ArcGIS Online: Maps, Data and Apps

In this assignment, you will use ArcGIS Online to **create a web map of the local area on your topic or theme of choice.** You will find data by searching ArcGIS online. After creating your Web Map, you will use ArcGIS online tools to produce a new Web App. Refer back to previous exercises from this semester if you need assistance completing this assignment.

There is an abundance of GIS data that can be found from many sources on the internet. Depending on the source and purpose of the data, it may or may not have a cost associated with it and copyright/use restrictions. Many federal and state organizations build and use GIS data to support their organizational missions. The Census Bureau, US Forest Service, NPS, USGS, Dept of Agriculture all collect and maintain GIS databases and make much of the data available to the public. At the state level in NC, the NC Center for Geographic Information and Analysis manages a statewide database found at [http://www.nconemap.com](http://www.nconemap.com/). NCDOT also maintains a large inventory of GIS data. Many other states have similar statewide efforts such as GA GIS Data Clearinghouse and the South Carolina DNR. Cities and counties are another good place to find GIS data. Not every county or city will have GIS data available but many do. Some counties may have data they use in house but have not taken the step to make it publicly available on the web while other counties may charge a fee for their data. There are also many commercial sites that provide GIS data like [http://www.gisdatadepot.com](http://www.gisdatadepot.com/) and [http://www.weogeo.com](http://www.weogeo.com/).

Below are some common GIS searches performed to find data on the web using a search engine like Google. It can be beneficial to include the gis data format in the search term.

* "nc gis data"
* "buncombe shapefiles"
* "nc contour shapefile"
* "linville gorge kml"
* "Mount Mitchell gpx"

# Open Data

**ArcGIS Online** allows organizations to use the ArcGIS platform to provide the public with **open access data**. An **Open Data** site allows a user to interact with data through charts, tables, and maps.

*'Open data is data that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and share-alike.' as defined by Open Definition.*

Open data must be **available** and **discoverable** and it should have an **open license** applied like [Open Data Commons Open Database License (ODbL)](http://opendatacommons.org/licenses/odbl/).

The City of Asheville, Buncombe County and the NC State have **OpenData portals**.

* <https://data.buncombecounty.org/>
* <https://data-avl.opendata.arcgis.com/>
* https://www.nconemap.gov/

Explore the OpenData portals listed above. Pay particular attention to data sources that may be of interest to you based on the topic you are mapping.

1. Using a web browser, go to each portal.
2. Notice, you can **Search Open Data** based on keywords.
3. Scroll down and examine the **Open Data Categories**.
   1. Click on and explore 3 or 4 categories of data. Notice some of the data are not GIS layers but other types of open data.
4. Open and explore several of the datasets by clicking each dataset name. For each dataset make sure to examine the following
   1. **View Full Details:** Choose View Full Details to see detailed information about the dataset included last date updated, attributes, number of records in the attribute table, licensing information and more.
   2. **The map:** Click View Map to go back to the map. Zoom and pan the map to visualize the geographic data.
   3. **Filter Data:** Filter the features shown by attribute value.
   4. **View Table:** Examine the attribute fields and values.
   5. **Download:** The datasets may be downloaded in varying formats. We’ll use desktop software later in the semester where downloading the data would be useful. No need to download the data now.
   6. On the bottom left, choose I want to use this > Click on the **Create Map**. You will notice that the data is automatically added to a new ArcGIS Online web map. You’ll be required to login to your ArcGIS Account.
   7. Do not save the map. You may notice, this map viewer looks different from what you have seen so far this semester. The portals direct you to the *new* map viewer in ArcGIS Online that we have not seen in this class.
   8. Close the map and browser before moving on.

# 

# Complete the Following

#### ArcGIS Online Project Organization

* In ArcGIS Online, create a folder for this assignment. Name the folder something descriptive based on the project topic you chose.

#### Create a web map

Review the [Create a map](https://learn.arcgis.com/en/projects/create-a-map/) exercise if needed.

1. Create a new **Web Map**.
2. You will be creating a web map of Buncombe County or the surrounding Asheville area. Choose a topic or theme for your map. Add at least three layers to your map.
   1. You can add data either directly through the OpenData portals or search for data through ArcGIS online.
   2. Search ArcGIS Online using **owner: cmcnamara\_avl** or **owner: GISAdminBC** to find data from the GIS departments of Buncombe County and the City of Asheville.
   3. You can choose any data. One suggestion is to make a map showing Buncombe County schools (points), Buncombe County School District boundaries (polygons), and one other layer. Streets? Municipal Boundaries? Streams?
3. **Symbolize** two map layers based on attributes.
   1. Include a symbol style for at least one layer based on an attribute that uses a ***Types (Unique symbols)* or *Counts and Amounts*** symbology technique.
4. **Add labels** to at least one layer based on an appropriate attribute.
   1. For a refresher on labeling features, refer to Esri Academy course, **Getting Information from a GIS Map**, Part 2 (Using thematic maps to identify spatial patterns), Exercise: Investigate cities at risk of the Pacific Northwest. Find this in Module 2, Assignment 2.
5. Configure **pop-ups** for all the layers.

#### Create an app

Review the [Create an app](https://learn.arcgis.com/en/projects/create-an-app/) exercise if needed.

* Create a **Web App** using the web map you just produced.
* Share your app with your class group and with everyone (public).

#### Item Sharing

Review the [Share a map](https://learn.arcgis.com/en/projects/share-a-map/) exercise if needed.

* Share *all* project items with your **class group and with everyone (public).**
  + Your class group in ArcGIS Online is based on the class you are taking and the semester. (GIS 111 or CEG 111 and the semester). For instance, your class group will be similar to **GIS 111 Spring 2023** or **CEG 111 Fall 2022** depending on the class and semester you are in. Your instructor should have included you in the class group.
  + Web Map
  + Web App
  + Any new layers created via analysis

#### Assignment Submission

* Submit a Word document with the following:
  + A brief description of your map.
  + Include a citation of where you obtained your datasets.
  + Include the URLs (web address) of your web map.