

# Getting started with open data and initiatives in the ArcGIS Hub

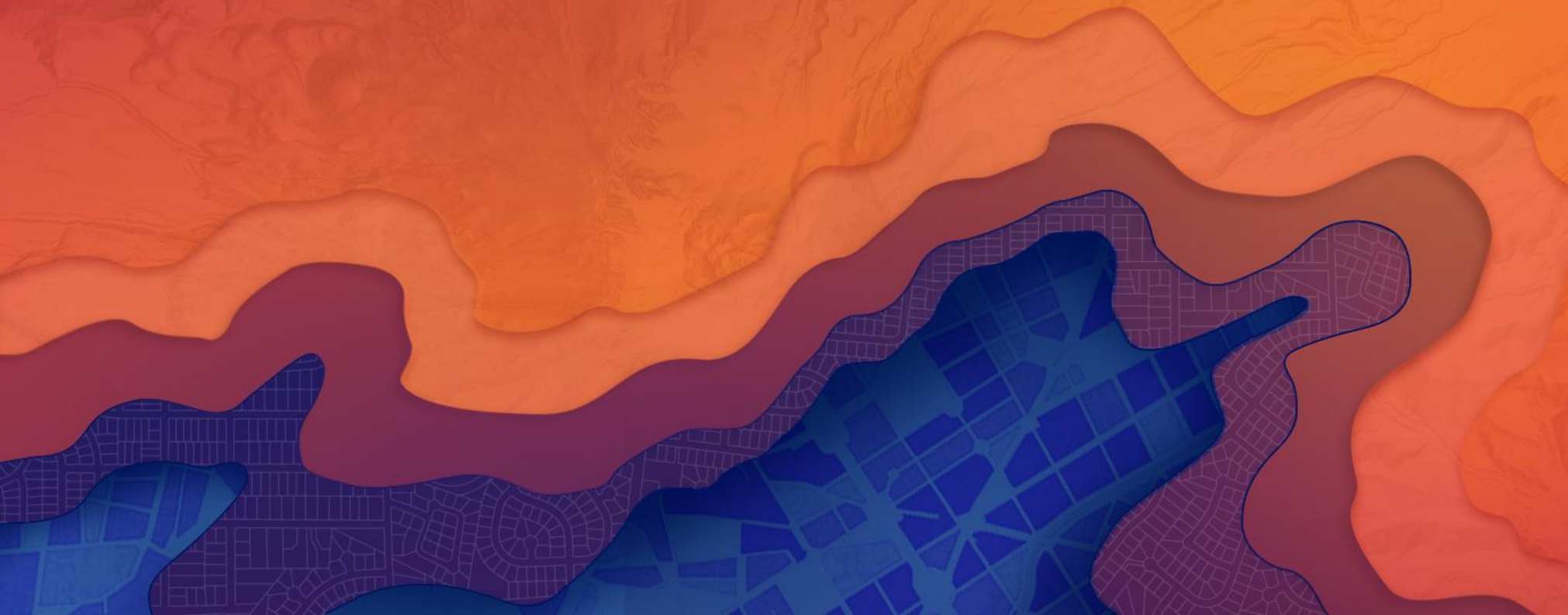
Graham Hudgins, Esri

# Agenda

- Overview of open data in the ArcGIS Hub
- Demonstration of open data capabilities
- Preparing your data - best practices
- Building open data using the Share Open Data initiative
- Building open data from scratch
- Data federation
- Telling your story
- What's Next

# Open data overview

Why open data





# Historic Sharing Practices

- Physical Media and FTP Sites
  - Static snapshots over time
  - Quarterly release
  - Manual process to produce
- Data typically had terms of use
  - Used by academia & neighboring governments for analysis
  - Possibly aggregated into commercial datasets
  - Mindset was to sell data

# Modern Expectations of Sharing

- Open Data is now an EVERYDAY THING
  - International movement to provide transparency and enable economic development
  - Formalized process to license and share data to the public
  - Often supported by governing legislation
- Solutions connected to Enterprise Architecture
  - Leveraging Servers to share out and ingest data
  - Minimal impact on the information workers

