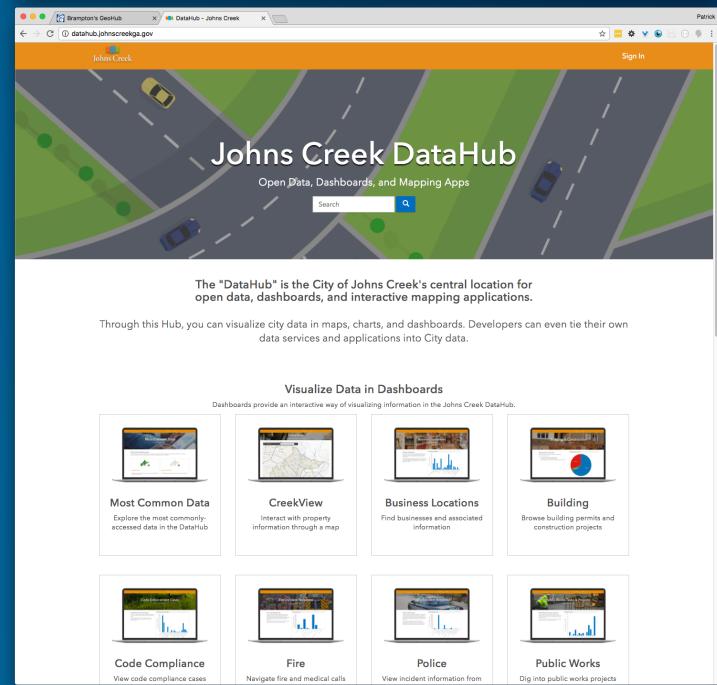
Summit County GIS News

6/28/2017: Welcome to our new and improved portal page and open data! We are excited that Summit County GIS is growing and using geospatial technology in ways that other communities are not, creating new applications and solutions to better serve our communities.

6/23/2017: We are keeping Penit View 2.0 online and encourage users to learn the new functionality it brings with additional search options, location/measurement tools, and sleek interface. Penit View 2.0 will eventually replace the original Penit Viewer at a later date. If there are any questions on how to use this new tool or if you would like to schedule a training session, please contact Carissa at 330-643-8361 or Dennis at 330-643-7440.

Applications

Apps provide simple access to information and tools for citizens to understand their community.



Johns Creek DataHub
Open Data, Dashboards, and Mapping Apps

Search

The "DataHub" is the City of Johns Creek's central location for open data, dashboards, and interactive mapping applications.

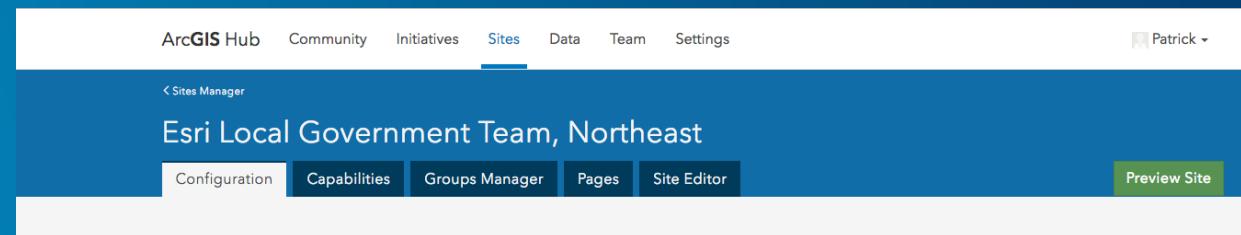
Through this Hub, you can visualize city data in maps, charts, and dashboards. Developers can even tie their own data services and applications into City data.

Visualize Data in Dashboards

 Most Common Data Explore the most commonly accessed data in the DataHub	 CreekView Interact with property information through a map	 Business Locations Find businesses and associated information	 Building Browse building permits and construction projects
 Code Compliance View code compliance cases	 Fire Navigate fire and medical calls	 Police View incident information from	 Public Works Dig into public works projects

Customizing the Site Layout

- Site Editor tab
- WYSIWYG Interface
 - Site Header – Logo + Site Title or custom HTML/CSS
 - Theme Builder – Background + Text Colors
 - Layout Builder – Content Cards
 - Footer Settings – None (default) or Custom
- Content Cards
 - Text, Images, Banners
 - Charts, Statistics, Iframes
 - Datasets, Apps, Categories



