

# Sharing Spatial Data



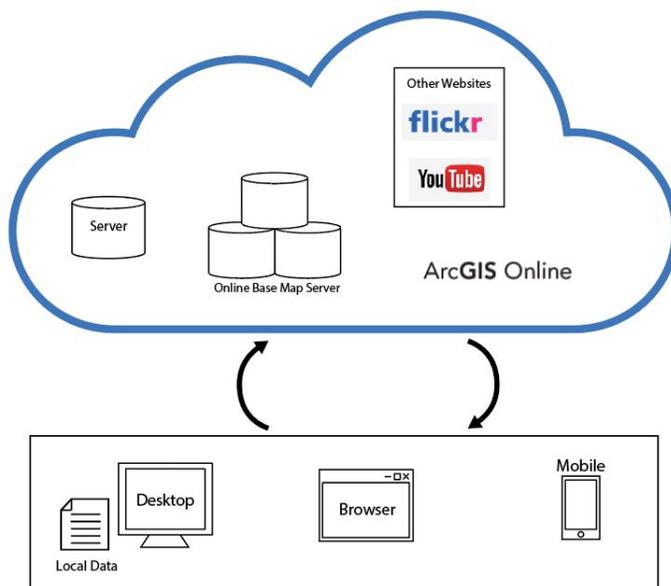
# Learning objectives

- Explore a new movement shaping GIS
- Consider useful workflows for sharing data and maps on ArcGIS Online
- Become familiar with web maps



# Cloud GIS

- A way to easily share maps and geographic information with other people by taking advantage of cloud services



Cloud - a network of remote servers hosted on the Internet and used to store, manage, and process data in place of local servers or personal computers.

Desktop applications – ArcGIS for Desktop (ArcGIS Pro, ArcMap, ArcCatalog, etc.)

Browser applications – Web Maps, Story Maps

Mobile applications – Collector for ArcGIS

Let's focus on the architecture ArcGIS Online provides for us.

# Data Sharing

- Data is hosted by ESRI
- Manage who can access your data
- Preview and explore data without downloading it
- Living Atlas of the World - curated collection of data

Featured Maps from the Living Atlas Sort By: Most Recent

**Maps**

Show

- All
- Imagery
- Basemaps
- Historical Maps
- Demographics & Lifestyle
- Landscape
- Oceans
- Earth Observations
- Urban Systems
- Transportation
- Boundaries & Places
- Story Maps

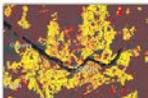
Area

- All
- World

Apps

Search the website or visit the ArcGIS Marketplace



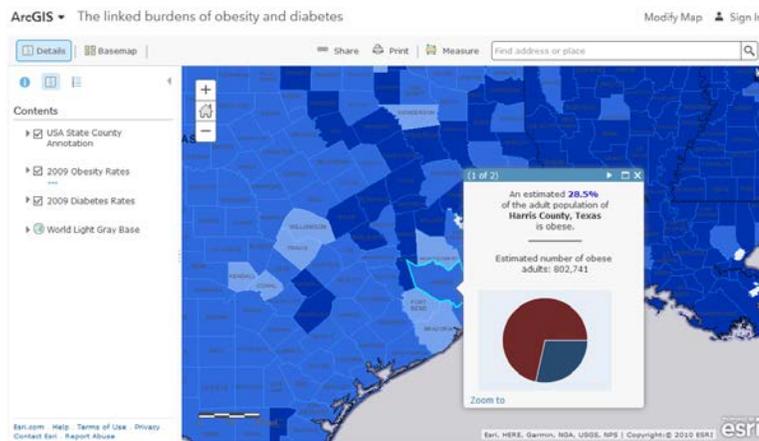
 <p>Explore Melbourne's Public Transport System</p>	 <p>Low Birth Weight Prevalence by County</p>	 <p>Preterm Birth Prevalence by County</p>	 <p>USA Critical Habitat</p>
 <p>GIS Portal mesta Nitra</p>	 <p>Low Birth Weight</p>	 <p>Santas Around the World</p>	 <p>Celebrating Women's Rights</p>
 <p>Discover Green Spaces and Wildlife in Berlin</p>	 <p>Population Density Around the Globe</p>	 <p>Dallas Transit Frequency by Parcel</p>	 <p>Dallas Transit Frequency by Parcel</p>

« « 1 2 3 ... 53 » »