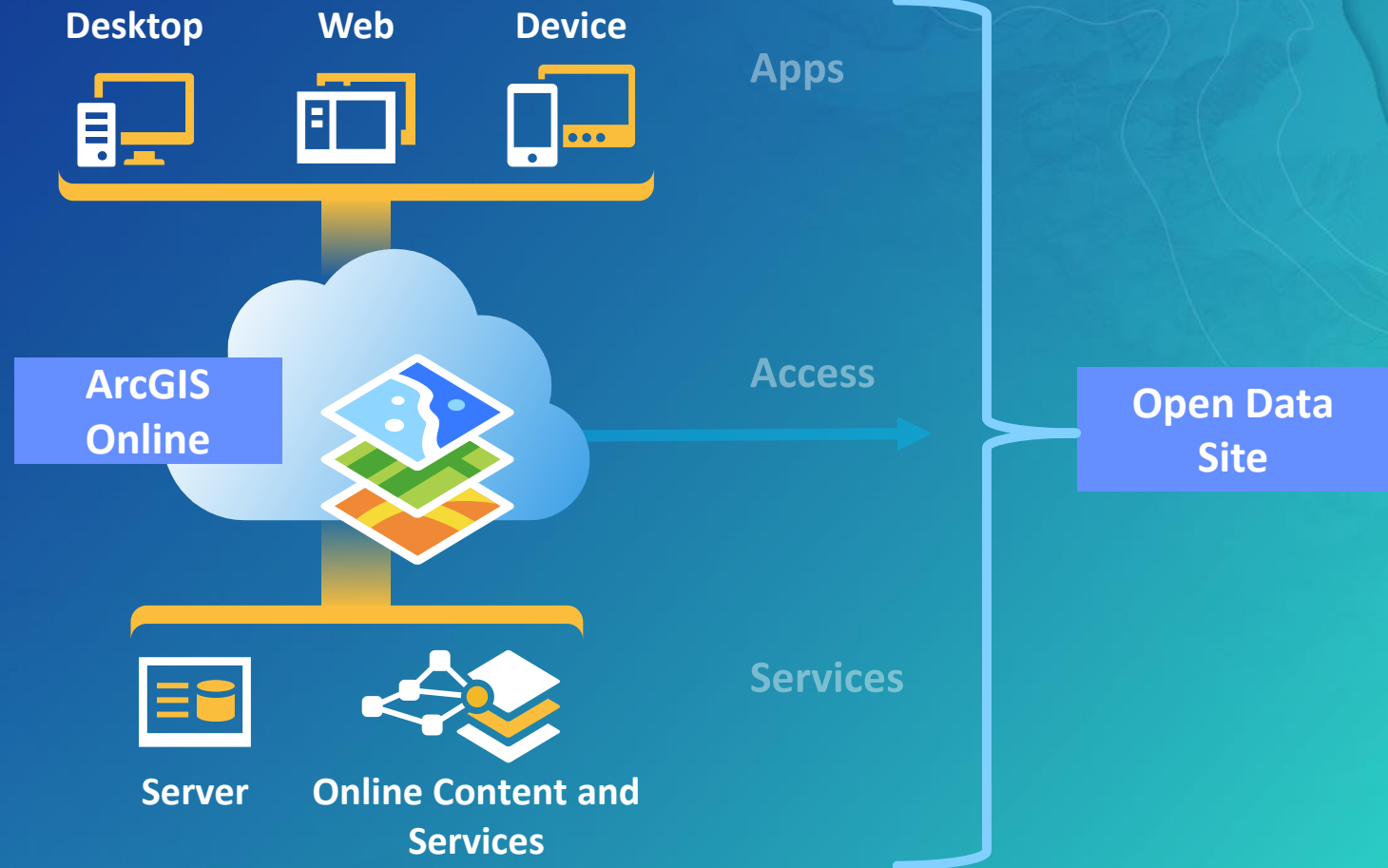
# *An INNOVATION* ECOSYSTEM



# Part of the ArcGIS Platform

Providing open access to your published data

Simple  
Integrated  
Open



# Open Data Principles



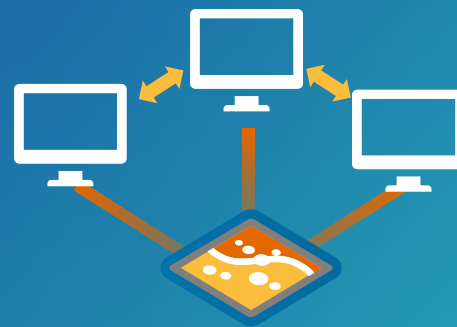
Accessible



Discoverable



Explorable



Collaborative



# Open data in the ArcGIS Hub

- Complete Open Data solution for Operational Tables and Spatial Data
  - 8,000+ Organizations around the world
  - 70,000 Datasets shared into Open Data
  - 20,000,000+ Downloads in 2016
- Provide Custom Sites you control
  - Unlimited Bandwidth and API Usage
  - No restriction on the number of datasets
  - Auto-generated downloads
  - Suite of applications to provide context
  - ArcGIS sharing model

# ArcGIS is a complete Open Data solution

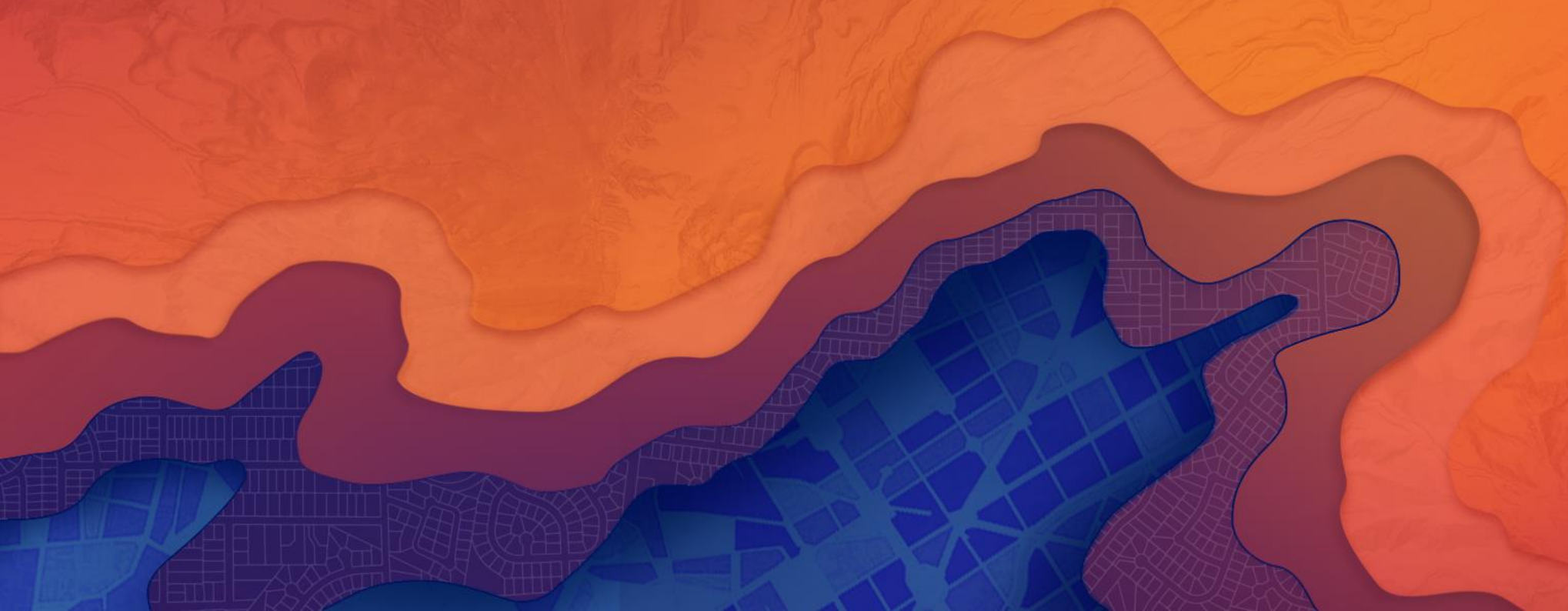
- Build a site that represents your organization to the public
  - General or focused on issues, departments, events
- Automatically convert your data regardless of source, into open file formats for download
  - Support for Operational Tables and Spatial Data
- Apply your terms of use to License the datasets
- Add context to your datasets with Applications

