

Finding, Accessing, and Loading Ecologically Relevant GIS Data (with a focus on the United States)

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Access for Ecologically-relevant GIS Datasets

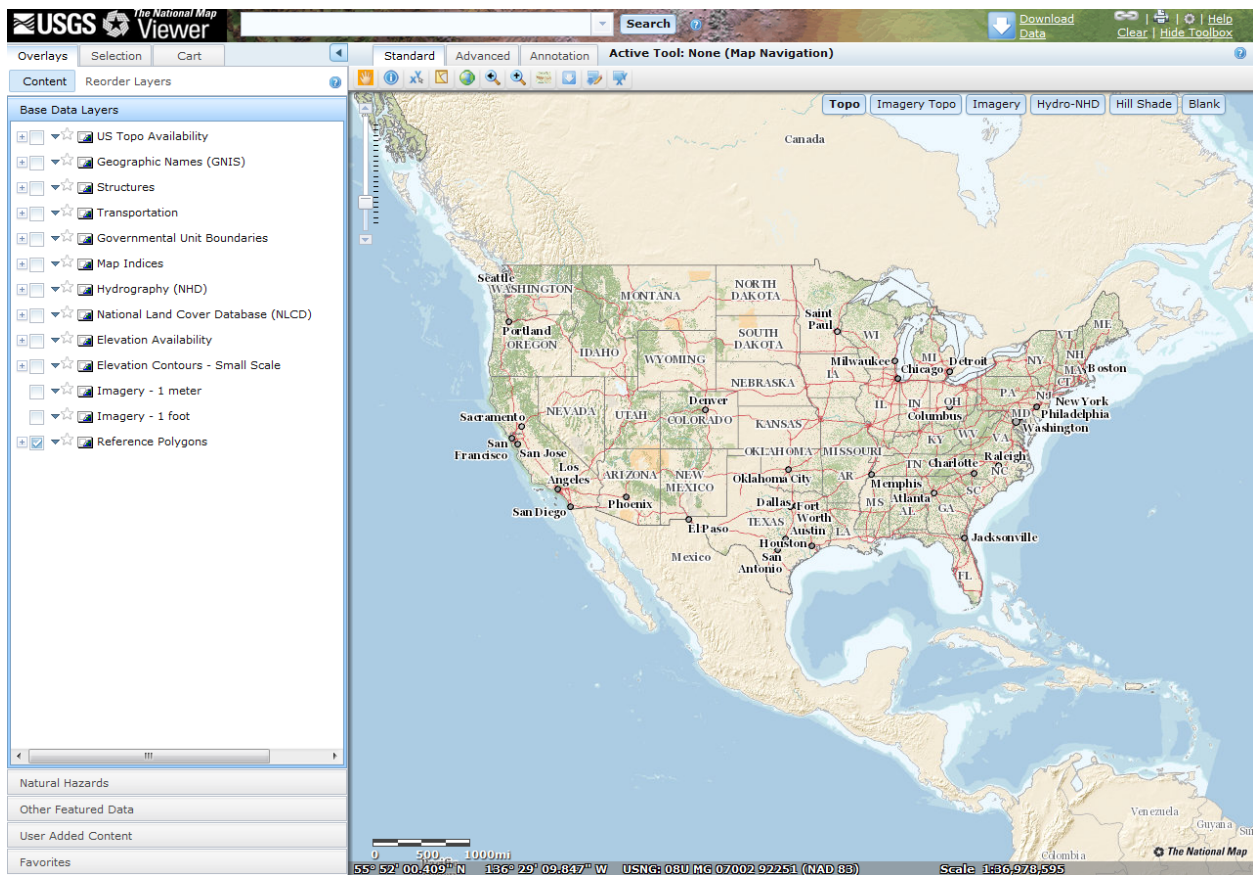
Though many studies use various spatial/GIS datasets, finding and working with them can be a bit of a mystery to a GIS newcomer. This document is designed to point users in the right direction to get started, with a focus on the United States (though some datasets discussed here are also available for other parts of the world). The resources listed below are not necessarily mutually-exclusive to one-another (i.e, you can often find some of the same datasets at multiple places), though some datasets may only be available from individual sources.

National-Scale Data

The National Map

[The National Map](#) is kind of a one-stop-shopping location for lots of datasets that are distributed by the U.S. Government. These include vector layers of political boundaries, hydrologic data including stream networks and watershed boundaries from the [National Hydrography Dataset](#), and roads. These layers are typically available for download as shapefiles or geodatabase files. Raster datasets that are available include elevation (digital elevation models [DEMs]) from the [National Elevation Dataset](#), land cover classifications from the [National Land Cover Database](#), and aerial imagery.

To view what is available and download available datasets, use [The National Map Viewer](#) platform. Upon opening the webpage, you will see something similar to the image below. Browse this page - hover your mouse over the icons just above the the map to see what they do, and expand the lists of layers on the left by clicking the + and - icons next to the categories. Check and un-check the boxes to see what these data look like; use the scroll-wheel on your mouse, or the magnifying glass with the + in it to adjust the zoom. You can also search for specific places in the search bar at the top. Note, for the layers labeled "... Availability", this will show polygons representing areas that the data are available for, as the layers themselves can be complex. However, when you go to download data, you will be able to download the actual layers.