<https://doc.arcgis.com/en/hub/sites/design-the-layout-of-your-open-data-site.htm>

Using Markdown

- Markdown is used in content cards
- Markdown Basics
 - <http://daringfireball.net/projects/markdown/basics>
- HTML/CSS also supported

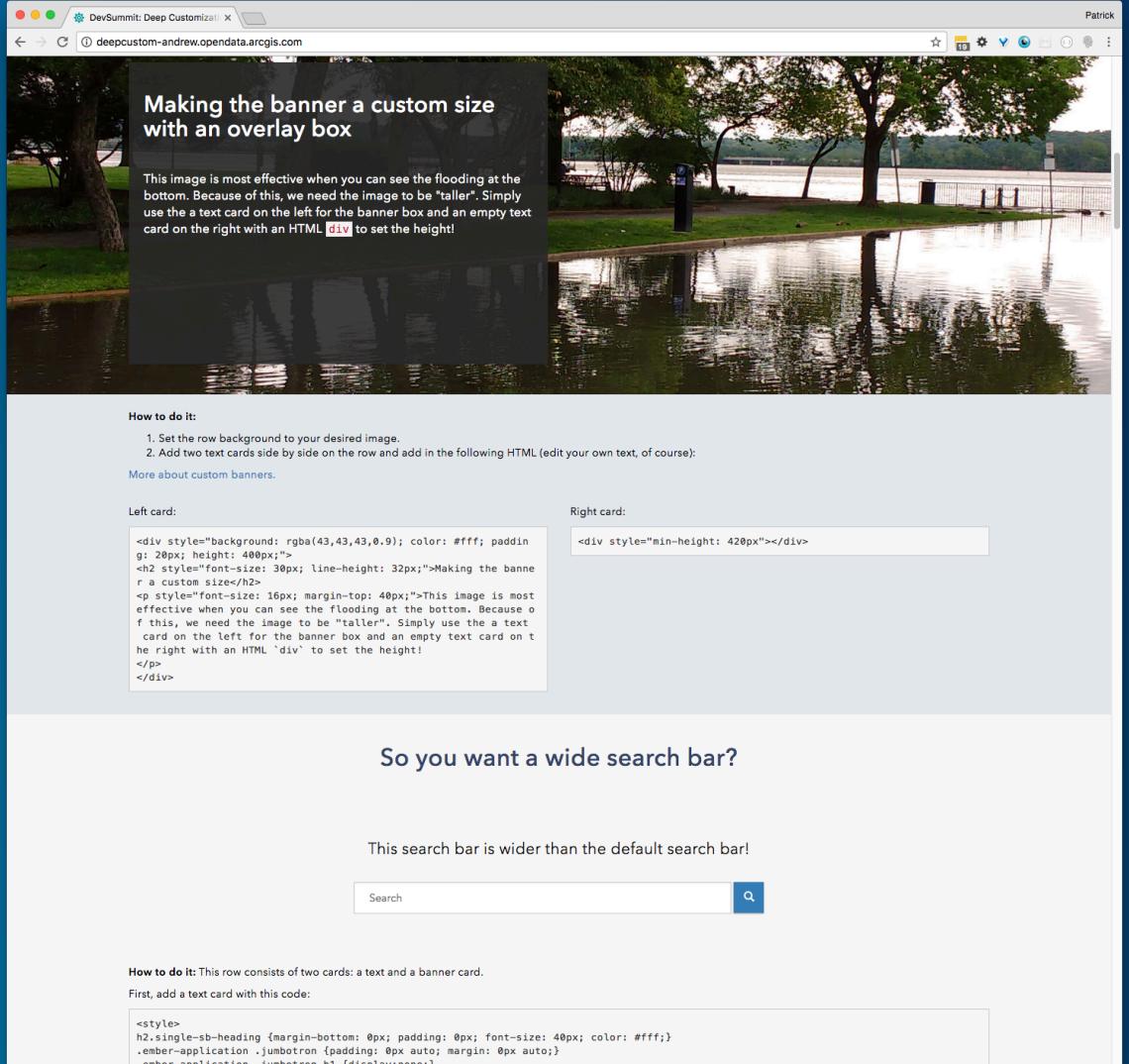
Attribute	Syntax	Result
Header	# Text here for a header 1 ## Text here for a header 2 ##### Text here for a header 6	Text here for a header 1 Text here for a header 2 Text here for a header 6
Italics	*Text here* or _Text here_	<i>Text here</i>
Bold	**Text here** or __Text here__	Text here
Combining Italics and Bold	*Combine italics **and** bold*	<i>Combine italics and bold</i>
Links with link address shown	http://www.esri.com	http://www.esri.com
Links without link address	[esri] (http://www.esri.com)	esri
Bullets	* This * That * The other	<ul style="list-style-type: none">• This• That• The other
Ordered list	1. This 1. That 1. The other	<ol style="list-style-type: none">1. This2. That3. The other
Insert Images	 (“image source” should be the URL to the image)	Image from “image source” will be visible
Insert Image with hyperlink	 (“link” is the url you want to hyperlink to and “image source” should be the URL to the image)	Image from “image source” will be visible and will link to the url provided

