Maps Online: Searching For and Locating Good Maps

by David J. Bertuca

Maps are valuable tools that are useful in all disciplines and for infinite purposes. They are used as not only aids to navigation, or for getting from *A to B.* Maps now, more than ever, have become essential to a growing number of purposes. Electronic technologies improve access to information and this increases expectations for successful research. Choose any field of study or area of human interest and chances are the need for a map exists.

Before discussing the subject of maps online, I will make a simple, summary statement: You can find any map on the Internet and can *Google search* for maps of any place that exists. It's that simple—and after that, I have some swampland you might find interesting.

Not every map in the world has been digitized, nor will it ever be (nor *should* it be). The complexities of maps, the wide diversity of cartographic materials, and the difficulty in using e-maps makes this unlikely despite actions of the Federal government and various corporate interests.

The digital map universe is another format for map data that complements print maps, rather than replaces them. However, for some types of use, e-maps are perfect.

Knowing when to use e-maps and when to use print maps is very important for providing the proper results to reference requests. Practice and experience helps in learning what to expect from online and print resources. The best way to learn what is, or what can be available, is to explore, experiment, read, and keep up with the dynamic universe of electronic maps.

Finding Maps Online: Objectives

The following objectives are the goal for today:
1. To learn about some of the types of electronic maps that are available
2. To learn techniques for locating useable maps on the WWW
3. To know when to prefer paper over e-map, and vice versa
4. To be able to interpret needs to be able to focus on topic.

Electronic Maps

Maps on the Internet and in electronic products for computers include a vast array of types, including:

1. Digital facsimiles of print maps
2. Electronically created traditional maps (drawn using illustration software)
3. Electronically created special feature maps. Includes animated maps, multiple–frame sequential maps (that show changes over time or other aspects), various visual "maps" that show spatial relationships, and other
4. Geographic Information System (GIS) maps. These can be "flat" image maps or multi–layered maps showing a variety of data that can be "turned on" or "off" to create a custom map on demand. GIS in itself is not just another map type; it is a separate field requiring additional skills for producing and using these (as well as for locating GIS data).

Starting Point

These are requirements in addition to the topic or theme of the required map.

a. What type of map do you need (e.g., small map to use in class presentation that shows a country; street/road map of a city; map of historic significance)?
b. Is the map to be used for scholarly (higher accuracy) or recreational/directional (less detailed, site-specific) use?
c. Is a current map needed or one from a specific historic period?
d. Does you really want an e-map if a paper one is available (or vice versa)?

Begin a map search using BISON the Libraries catalog. If a print map is not found at UB, and you cannot find one on World Cat, then begin searching online. If nothing can be found in paper, or if you need a digital map, then concentrate on electronic maps or digital facsimiles of paper maps.

Sources for Digital Maps

1. Begin a search for electronic map images online:

UB Map Collection home page (http://ublib.buffalo.edu/libraries/asl/maps/map_room.html).
This page will guide you toward relevant subjects and ideal starting points. Many links are to resources that are not easily found through standard searches, or without a great deal of effort.

a. **Teaching With Maps** (http://ublib.buffalo.edu/libraries/asl/maps/researching_maps.html). A guide to resources of maps of all types, with emphasis on using maps for teaching and research. It also has help on terminology (glossaries), geographic locations (gazetteers), and other items. Another feature of this page is that it is easy to follow for someone with little or no map experience.
b. **Geography and Maps** Subject Guide (http://ublib.buffalo.edu/libraries/asl/guides/geography.html). This one covers all levels of users. *Geography & Maps* links to sources of maps, collections, government map and data sites, cartography pages, distance calculators, GIS, and software for mappers.
c. **Western New York in Maps** (http://ublib.buffalo.edu/libraries/asl/maps/wny_maps.html). This page, along with **Buffalo in Maps** (http://ublib.buffalo.edu/libraries/asl/maps/buffalo_maps.html) link to maps, GIS, and relevant data for the region. Some maps are from the UB Map Collection. All focus on materials that are difficult to locate using standard search engines.
d. Other pages that provide direct links to outside resources include:
Aerial Photographs Index (UB collection and access to other aerial collections**)**
Sanborn Maps (Covers all formats of these famous maps)
Topographic Maps (If you wish to locate a USGS topographic map in paper, there is help online. See "Map Indexes" on the Map Collection home page. An online index to **New York State** topo quads is on this page).