# Quick demo

- Working with an open data site
- Administering open data inside the ArcGIS Hub



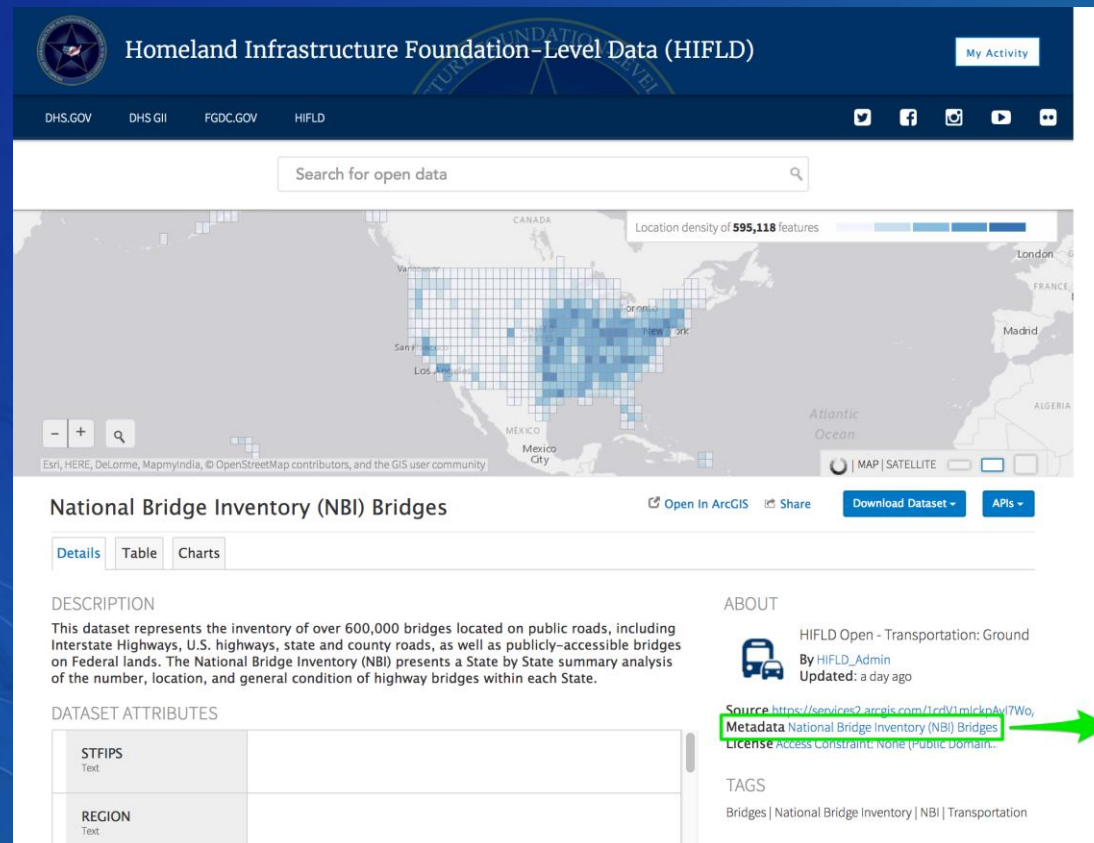
# Building a data catalog





# Customizing your data

- Structured metadata



Homeland Infrastructure Foundation-Level Data (HIFLD)

Search for open data

Location density of 595,118 features

National Bridge Inventory (NBI) Bridges

Open In ArcGIS | Share | Download Dataset | APIs

Details | Table | Charts

**DESCRIPTION**

This dataset represents the inventory of over 600,000 bridges located on public roads, including Interstate Highways, U.S. highways, state and county roads, as well as publicly-accessible bridges on Federal lands. The National Bridge Inventory (NBI) presents a State by State summary analysis of the number, location, and general condition of highway bridges within each State.

**ABOUT**

HIFLD Open - Transportation: Ground  
By HIFLD\_Admin  
Updated: a day ago

Source: <https://services2.arcgis.com/1cdv01mickpA/17Wo...>  
Metadata: National Bridge Inventory (NBI) Bridges  
License: Access Constraint: None (Public Domain)

**DATASET ATTRIBUTES**

STFIPS
Text

REGION
Text

**TAGS**

Bridges | National Bridge Inventory | NBI | Transportation

## National Bridge Inventory (NBI) Bridges

### Identification Information:

#### Citation:

##### Citation Information:

**Title:** National Bridge Inventory (NBI) Bridges

#### Description:

**Abstract:** This dataset represents the inventory of over 600,000 bridges located on public roads, including Interstate Highways, U.S. highways, state and county roads, as well as publicly-accessible bridges on Federal lands. The National Bridge Inventory (NBI) presents a State by State summary analysis of the number, location, and general condition of highway bridges within each State.