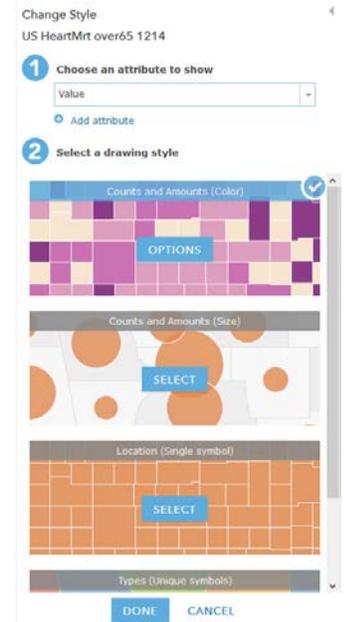
# Web Maps



- Simplified map creation without software installation
- Sharable by URL to anyone with web access
- Interactive exploration of map (zoom in, click for details, turn off layers, etc.)



<http://arcg.is/09GLC9>



Simplify and generalize data – Optimize the browsing experience, for example, smooth and fast movement of the map.

Share the map with URL – Make the map accessible by web to specific groups, organizations, or the general public.

# Adding context to maps



The collage displays several components of the Story Map:

- Map 1: Tobacco Retailer Density** - A heatmap showing the density of tobacco retailers across Philadelphia, with a legend ranging from low (blue) to high (red).
- Map 2: Adult Smoking Prevalence** - A choropleth map showing the percentage of adults who smoke, with values ranging from 6.5% to 34.9%.
- Map 3: Smoking Attributable Mortality Rate per 100,000** - A choropleth map showing the mortality rate, with values ranging from 136.1 to 274.2.
- Map 4: Living in Poverty** - A choropleth map showing the percentage of the population living in poverty, with values ranging from 5.9% to 36.7%.
- Map 5: Tobacco Retailer Density Heat Map** - A heatmap showing the density of tobacco retailers, similar to Map 1 but with a different color scale.
- Text Panels:**
  - Philadelphia's Unique Tobacco Retailer Landscape:** Includes a quote from Dr. Margaret Chan: "Tobacco is the only legal consumer product that kills up to half of users when used as intended".
  - Low-Income Areas and Communities of Color Suffer Most:** States that low-income neighborhoods have more tobacco marketing, more retailers, higher smoking rates, and more deaths. It notes that in Philadelphia, almost half of all tobacco retailers are located in low-income communities.
  - Bar Charts:**
    - (A) Total number of tobacco retailers:**

Income Category	Total Number of Retailers
Low Income	~1,420
Mid Income	~900
High Income	~380
    - (B) Tobacco retailers per capita:**

Income Category	Retailers per Capita
Low Income	~2.80
Mid Income	~1.70
High Income	~0.80

[Click here to view an example of a Story Map](#)

- Online maps are a useful communication tool
- A map without context can be hard to read
- There are challenges with using a single map to tell a story
- Story Map is a multi-media map aimed at storytelling

# Credits & Permissions

Capability	Service credits used	Privilege summary					
Storage		Default role					
		Viewer	Data Editor	User	Publisher	Administrator	
Feature Services Storage (excludes feature attachments)	2.4 credits per 10 MB stored based on hourly of storage per month						
Tile and Data Storage (map tiles, feature attachments, scene layer packages, and documents)	1.2 credits per 1 GB stored per month						
Analytics							
Geocoding	40 credits per 1,000 geocodes	Use layers, maps, scenes, and apps	✓	✓	✓	✓	✓
Simple Routes	0.005 credits per simple route	Use geosearch	✓	✓	✓	✓	✓
Optimized Routes	0.5 credits per optimized route	Use geocoding	✓	✓	✓	✓	✓
Drive-Times (Service Areas)	0.5 credits per drive-time	Use demographics	✓	✓	✓	✓	✓
Closest Facilities	0.5 credits per closest facilities route	Use elevation analysis	✓	✓	✓	✓	✓
Multi-Vehicle Routes (VRP)	1 credit per multi-vehicle route	Use directions and routing (network analysis)	✓	✓	✓	✓	✓
		Join groups without item update capability	✓	✓	✓	✓	✓
		Edit features		✓	✓	✓	✓
		Join groups with item update capability			✓	✓	✓
		Use subscriber content			✓	✓	✓
		Use spatial analysis			✓	✓	✓

<https://doc.arcgis.com/en/arcgis-online/reference/credits.htm>

<https://doc.arcgis.com/en/arcgis-online/reference/roles.htm>

# Taking advantage of bridges



- Add data/layers from external sources
- Create custom print layouts for web maps
- Run analyses locally on online data



ArcGIS  
Pro



- Publish data/layers as feature services
- Upload as web map
- Convert maps to sharable web apps



ArcGIS  
Online