

The Great Search: Finding Spatial Data Online

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Be critical of data.

Use Limitations: Are the data truly in the public domain or are they only publicly available? Are there any restrictions on use?

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	 Attribution BY Others can copy, distribute, display, perform and remix your work if they credit your name as requested by you
	 No Derivative Works ND Others can only copy, distribute, display or perform verbatim copies of your work
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	 Non-Commercial NC Others can copy, distribute, display, perform or remix your work but for non-commercial purposes only.

Accuracy & Completeness

- Positional accuracy: How close are the locations of the objects to their corresponding true locations in the real world?
- Attribute accuracy: How close are the attributes to their true values?
- Completeness: Does your dataset capture all of the features that you need?
- Timeliness: How recent are the data? How often are the data updated?

Format & Structure

- Are the data in a useful file format (e.g., Shapefile (.shp), Geodatabase or Arc/Info (.e00))?
- What is the scale of the spatial data? Does it match your other data?
- At what summary level are the attribute data (county, block group, state, etc)?
- Is there metadata associated with the data?

Lists of Sources of GIS Data

A plethora of GIS data is available on the internet from federal, public, and private sources of varying quality. Many organizations and universities have compiled lists. These are good lists that are regularly updated and actively maintained:

- Online GIS Data Sources (Tufts University): <http://tinyurl.com/tuftsdatalist>
- Public Data Resources (Harvard University): <http://tinyurl.com/harvarddatalist>
- 'Starting the Hunt' (Univ of Arkansas): <http://libinfo.uark.edu/gis/datalinks.asp>
- List of GIS Data Sources (Stanford University): <http://www-sul.stanford.edu/depts/gis/web.html#Foreign>

If you don't find what you need at any of these sources you can also try using search engines such as Google by searching for your keyword plus "GIS data" or "shapefile" or "spatial data".

[A Very Small Sample of] Online GIS Data Resources

Global

Center for International Earth Science Information Network <http://ciesin.org/>

Environmental data from Columbia University

Global Land Cover Facility <http://landcover.org/>

Data on land cover, vegetation, flooding; derived from satellite imagery.

Natural Earth <http://www.naturalearthdata.com/>

Volunteer collaboration to produce consistent, high-quality data for small scale mapping (aka, global not local scale). *Primarily for cartography, not for analysis.*

Global Precipitation Climatology Centre <http://gpcc.dwd.de>

Historic global climatological data

Geo Net Names Information Server (National Geospatial Intelligence Agency)

<http://earth-info.nga.mil/gns/html/index.html>

Under the *Country File* link, you can download a tabular list of places by country (including longitude and latitude) and then convert the coordinates to points using QGIS or ArcGIS. Note that completeness and accuracy vary widely, but it's a good general source for place name points.

- Tutorial for lat/lon to points using QGIS: <http://tinyurl.com/latlontoptsggis>
- Tutorial for lat/lon to points using ArcGIS: <http://gis.mtu.edu/?p=205>

Global, Regional, Local

Harvard GeoSpatial Library: <http://dixon.hul.harvard.edu:8080/HGL/hgl.jsp>

Data for the entire globe, the US, China, and Massachusetts.

United States

The National Atlas <http://nationalatlas.gov/maplayers.html>

The National Map: <http://viewer.nationalmap.gov/viewer/>

Data from the USGS, mostly for the US. Including DEMs

Geospatial One Stop: <http://gos2.geodata.gov/wps/portal/gos>

NOAA National Climate Data Center: <http://gos/ncdc.noaa.gov>

historical climate records for the US

EPA www.epa.gov/data

Data on air pollution, pollutant and contaminant distribution, and water pollutants.

Massachusetts

The State of Massachusetts also provides a huge amount of GIS data its user-friendly website.

1. Open your favorite web browser and visit <http://www.mass.gov/mgis/>
 - a. Click on **Datalayers** on the home page.
 - b. On the next page click **MassGIS Datalayers**. This will take you to the list of layers that are available from Mass GIS.
2. The data are organized by type (raster vs vector) as well as by topic. Scroll down the layer list and take note of any layers that might be useful.
3. Most of the data are downloaded as .exe or .zip files, which you 'unzip' to access the GIS data. Note that you cannot open the .exe files on a Mac.