

ITS Resource Center Home

GIS, Maps and Spatial Thinking

Contact Information

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Welcome! Geographic Information Systems and other mapping tools will help you locate, present, analyze, and interact with data that is geographically referenced. These tools are used in many fields such as environmental studies, geography/geology, natural resources management, census data/demographics, public health, economics, history, and much, much more. To get a sense of the broad reach of this methodology, visit our [Map Site of the Month](#) page (and come back for a new, fascinating site every month!).

What does it mean to work with **spatially-referenced data**? What would your students gain from working with GIS and mapping tools? Find out something about [spatial thinking and analysis](#). See what GIS and map enthusiasts are writing about in these [GIS and mapping blogs](#).

Looking for maps to use in your classes? Browse through some of the great [online map collections](#) to see what's immediately available. Supplement your class with an online tool from our page of [map-related teaching resources](#).

Get started thinking about how to incorporate maps and mapping tools into your classes by looking at these [suggestions for using GIS and maps in class](#). See examples of simple [student and class mapping projects](#) at other colleges. You can also look through [Complex Projects in the Liberal Arts](#) for examples of more time-intensive projects (some of these might be useful teaching resources as well).

Want your students to have the experience of creating their own maps? Try out some of these robust [online mapping tools](#) to see more of what can be done with maps and mapping.

Learn how to search for geographic data using an [Internet Mapping Service](#). These are online sites provided by national, international, federal, state and local government agencies to allow access to public data. Some NGOs and instructional sites also provide excellent resources. Most sites include a tutorial or "Getting Started" page that will show you most of the site's features in a very short period of time. For a few examples, check out a page of [New York City Mapping Resources](#) or [Disaster Response Resources](#).

Do you have data of your own that you'd like to map? Then you may be able to create a "mash-up" with Google Maps or Google Earth. Here's a page of [Google resources](#), including links to helpful web services and very informative blogs and tutorials (for example, the very useful [Spreadsheet Mapper](#)).

If you need to manipulate or analyze data, then you are probably looking for a [Geographic Information System](#). We have some applications available on campus (such as [ArcGIS](#) or [ENVI](#)), but others are open-source or reasonably low-cost. All of these applications allow the importation or creation of [geospatial data](#), the analysis of this data using various techniques (such as buffering or hillshade), and the layout of professional-quality maps. [Learning how to use these applications](#) will require many hours of instruction, however, so make sure that you really need these tools. For

further information about GIS or using mapping resources in class, please contact course-support@hamilton.edu, or call 4877.

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