**Purpose:** This dataset represents the inventory of over 600,000 bridges located on public roads, including Interstate Highways, U.S. highways, state and county roads, as well as publicly-accessible bridges on Federal lands.

#### Keywords:

##### Theme:

**Theme Keyword Thesaurus:** None

**Theme Keyword:** Bridges

**Theme Keyword:** National Bridge Inventory

**Theme Keyword:** NBI

**Theme Keyword:** Transportation

**Access Constraints:** Access Constraint: None (Public Domain Information)

**Use Constraints:** Access Constraint: None (Public Domain Information) Use Constraint: None (Public Use)

**Data Set Credit:** Federal Highway Administration (FHWA)

### Spatial Data Organization Information:

#### Point and Vector Object Information:

##### SDTS Terms Description:

**Point and Vector Object Count:** 607751

# Customizing your data

- Add additional download types
  - Custom download distribution on structured metadata

The screenshot displays the HIFLD website interface. At the top, the header includes the HIFLD logo, the title 'Homeland Infrastructure Foundation-Level Data (HIFLD)', and a 'My Activity' button. Below the header is a navigation bar with links to DHS.GOV, DHS.GII, FGDC.GOV, and HIFLD, along with social media icons for Twitter, Facebook, Instagram, YouTube, and a chat icon.

The main content area features a map of the United States with a grid overlay, showing the 'Location density of 93,117 features'. A search bar with a star icon is positioned above the map. The map includes zoom controls and a legend. Below the map, the dataset 'FDIC Insured Banks' is displayed, with tabs for 'Details', 'Table', and 'Charts'. The 'Details' tab is active, showing a description of the dataset and a table of attributes.

The description states: 'This dataset represents the Summary of Deposits (SOD), the annual survey of branch office deposits for all FDIC-insured institutions including insured U.S. branches of foreign banks. Data are as of June 30, 2015. Users can access these data by: (1) single institution, (2) institutions within a geographic area, or (3) aggregated within a geographic area. SOD features include custom market share reports and downloads. Link: <http://www2.fdic.gov/sod/> Scope of the

The 'DATASET ATTRIBUTES' table is shown below:

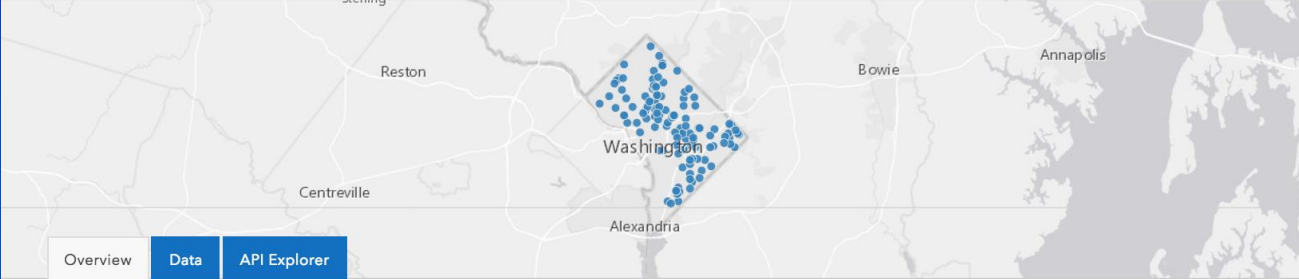
Attribute	Value
Address (Branch)	100 East Main Street (30), 100 Main Street (26), 1 East Main Street (14), 1 Main Street (11)... (996 more)
Office Number	min: 0 max: 10,299 avg: 1,321.44 count: 93,283

On the right side of the 'Details' tab, there is a 'Download Dataset' button with a dropdown menu. The dropdown menu lists the following options: 'Full Dataset', 'Spreadsheet', 'KML', 'Shapefile', 'Filtered Dataset', 'Spreadsheet', 'KML', 'Shapefile', 'Additional Resources', and 'File Geodatabase'.

# Customizing your data

- Connected content

[Open Data](#) [About](#) [GeoNet](#)  [My Data](#) [Sign In](#) [Sign Up](#)



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

### Public Schools

No license specified 2/22/2017 Spatial Dataset 122 Rows

Provided by the Office of the Chief Technology Officer

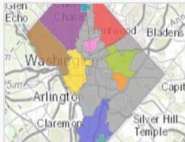
#### Attributes

[Chart](#) • [Map Visualization](#)

ADDR_ID Number	ADDRESS Text	ADDRID Number	BLDG_NUM Number	CAPACITY Number	CAPITALGAINS Text	FACUSE Text	GIS_ID Text
LEVEL_ Text	NAME Text	PHONE Text	POPULATION_ENROLLED_2008 Number	POPULATION_PLAN Number	SCH_PROG Text		
SQUARE_FOOTAGE Number	SSL Text	STATUS Text	TOTAL_STUD Number	UNGRADED Number	WEB_URL Text	YEAR_BUILT Number	ZIP_CODE Number

[SHOW MORE](#)  
6 Attributes

[Connected Content](#) [Related Data](#)



#### Education School Attendance Zones Map

This is the description of my map.

**MARCH 1, 2016**

- Official Web Map: dcadminqa

#### About

[Beta site](#)  
Shared By: dcadminqa  
Data Source: [maps2.dcgis.dc.gov](#)

[View Metadata](#)  
[Create Webmap](#)  
[Create a Story Map](#)

#### Found In

- DMFsPlayhouse
- jeremy test 75755



## Leverages existing services and familiar workflows





# Open Data Workflows

Auto ETL and Custom Search



Site

*Preview*

*Interact*

*Download*

Search

Metadata

Shapefile

KML


CSV

GeoJSON






- Tax Parcels
- Sales
- Foreclosures
- Street Centerlines
- Address Points
- Points of Interest
- Building Footprints
- Subdivision Boundary

- Purchase Card Transactions
- Use of Force Events
- Calls for Service
- Tax Districts
- Park Locations
- School Zones
- Public Buildings
- Parking Ticket Locations

# Open Data Site



 Federal Aviation Administration

FAA.GOV DATA INNOVATION CENTER



## Welcome to the FAA's Aeronautical Data Delivery Service


We have the data, you have the fresh ideas. Let's bring them together.



