

February  
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## GIS: Geographic information system

*Is it true that anybody can make a map these days with a computer and Internet access?*

In general, that's true. With basic computer skills, a person can print a map and directions. Public agencies and businesses, however, need more than basic street maps to analyze property owner-

ship, detailed topography and land use parameters. Businesses need information for direct marketing and even site selection.

Geographic Information Systems or GIS can provide that in-depth analysis over distance (spatial data) or by subject (thematic data).

GIS links maps with database information. It allows a user to create maps to analyze and link different layers of information. For example, a GIS application might allow a person wanting to learn more about Coos Bay's North Spit to add layers to the map to analyze topography, water bodies, soil types, roads, trails, utilities and flood inundation zones. A business might use GIS mapping for site selection, overlaying data about transportation routes, community income levels and spending habits.

### Who's using GIS?

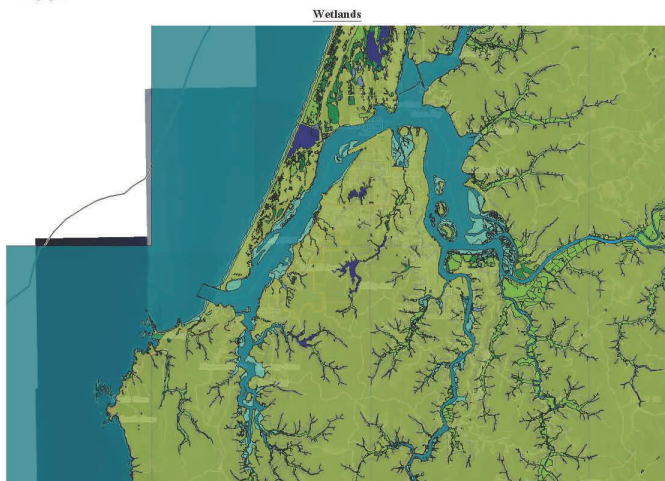
Many local public offices and businesses have GIS capability, either through in-house programming or subscriber services. The quality and depth of



David Rumsey Historical Map Collection  
The David Rumsey Historical Map Collection GIS program allows users to layer current and historical data over the route of the Lewis and Clark Expedition.

the systems varies greatly. Locally, some entities have some GIS capabilities, including cities; Indian tribes; timber and engineering companies; Coos Forest Protective Association; South Slough National Estuarine Research Reserve; State of Oregon; U.S. Bureau of Land Management; U.S. Geologic Survey; and DOGAMI.

It doesn't take a computer science or master's degree in geology to use a GIS program. GIS experts say anybody comfortable using word processing, Excel spreadsheets and e-mail programs can be trained for basic use. GIS database creation does require the higher education.



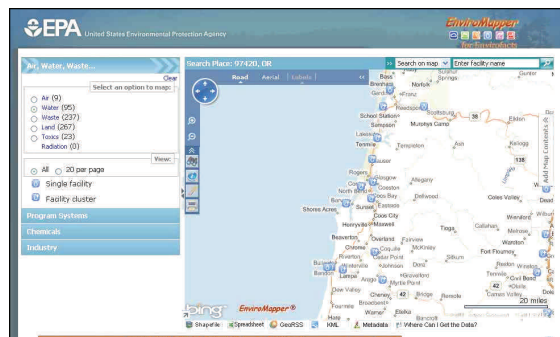
USGS Graphic

Agencies such as the U.S. Geologic Survey provide free GIS databases.

## IS GIS affordable?

It depends partially on what information an entity needs and uses. Costs have decreased over the years as GIS program quality has increased. There are many public agencies offering free access to their GIS databases. Some enterprises are willing to share database information on a reciprocal basis.

Still, there is an investment up front to install an in-house GIS. GIS capable computers require more power, better video cards and additional hardware space. A bigger computer screen is best, with a 24-inch screen being optimal. A



The U.S. Environmental Protection Agency manages a GIS database with permit and environmental reporting information.

bundled hardware/software computer package set up could cost \$10,000 or more. An entity could build its system and database, hire a consulting firm to do it, or partner with another entity.

## What's the local benefit?

Since there is no central Coos County or locally-based public agency access to consistent electronic data files on county-wide information, project planning costs can increase significantly as the required data is compiled and analyzed. The Port, as well as other public agencies and the private sector, could benefit from a centralized GIS program developed in-house

or more affordably through partnerships.

For example, in Benton County, a public GIS database provides access to maps for assessment, zoning, surveying, election zones. Layers can include data on transportation, soils, watersheds, FEMA and DOGAMI mapping. In Lane County, similar centralized databases are available, including demographic data, demographic trending, taxation and regional property/site attribute information databases.

In all, 28 of Oregon's 36 counties offer publicly accessible GIS capabilities for basic property information through county databases or partnerships. Each offers some basic GIS data for free, with some charging for more intensive database access.

### WANT TO LEARN MORE?

ESRI Mapping Center  
<http://mappingcenter.esri.com/>  
 USGS National Map Viewer  
<http://viewer.nationalmap.gov/viewer/>  
 U.S. Environmental Protection Agency  
<http://www.epa.gov/emefdata/em4ef.home>  
 Oregon Prospector  
<http://www.oregonprospector.com/>  
 University of Oregon Map Library  
[http://libweb.uoregon.edu/map/gis\\_data/index.html](http://libweb.uoregon.edu/map/gis_data/index.html)  
 David Rumsey Map Collection  
<http://www.davidrumsey.com/>

### Feedback

*Emerging Technology* is a quarterly educational newsletter. It's part of the Oregon International Port of Coos Bay's ongoing efforts to analyze trends and prospects for emerging industrial opportunity. To receive a copy, e-mail to [newsletter@portofcoosbay.com](mailto:newsletter@portofcoosbay.com).