

Gary Watry

From: Gary Watry [watry@coaps.fsu.edu]
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To: 'all@coaps.fsu.edu'
Subject: Upcoming Course on Open Source GIS

Good Morning

I am putting together a course that will start in January and will be taught on-line at your own pace. If interested, let me know via e-mail and I will add you to the mail list.

All the data used in the lessons will be from the National Atlas and all the software will be open source and available for down-load over the internet.

If you are a grad student and leaving at the end of this semester and desire to take this, all you have to do is to keep a current e-mail address on file with me.

The purpose of this course is not to teach a commercial software package such as ESRI ArcGis, Autodesk Map, or Bentley Microstation. Nor is it intended to teach you the skills needed to get a job as a GIS Technician. The concept is to expose you to the concepts of GIS in an affordable format. The concepts and theory for the use of GIS is the same regardless if you are using a commercial or open source software. The idea of this series of lectures is two fold: the first is to expose you to the world of GIS, and second to introduce you to several software packages that you could access to if you had a need for a quick map or chart for a presentation or as part of a research project.

Several of the software packages I want to explore include

AccuGlobe - The **AccuGlobe 2004** software product series was created to be a flexible and extensible base for the global GIS community. This scalable software is the core engine behind many of DDTI's advanced spatial software products. The casual user, with limited GIS knowledge and expertise in GIS, can use a [freely downloadable version](#) in developing, editing, and viewing GIS data. AccuGlobe 2004 is an easy-to-use tool to modify and analyze GIS data without having to pay expensive license fees.

SAGA - **SAGA** is a free geographic information system (GIS), with a special 'Application Programming Interface' (API) for geographic data processing. This API makes it easy to implement new algorithms. The SAGA API supports grid data, vector data, and tables.

DIVA - **DIVA-GIS** is a free mapping program, sometimes called geographic information system (GIS), that can be used for many different purposes. It is particularly useful for mapping and analyzing biodiversity data, such as the distribution of species, or other 'point-distributions'. With DIVA-GIS you can: 1. Make maps of the world or of a very small place, integrating, for example, state boundaries, rivers, a satellite image, and the locations of sites where an animal species was observed. 2. Make grid maps of the distribution of biological diversity, to identify "hotspots" and areas that have complementary levels of diversity. 3. Map and query climate data. Predict species distributions using the BIOCLIM or DOMAIN models. Create ESRI shapefiles, import and export grid data, and much [more!](#)

uDig - The **User-friendly Desktop Internet GIS** (uDig) is both a GeoSpatial application and a platform through which developers can create new, derived applications. uDig is a core element in an internet aware Geographic Information System.

Quantum GIS - **Quantum GIS (QGIS)** is a user friendly Open Source Geographic Information System (GIS) that runs on Linux, Unix, Mac OSX, and Windows. QGIS supports vector, raster, and database formats. QGIS is licensed under the GNU Public License. Some of the major features include: 1. Support for spatially enabled PostGIS tables 2. Support for shapefiles, ArcInfo coverages, Mapinfo, and other formats supported by OGR 3. Raster support for a large number of formats 4. Identify features 5. Display attribute tables 6. Select features 7. GRASS Digitizing 8. Feature labeling

fGIS - **Forestry GIS (fGIS™)** is a compact but robust shapefile editing program, digitizer and GIS data query tool for Windows®. fGIS was designed for natural resource managers who are not GIS specialists. It's easy-to-use and simple to install. Many power users also like fGIS because they can run it on laptops or home computers without copyright issues, it produces data compatible with commercial GIS programs, and fGIS was free.

TNTmips Lite - The [TNT products](#) support fully integrated GIS, image processing, CAD, TIN, desktop cartography, and geospatial database management. With TNT, you edit, display, and present project materials in raster, vector, CAD, relational database, and TIN formats. The TNT products are available for the computer or network you already own: [Windows, LINUX/Unix, or Macintosh](#). The TNT products work exactly the same on all three platforms. The unique meta-technology provides an identical interface and cross-platform data format no matter what mix of computers you use. Geospatial analysis is a growing, complex science. MicroImages can help you learn the basics. They provide [TNTlite](#), a free version of the professional TNT products. They also provide a series of [free tutorial booklets](#).

In the fall, I plan to take a look at two software suites:

Mapserver by the University of Minnesota - MapServer is an [Open Source](#) development environment for building spatially-enabled internet applications. MapServer is *not* a full-featured GIS system, nor does it aspire to be. Instead, MapServer excels at rendering spatial data (maps, images, and vector data) for the web. Beyond browsing GIS data, MapServer allows you create "geographic image maps", that is, maps that can direct users to content. For example, the Minnesota DNR [Recreation Compass](#) provides users with more than 10,000 web pages, reports and maps via a single application. The same application serves as a "map engine" for other portions of the site, providing spatial context were needed. MapServer was originally developed by the University of Minnesota (UMN) [ForNet](#) project in cooperation with NASA and the Minnesota Department of Natural Resources (MNDNR). Presently, the MapServer project is hosted by the [TerraSIP](#) project, a NASA sponsored project between the UMN and consortium of land management interests.

Here we will build a full functional open source map site.

And

GRASS - this is a Geographic Information System (GIS) used for geospatial data management and analysis, image processing, graphics/maps production, spatial modeling, and visualization. GRASS is currently used in academic and commercial settings around the world, as well as by many governmental agencies and environmental consulting companies. GRASS GIS is free and runs on the following platforms: Linux, Sun Solaris, Solaris x86, Solaris SPARC, SGI Irix, HP-UX, DEC-Alpha, PowerPC, MacOS X (Darwin), IBM AIX, BSD-Unix, FreeBSD, CRAY/Unicos and other UNIX compliant platforms (32/64bit), additionally Windows NT/Cygnus.

Other open source software packages may be added as well.

Gary L. Watry

GIS Coordinator
Center for Ocean-Atmospheric Prediction Studies
FSU / COAPS
Johnson Building, RM 215
2035 East Paul Dirac Drive
Tallahassee, Florida 32306-2840

E-Mail: watry@coaps.fsu.edu