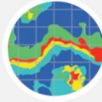
The FAA is dedicated to providing the public with data to spur innovation, provide better opportunities for the development of new applications and services, and ultimately, advance the safety and efficiency of the aviation industry. This Aeronautical Data Delivery Service is an FAA-enabled web service that makes data available in CSV, JSON, KML, Shapefile formats to meet the needs of developers and other stakeholders.

### Access Data


Search for and download the underlying product data associated with many of the FAA's aeronautical products. For information about which products are included in this data set, please refer to our [status map](#).




Explore  
Dig into the data.



Visualize & Analyze  
Highlight spatial patterns and discover trends.




Build  
Develop new apps using templates and API's.




Data Dictionary  
Gain meaningful insights.


### Explore Categories




Airports




Airspace




Communications




Designated Points




Holding Patterns




ILS




NavAids



Notes



Radial Bearings



Routes

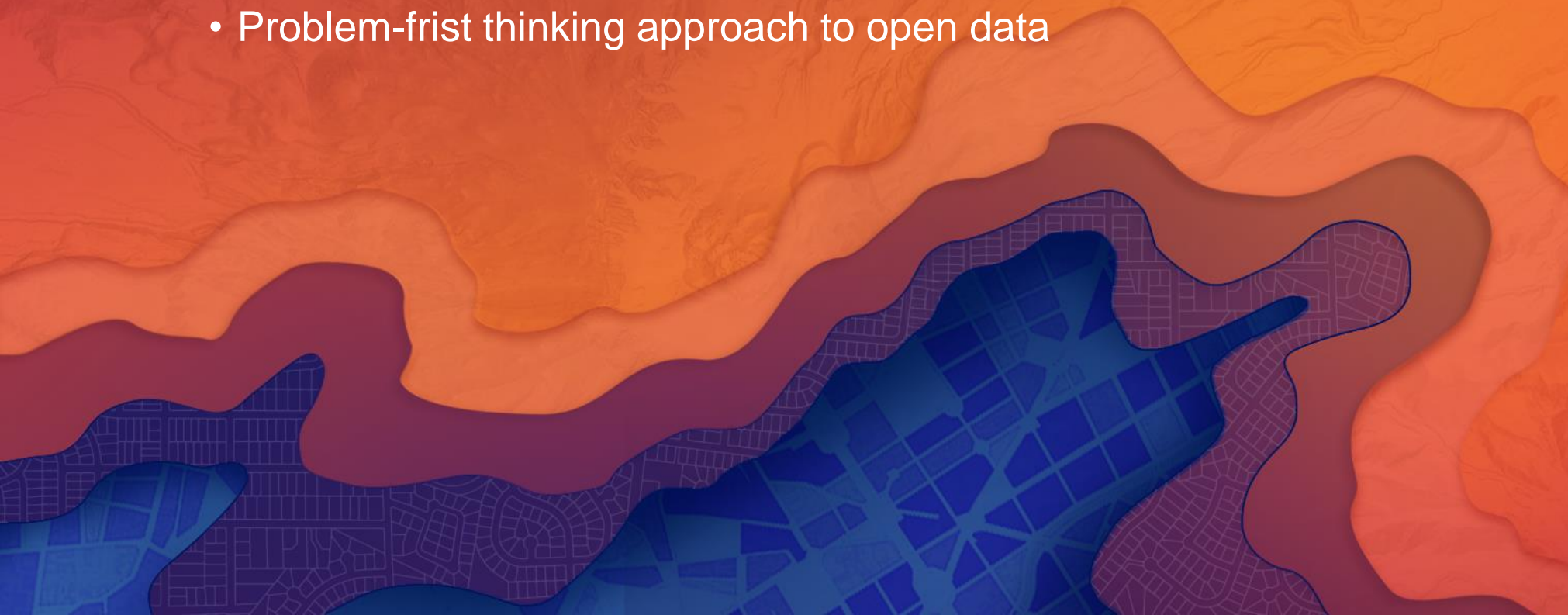
# Building your community





# Launch data driven initiatives

- Use data to tell a story and to drive action
- Problem-frist thinking approach to open data





*Departments work in silos*



*Open Data only empowers  
commercial developers,  
journalists, expert citizens*



*The chasm: How do you reach  
the rest of your community?*



*Everyday Citizens*

*Time*

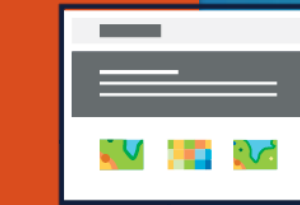
*Departments work in silos*



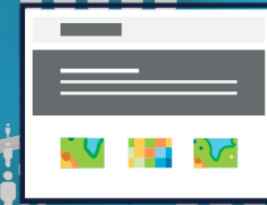
*Open Data only empowers  
commercial developers,  
journalists, expert citizens*



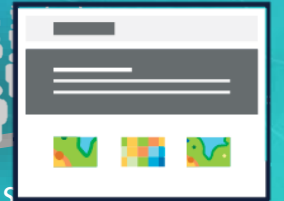
*Launch initiatives that engage with  
groups of citizens on community  
issues*  
*The chasm: How do you reach  
the rest of your community?*