The Map Collection also has a PC with maps and map data software. See:
Digital Data & Atlases for an annotated list of available resources.
(http://library.buffalo.edu/maps/findingmaps/geo_databases.php).

Search sites that are highlighted on these pages to locate e-maps or digitized maps of a specific location or topic.

2. Search for additional libraries and institutions with major map collections. The above guides cover the strongest collections online, but many more exist. Looking through library and map collection catalogs can determine if a map might be available to answer a patron's needs.

3. Search metasites for maps: (http://ublib.buffalo.edu/libraries/asl/guides/geography.html#coll). ***Odden's Bookmarks*** is a good map search site to try. 220,000+ links are maintained leading to maps of all types (note: not all the links work all the time).

4. If these do not produce good results, then proceed to the following.

   a. Choose a web search engine. Start searching for web pages having subject-specific terms. Do not start with a "maps/images" search (save this for when regular web searches have either failed or if you find too many hits for pages—a judgment call)

   b. Search using the fewest distinct words/terms possible. Chances are that if you have gotten to this level, the place name may be somewhat rare

   c. If the search returns a broad selection of choices, view several to see if they meet your needs or if you must narrow the search

   d. Narrow the search by adding distinctive words that might reduce available hits. Try to locate variant place names or names of larger entities (e.g., for cities, locate country resources; these sometimes have lists of maps/data by district/state, and city/town). To locate variant place names, use Gazetteers (http://www.acsu.buffalo.edu/~dbertuca/maps/cat/geo_maps.html#gaz). UB has a subscription to the **Columbia Gazetteer** online (see UB Libraries Databases (below)). This is a good database to visit for many geographical needs.

   e. Search several engines, including Google, Alta Vista, Yahoo, and others. Sometimes one engine will be successful while another finds nothing. A good starting point for the universe of search engines is: http://ublib.buffalo.edu/libraries/search/searchint.html.

   f. If you feel that you have exhausted your choices, or that you need more assistance, contact the Map Librarian.

Sometimes a perfectly good map may exist on a page devoted to some other aspect than the one you are looking for. Maps are used in many unusual ways online. This is why it pays to start searching web pages rather than for images and maps.

You may also find very relevant thematic and other maps by searching for monographs, journals, and newspapers that cover a specific topic/location. See *Examples of Maps* below.

UB Libraries Databases

For geography, cartography, and related resources, the Libraries have subscriptions to several databases. Please try these and remember to put them to use when the time comes. Instruction on these is available. The first two of these databases are through subscriptions and are available to UB campus; the second two are public-accessible, and quite useful:

Columbia Gazetteer (http://ublib.buffalo.edu/libraries/e-resources/gazetteer.html). Search a database of place names to locate the correct name or variant either to help searching online or to verify its location to determine which country map to find.
Digital Sanborn Maps (**http://ublib.buffalo.edu/libraries/e-resources/sanborn_maps.html**). New York state cities and towns. Detailed maps showing streets, properties, and other features. Coverage: between 1890s-1950s (varies for each municipality).

GEOFRED (Geographic Federal Reserve Economic Data, Economic Research from the Federal Reserve Bank of St. Louis) (http://geofred.stlouisfed.org/). Vital statistics for U.S. Available data for a wide-variety of topics.
TOXMAP (U.S. EPA) (http://toxmap.nlm.nih.gov/toxmap/main/index.jsp). GIS of data for on-site toxic releases and hazardous waste sites from the EPA's Toxics Release Inventory (TRI) and the Superfund National Priorities List (NPL).

In addition, many of our databases and e-resources include maps; often these may be located by searching.

Examples of Maps

Maps Online: Digitized and Electronic Map Resources
http://www.davidbertuca.net/maps/e-maps-examples.html
Examples shown in this workshop, and many other maps.

Maps Featured in News and Journal Articles
http://ublib.buffalo.edu/libraries/asl/maps/thematic/feature_maps.html
You may also find very relevant thematic and other maps by searching for monographs, journals, and newspapers that cover a specific topic/location. This page shows examples and links to some very useful sites.

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