Grouping Data

- Thematic tags to direct users to specific datasets
- Add search options to the site URL
 - Full Search: <http://talgov.tlcgis.opendata.arcgis.com/datasets?q=business>
 - Tag Search: <http://opendata.dc.gov/datasets?keyword=education>
 - Group Search: https://hifld-dhs-gii.opendata.arcgis.com/datasets?group_id=c9584c01b4564b188b98d3ef9cf3e57c
- Use Category Card
 - Tag or Group
 - Provided icons or URL for custom icons
- Attach link to text, (text widget) using markdown
 - [Education](<http://opendata.dc.gov/datasets?keyword=education>)
 - e.g. <http://opendata.dc.gov>
- Attach link to image, (image widget) using markdown
 - Specify Image Source URL and Image Link
 - e.g. <http://vicroadsopendata.vicroadsmaps.opendata.arcgis.com/>

Deep Customization

- Enhanced navigation
- Banner formatting
- Search bar sizing
- Styling text cards
- Utilizing blank rows and text cards
- Tables



<http://deepcustom-andrew.opendata.arcgis.com/>

Demonstration

Customizing the ArcGIS Open Data Site

Exercise 4: Customize your ArcGIS Open data site



Exercise 4: Customize your ArcGIS Open data site

- Use <http://localgovne.maps.arcgis.com/>
- Open Site Editor
- Design the layout of your Open Data site
 - <https://doc.arcgis.com/en/hub/sites/design-the-layout-of-your-open-data-site.htm>
- Choose colors and set background/text in Theme Builder
 - <https://coolors.co/app>
- Add content cards
- Try some customizations

Promoting your Open Data site

Engaging your community

- Make your Open Data site public
- Keep your Open Data site fresh (new datasets, highlighted datasets, design)
- Use a custom URL
- Link to open data from apps
- Start a two-way conversation
 - Set up a twitter account or blog
 - Speak at local seminars or conferences
- Connect to the local data community
 - Civic hacking groups
- Host events
 - Hackathons
 - Contests
- Showcase how people are using your data



Resources

- ArcGIS Open Data help documentation
 - <http://doc.arcgis.com/en/hub/get-started/enable-open-data-capabilities.htm>
- Customization Demo Page
 - <http://deepcustom-andrew.opendata.arcgis.com/>
- ArcGIS Blog
- GeoNet
 - Share ideas, questions, experiences with the community



Thank you!

Patrick Hammons
Esri

phammons@esri.com

Advanced Topics

Open Data Site Administration

ArcGIS Open Data Documentation Support Forums  Shane ▾

Pacific Northwest Maps

Pacific Northwest Maps

Site Configuration Capabilities Groups Manager Data Manager Site Editor  Preview Site 

Datasets Items  Search... Has Errors Has Warnings Belongs to My Organization

Name	Download Cache 	Actions
wolf1234 Feature Layer Updated at 10:58:22 AM Thursday, March 24, 2016	<input type="button" value="Manual"/> <input type="button" value="Automatic"/> Why can't I set this?	 
REF US Watersheds HUC12 Feature Layer Updated at 12:50:10 PM Friday, March 18, 2016	<input type="button" value="Manual"/> <input type="button" value="Automatic"/>	 

Warning: This item does not have a license. Please [assign a license](#).