*End homelessness*



*Address opioid addiction*



*Everyday Citizens*

*Improve storm preparedness*

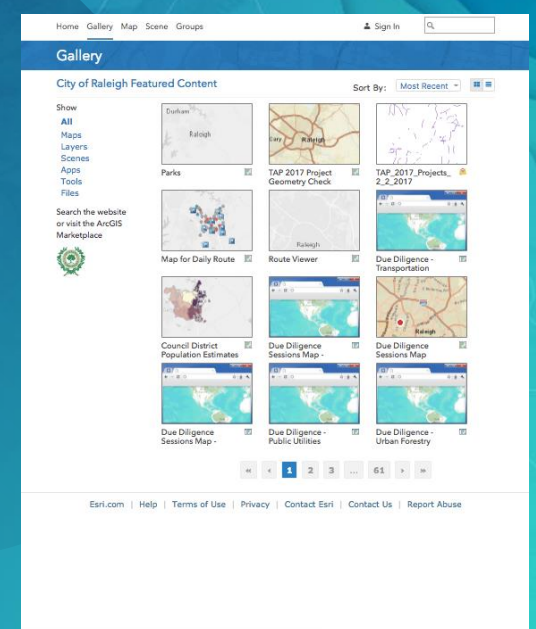
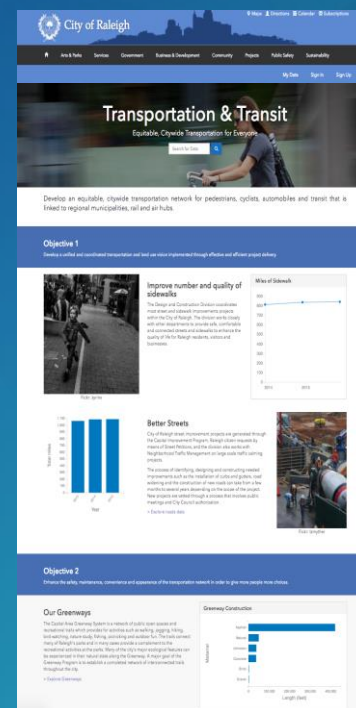
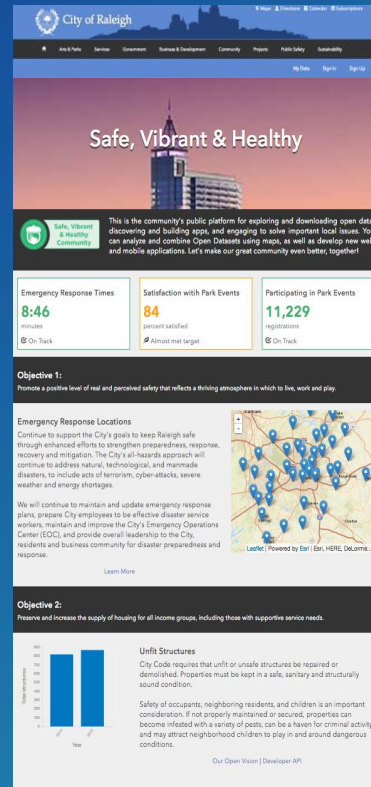
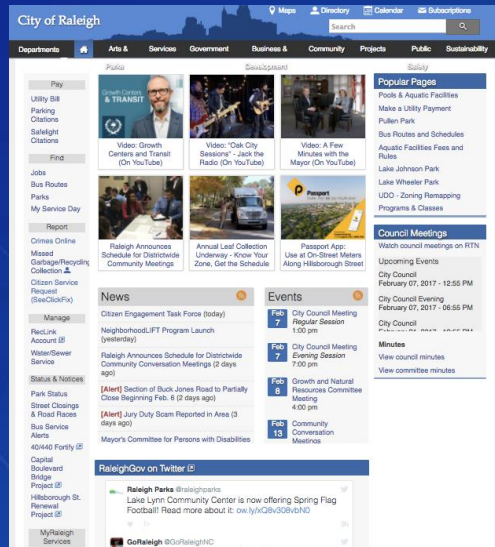
*Time*