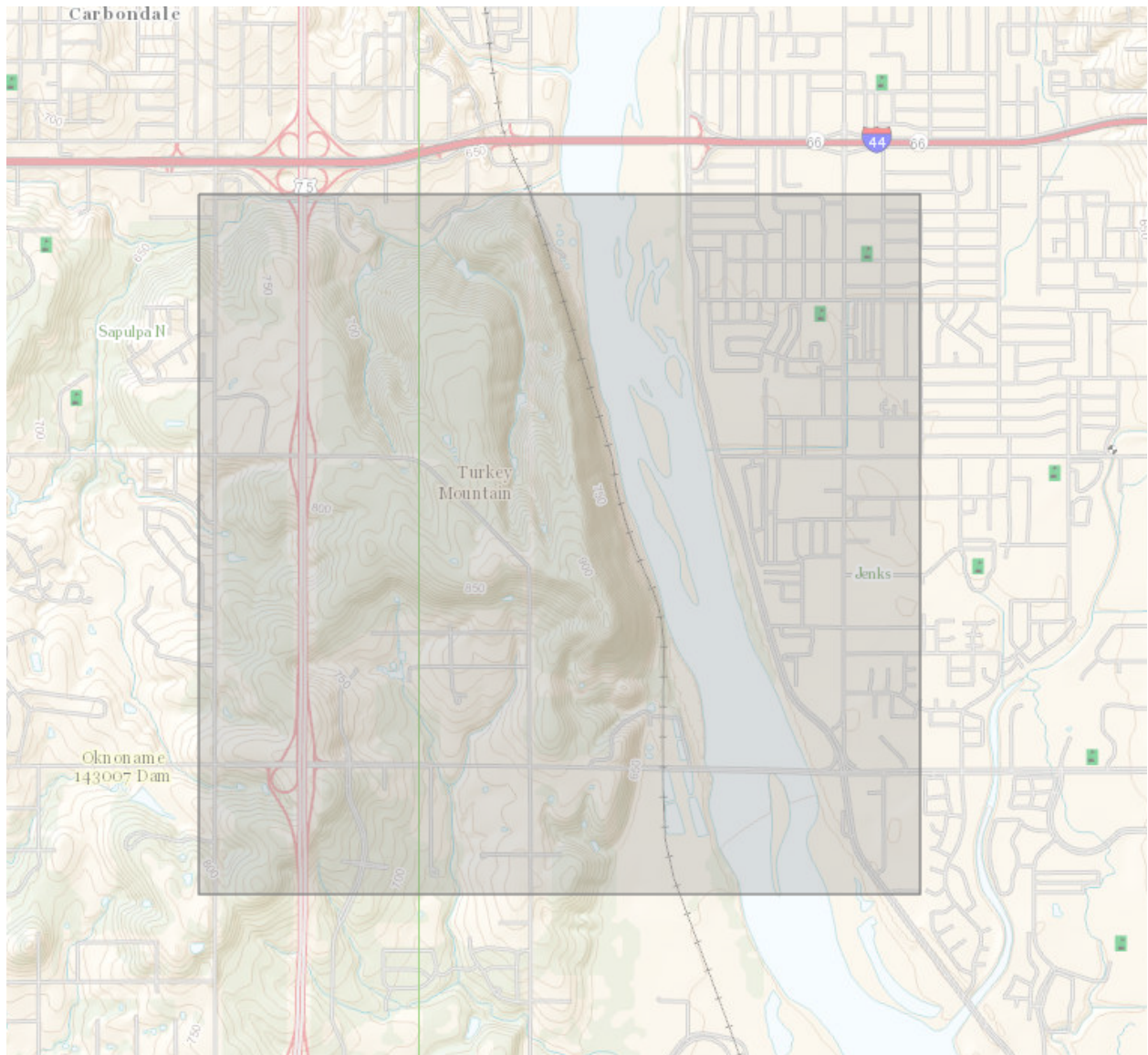
Downloading Data from The National Map



To begin the process of downloading data from The National Map, simply click one of the “Download Data” icons, either at the top of the web-page, or just above the map window (in a row with other icons). You do not need to have the layers you want to download visible on your map; you will select the layers in a later step.

You can select any of the appropriate options for defining the extent of data you wish to download. For beginners to GIS, the simplest ways are likely * draw and download by bounding box; * download by current map extent; or * download by coordinate input.

In this example, we’ll focus on a natural area near our campus, Turkey Mountain. A search for “Turkey Mountain, Tulsa, OK” yields a fairly accurate result. Zoom to the appropriate area, and select the option to download data by drawing a bounding box (the first option). Here’s an image of the bounding box I have selected:



After you draw the box, a new window will appear with check-boxes of data you want to download. For now, let's check the options for "Boundaries", "Elevation", and "Land Cover", and click "Next" (read the on-page instructions at this point if you are having issues).

USDA GIS Resources

The USDA ...

State GIS Resources (for Oklahoma)

Most states have their own repositories for GIS data. Typically when I'm trying to find such a repository, I do a Google search for something along the lines of these phrases: "[Insert State Name] GIS Data"; "[Insert State Name] GIS Repository"; "[Insert State Name] GIS Warehouse"; or "[Insert State

Name] GIS Clearinghouse”. Here are also a couple of websites that list some resources available by state:

- [Tulsa City-County Library GIS resources](#)
- [Carleton College webpage from the National Association of Geoscience Teachers](#)

For Oklahoma, a couple of particular websites that can be useful are:

- [The OKMaps Website](#)
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Climate Data

Some Things to Pay Attention To

When accessing GIS Data, there are a few