Warning: IDs Only query failed. Server responded with [AJAX: Exceeded timeout of 90000ms on GET to http://maps.naturereserve.org/landscape2/rest/services/US/REF_US_Watersheds_HUC12/MapServer/0/query?where=1%3D1&returnIdsOnly=true&f=json].

Warning: Query performance on layer is suboptimal and will impact user experience.

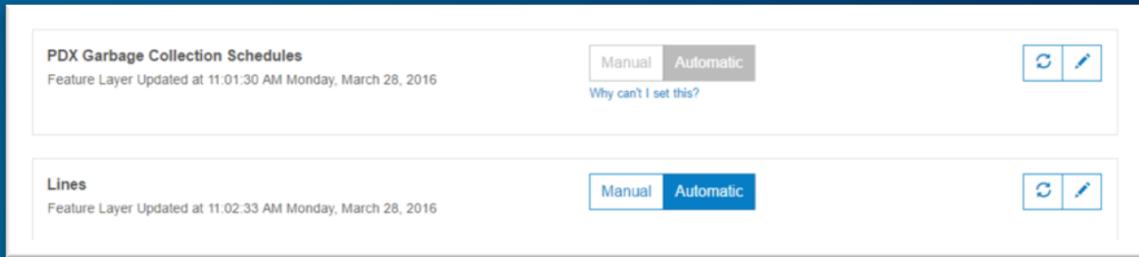
Data Manager

- Identify issues, manage caching, resync data
- Warnings
 - Successfully indexed, but with issues
 - Missing license - “Access and Use Constraints” in the item details is empty
 - Solution – fix item detail, or register individual service layers
- Errors
 - Failed to index
 - ArcGIS Open Data cannot access dataset (firewall, server down, item not supported)
 - Solution – remove item from Open Data group
- Manual reset
 - Refreshes the download cache

<http://doc.arcgis.com/en/open-data/provider/data-manager.htm>

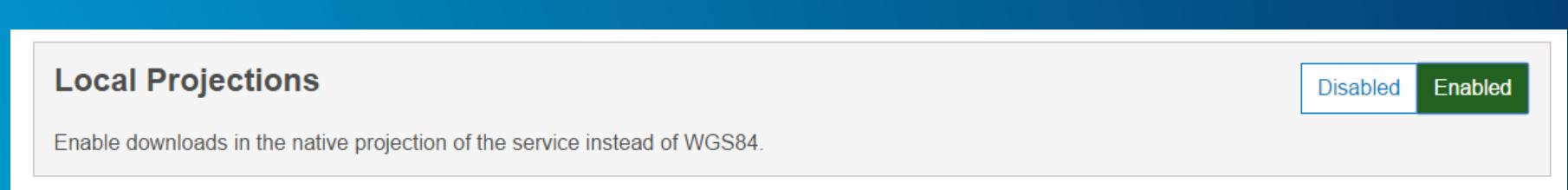
Caching

- Set in Data Manager
- Caching
 - Dynamic copy of the data in the cloud
 - Improves download times, takes load off local servers
 - PDFs, docs, URLs, and web maps not cached
- Manual or Automatic cache updates
- Automatic cache updates
 - Setting for all hosted services
 - Cache dropped every 24 hours and regenerated with next download request
 - Recommended for data sets with frequent updates (e.g. crime)
- Manual cache update
 - Only updated when administrator manually resets data
 - Recommended for large data sets with infrequent updates (e.g. parcels)



Projections

- By default, all services will download in WGS84
- Option to Enable Local Projections (in Site Capabilities)
 - All services in ArcGIS for Server downloaded in original projection
 - All feature services hosted in ArcGIS Online downloaded in original projection
- Creating services from shapefiles and CSV files
 - Hosted services created in ArcGIS Online created in WGS84 projection
 - Use ArcGIS for Desktop to created hosted service in non-WGS84 projection



Server Configuration Details – Service Properties

- ArcGIS Open Data supports services on ArcGIS Server 10.0 or higher
- Max record count
 - Max record count is the maximum number of records per single request
 - Should be less than 5,000
 - Default is 1,000 for optimal performance
 - Only increase max record count if between 2,000 and 4,000 records in dataset
 - Services with max record count > 5,000 will receive warning in Data Manager
 - Services with max record count > 10,000 will not be indexed, error reported
 - Max record count does not impact downloads – all records downloaded
- OCG links (in API section) come from ArcGIS Server, if enabled
- Feature access not necessary (best to not enable)
- Scale dependencies do not matter