# A Platform for Civic Engagement



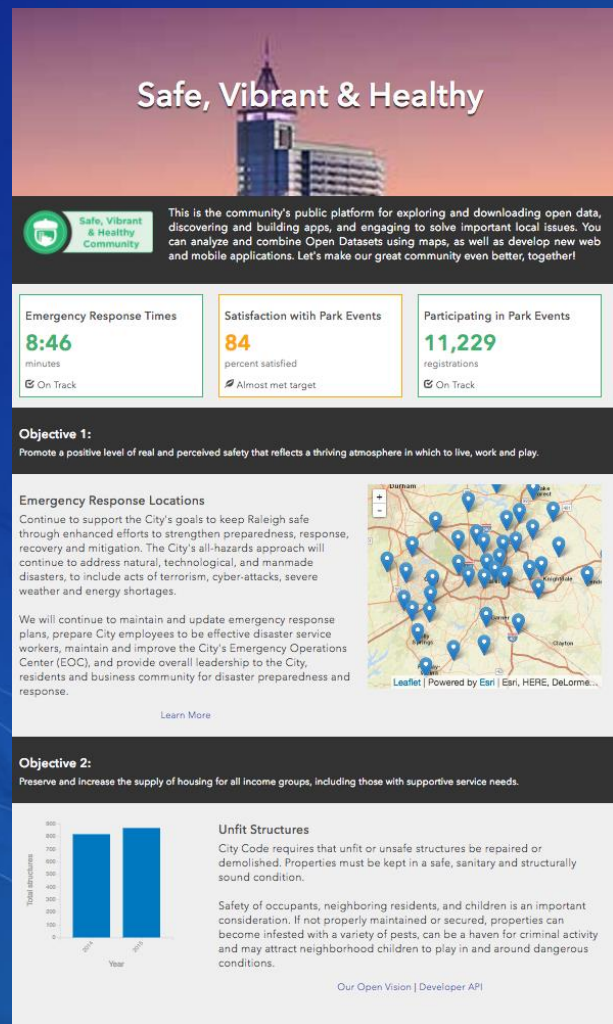


# A Platform for Civic Engagement





# Tell Your Story with a Page



### Header Settings

### Theme Builder

### Layout Builder

Row

Image

Banner

Text

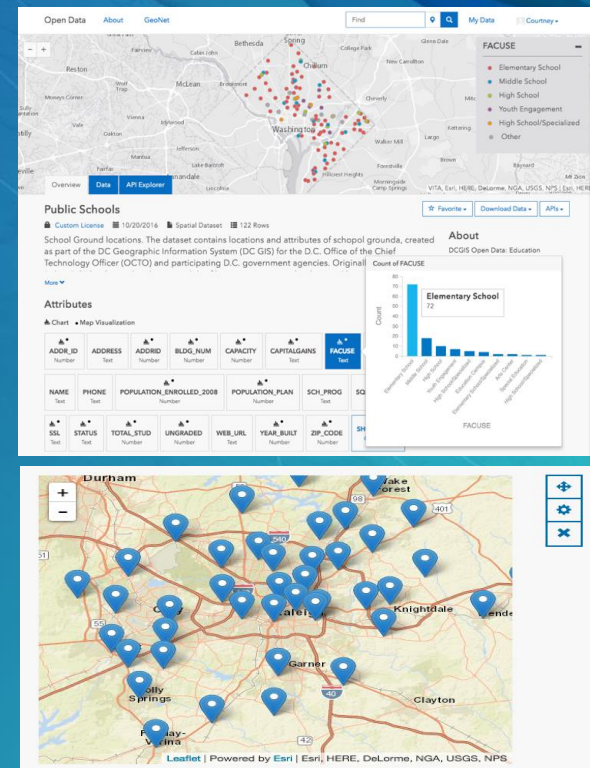
Category

Contact Info

Dataset

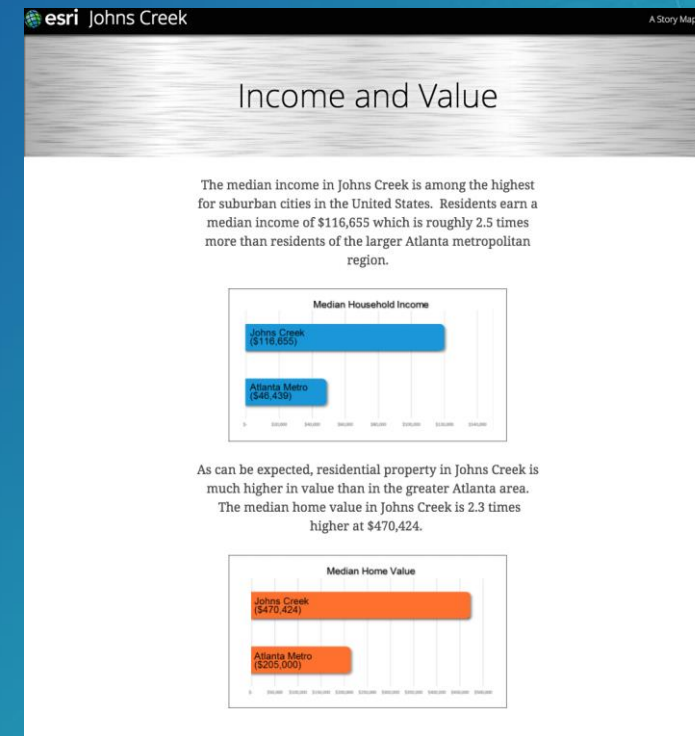
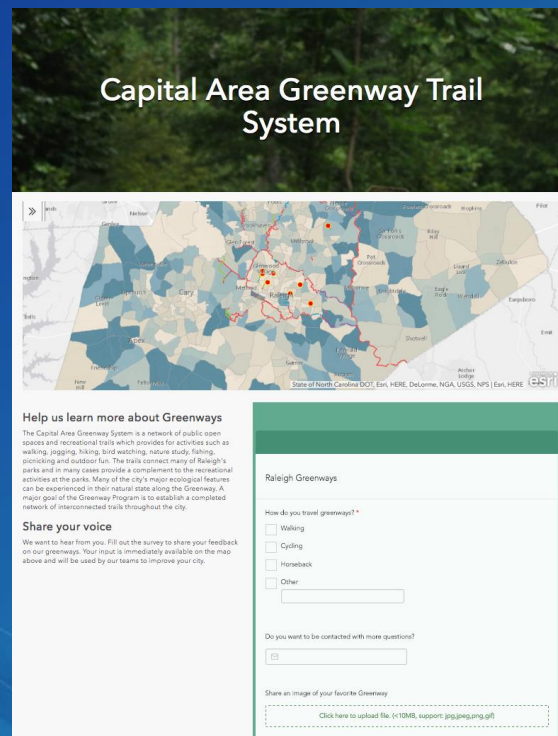
Iframe

