



GeoSpatial Advisor

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In This Issue

- GIS Expands Usefulness of Parcel Data
- Weighted Overlay Method
- Tips and Tricks: Data conversion between GIS and CAD formats
- Miscellaneous: Free GIS software

Calendar of events: June 2005

June 7 – 28: Introduction to GIS using ArcGIS 9.x, Location Georgia Tech Global Learning and Conference Center, Atlanta, GA

June 16-18, 2005: Open Source Geospatial '05, international conference addressing geospatial data technologies, Minneapolis, MN

June 19: Father's Day

June 27-29: 2005 AWRA Summer Specialty Conference Preliminary Program, Hyatt Regency Waikiki Resort & Spa, Honolulu, HI

GIS Expands Usefulness of Parcel Data

Parcel maps and the associated tax data are becoming increasingly more available in a GIS format from Florida's county property appraiser's offices. This allows counties offer parcel data along with a variety of other GIS data layers for viewing and data exploration purposes via Internet Map Servers (IMS). These sites are highly useful for real estate agents and other professionals for analyzing sales data, vacant land, current and future land use, wetlands and flood prone areas. One of our favorite sites is a joint effort by the [City of Tallahassee and Leon County called I-Maps](#). Users can access a wealth of aerial photographic, parcel, flood zone, and many data types for Leon County via the Internet without having to purchase or maintain GIS software.

AGI is developing GIS mapping services similar to the Leon County online mapping to stand alone on a PC or laptop. The map service is executed through ESRI's ArcReader software application, which is available free of charge. The advantages of our packages over existing IMS sites are the addition of data not typically available via county websites, no internet connection is necessary, and we will provide packages for some



counties not currently serving their data out via IMS. Currently, we have built packages for Leon County, but are in the process of developing them for Wakulla, Gadsden, Jefferson, and Franklin counties, too. While useful to real estate agents, these packages have extensive utility for engineering, water resource, and land prospecting applications as well.

Weighted Overlay Method

Whether siting a power plant, public supply well field, wastewater spray field or landfill, appropriate site location is a key factor and critical initial step in the design of many projects. For each of these structures, certain aspects are important in determining the best location for these sites, such as proximity to infrastructure, location of sinkholes, land use, and specific soil types. Use of the weighted overlay method in a GIS can provide a variety of benefits to a siting project.

Category of Links

Directions Magazine is an electronic publication with great articles and GIS links:
<http://www.directionsmag.com/>

Part of the Federal Governments Geospatial One-Stop E-Gov initiative, this site provides a centralized location for GIS data and information:
<http://www.geo-one-stop.gov/>

Contact Us

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The weighted overlay method is used to create a discrete GIS map output layer that is the result of combining multiple input data layers. The output layer, or suitability map, represents the weighted influence of data layers in a specified study area. Each of the input data layers is assigned a percent influence based on its importance in the suitability study. Values within the input data layers are reassigned to a common evaluation scale. This allows unlike measurements such as soil type and distance from a roadway to be converted to common values that can be summed. This is a common method used for identifying suitable sites with specific requirements or restrictions and can greatly reduce some of the time typically spent searching records, data processing or field surveying by providing a suitability map that shows most the favorable sites for a specific project.

Tips and Tricks

In certain engineering projects, it is beneficial to rely on both CAD and GIS software packages. GIS can provide tools to help select sites and analyze soils, photographic, topographic, or geologic data while CAD is used for site specific layouts and engineering designs. Converting data between GIS and CAD formats can be a daunting process. Crucial attribute data included in the original GIS dataset can easily be lost upon conversion to a CAD format. This might be in the form of elevation or depth data, included as a 'Z' coordinate in the GIS dataset. In order to maintain a Z value while exporting a feature class from a GIS to a CAD it is important to add CAD default field names. This is done in ESRI's ArcGIS package by using conversion tools included in ArcToolbox. By selecting the "Add CAD fields" tool from the "To CAD" toolset the user can then input the required information. Once the CAD default field names are added to the table, it is then necessary to calculate values for the appropriate fields (i.e., calculate values for the elevation and/or ext Z fields) prior to executing the "Export-to-CAD" tool. The next step is to use the "Export-to-CAD" tool to convert the feature class to a CAD *.dxf or *.dwg format. The resulting CAD file will contain an accurate Z value when used in an AutoCAD application for displaying contour elevation data or depth below surface data.

Miscellaneous - Free GIS Software

We often get requests from clients and friends about how they can get GIS capabilities without paying for expensive software and the associated annual maintenance fees. Their reasons range from wanting to simply view maps and datasets we develop to casual GIS use. Below are some free or inexpensive examples that we have found to be very useful.

ESRI offers its [ArcReader software](#), which is a free, easy-to-use mapping application that allows a user to view, explore, and print maps which are published for you using more robust GIS software.

[Christine GIS System](#) allows users to visualize, explore, query and analyze spatial data. It is also available free of charge.

[Manifold System](#) is a powerful GIS package that runs from about \$250 for the basic package up to about \$500 for their Universal package. We have used this software on a semi-regular basis and have found it very useful.