Server Configuration Details – Organizing Services

- Large services will time out
 - Organize data in multiple services, with less 20 layers per service
- Services need to be publicly accessible
- Extend your infrastructure to the cloud / ArcGIS Online
 - Reduces load on local servers
 - 99.9% uptime for ArcGIS Online
- Enable persistent layer ordering in service (ArcGIS Server 10.3 or higher)
 - Desktop Data Frame Properties > General > Allow assignment of unique IDs for map service publishing
- Raster data is supported as Image Services
 - Download in supported formats: JPEG, PNG, georeferenced TIFF
- Use SSL for services, if possible

Server Configuration Details – Managing the data

- Change field names with aliases
- Turn off unimportant fields
- Geodatabase behaviors are not supported
 - Topologies, relationships, related tables – not supported
- Coded value domains are supported
- Data must support statistics
 - Requires ArcGIS Server 10.03 or higher
 - ArcGIS Open Data only builds statistics for first 20 columns in a dataset
- CSV files under 5MB are dynamic
 - Use Publish as a Service for CSV files larger than 5MB
- Enable editor tracking for accurate last updated date

Server Configuration Details – Item configuration

- **ArcGIS Online Item title is the dataset name**
- **Access and Use Constraints is the data license**
 - The license is important for data consumers
 - License can be a URL for existing data policies
 - License can be HTML code from Creative Commons License Picker
 - <https://creativecommons.org/choose/>
- **Search for data is based on the ArcGIS Online item extent (can be changed)**

Integrating ArcGIS Open Data with other Open Data Platforms

- Provide ArcGIS Open Data catalog to other Open Data platforms
 - DCAT format (JSON)
 - Append /data.json to Open Data site home page URL
- One URL = hundreds of datasets
- Used by <http://www.data.gov/>

```
{
  "i": {
    "title": "UFA Arborist Assignment Zone",
    "description": "Work zone assignment for UFA Arborists via DDOT's Transportation Online Permitting System.",
    "keyword": [
      "DDOT",
      "UFA",
      "DC",
      "Arborists",
      "Assignment Zones"
    ],
    "issued": "2014-12-11T07:19:54.056Z",
    "modified": "2015-02-09T02:42:24.027Z",
    "publisher": "none",
    "contactPoint": "DCGISgroup",
    "mbox": "DCGISgroup",
    "identifier": "a7fa884889514c77afe50423cdf07664_6",
    "accessLevel": "public",
    "distribution": [
      {
        "title": "CSV",
        "format": "CSV",
        "accessURL": "http://opendata.dc.gov/datasets/a7fa884889514c77afe50423cdf07664_6.csv"
      },
      {
        "title": "KML",
        "format": "KML",
        "accessURL": "http://opendata.dc.gov/datasets/a7fa884889514c77afe50423cdf07664_6.kml"
      },
      {
        "title": "GeoJSON",
        "format": "GeoJSON",
        "accessURL": "http://opendata.dc.gov/datasets/a7fa884889514c77afe50423cdf07664_6.geojson"
      }
    ]
  }
}
```

Federating with CKAN

- CKAN – open source data portal platform
- Configure CKAN
 - Install the CKAN Harvesting extension
 - Install the CKAN DCAT extension
 - The Harvester Gather_Consumer and Fetch_Consumer services must be running as background services
- Harvest the ArcGIS Open Data catalog
 - Add your DCAT (<http://yourOpenDataSite/data.json>) as a harvest source

How to get metadata from ArcGIS for Desktop into ArcGIS Online

- Not all metadata is included when publishing items – need to add metadata
- The ArcGIS Online web-based metadata editor uses the ArcGIS metadata format
- Fields available for editing determined by style configured for the organization
- Use the ArcGIS for Desktop geoprocessing XSLT Transformation tool to convert other metadata formats to the ArcGIS metadata format.
- Use the ArcGIS for Desktop geoprocessing Upgrade Metadata tool to convert to the ArcGIS metadata format (e.g. FGDC_TO_ARCGIS)

<https://doc.arcgis.com/en/arcgis-online/share-maps/metadata.htm>

<http://desktop.arcgis.com/en/arcmap/latest/tools/conversion-toolbox/xslt-transformation.htm>