### Footer Settings



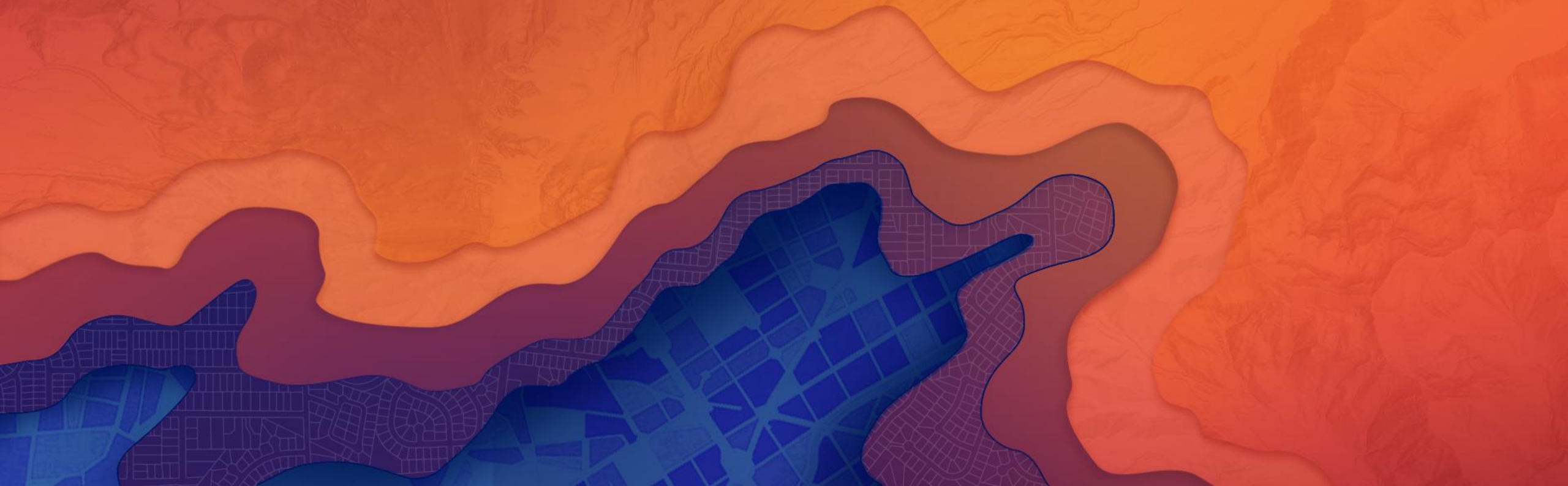
# Engage Your Community

- Story Maps & Survey Apps for two way communication





# Data federation





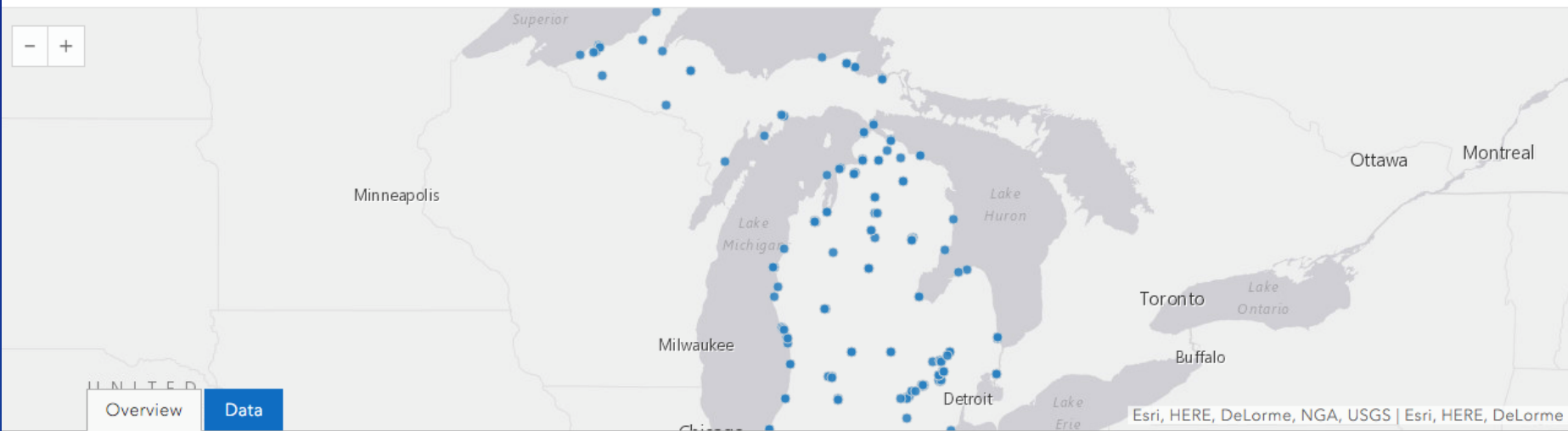
Leverages existing services and familiar workflows

## Open Data Site



Your Organization

Other Organization's



## Michigan State Park Campgrounds

[Download Data ▾](#)[APIs ▾](#)

🔒 [Custom License](#) 📅 12/10/2015 📄 Spatial Dataset 📊 151 Rows

State Park Campgrounds are public campgrounds located within Michigan State Parks. [Metadata](#)

### Attributes

ADA_SITES	Camp_type	Condition	COUNTY	Detail_Type	DISTRICT	FACILITY	Management
Number	Text	Text	Text	Text	Text	Text	Text
name	Ownership	Surface	TOTAL_SITE	Type	Use_		
Text	Text	Text	Number	Text	Text		

### About

Michigan DNR Open Data

Shared By: MichiganDNR

Data Source: [gisago.mcgi.state.mi.us](https://gisago.mcgi.state.mi.us)

[View Metadata](#)

[View in ArcGIS.com](#)

### Found In

📌 [Michigan Department of Natural Resources](#)

📌 [State of Michigan GIS Open Data](#)

📌 [State of Michigan](#)

📌 [D3 Data Portal](#)

📌 [State of Michigan](#)

📌 [MDOT Open Data - Home](#)

# The home of the U.S. Government's open data

Here you will find data, tools, and resources to conduct research, develop web and mobile applications, design data visualizations, and [more](#).

## GET STARTED

SEARCH OVER [194,832 DATASETS](#)



## BROWSE TOPICS



Agriculture



Business



Climate



Consumer



Ecosystems



Education



Energy



Finance



Health



Local  
Government



Manufacturing



Ocean



Public Safety



Science &  
Research



# Quick Demo

- Federating with data.gov

# What's next for ArcGIS Hub

