



February 2003

Welcome to the inaugural edition of the **MassGIS GISette**, a bi-monthly newsletter emailed to our users and partner agencies to keep them informed of data updates and on-going technology developments. This first issue is being emailed to people who receive the MGIC announcements and to others that we think would be interested in receiving such information from us. You may "opt-out" of receiving this newsletter by replying to the e-mail with "No Thanks." in the subject header. This newsletter will not replace more focused emails that many of you currently receive.

Message from the Director

This is an exciting month for us - we are finishing up work on a number of projects that will provide much better access to our repository of GIS data via new software and on CD and the Web. When we committed several years ago to using the ESRI Spatial Database Engine (ArcSDE) as our production database and leaving Librarian behind, we realized that it would make sense to provide data exports in ESRI shapefile format. Also, we expected that many of our users would be moving to the ESRI ArcGIS version 8 software and that they would want a new customized interface analogous to the venerable ArcView 3.x MassGIS Data Viewer menus for selecting data and for zooming to a desired location. The work of setting up our infrastructure and writing code to do these two things is almost complete. We are now distributing CDs with the ArcView 3.x viewer code and complete data sets in shapefile format rather than extracted Librarian coverages. It's much faster - really a quantum leap forward. We have also developed an interface for the ArcGIS (version 8) environment that provides the same ease of use as the old 3.x viewer - with the A and Z button functionality built into a three-pane menu for browsing data and zoom extents. We are providing this code to sites that want to run version 8 software against the MassGIS database in the new format. Almost all data were able to be packaged as shapefiles, even statewide, except for annotation which we include as coverages on the CDs. The new color ortho imagery (see database notes below) works seamlessly as before. The only thing missing for version 8 is all the networking tools that we built into the Watershed Analyst package.

Finally, within a month or so we will have our new web-based Data Viewer up and running and populated with all our thousand-odd data themes. This interface will provide the same menus through a Java application to allow users to drill down and find the data they want to view, to zoom to a selected location and to query features - all through an internet browser! This on-line Viewer will allow users to download shapefiles in a variety of ways - thus solving at least partly the problem of keeping sites up to date with data from MassGIS. Best of all, it's built using an Open GIS Consortium interface specification for Web Mapping Services, meaning that the underlying Web Services can support rapid development of more specialized GIS applications for state agencies and other partners (see Aleda's Web Mapping notes below). We already have some agencies and towns using these GIS Web Services - DEP for example will shortly roll out an application allowing Licensed Site Professionals to obtain GIS coordinates on-line for hazardous material release locations. And we have a functioning prototype for an on-line update tool that will allow cooperators to edit point locations. We will be testing this application with the Division of Capital Asset Management's state facilities dataset.

As you can see - there's a lot going on. Read on to find out some of the details; visit our web site to find out more. As always, please work with us to make our shared repository of GIS data as useful as it can be. Help us, as well, in working on collaboratively developing standards, to guarantee the quality of the data. And give us feedback as we continue to develop technologies to facilitate access, distribution and use of GIS.

Contact: christian.jacqz@state.ma.us.

Interactive Online Mapping

MassGIS has been working on several interactive online mapping initiatives. See <http://www.mass.gov/mgis/mapping.htm> for links to online maps featuring color orthophotos, USGS topographic maps, legislative districts, NHESP BioMap information and others. An interactive map focusing on Census 2000 demographic data is on line at <http://maps.massgis.state.ma.us/census/pages/main.jsp>. All of these maps are using ESRI's ArcIMS software but several (Census map, legislative districts, Community Preservation and CZM's shoreline change) combine ArcIMS with a new architecture called OpenGIS web map services. MassGIS's new web services, sponsored by the Information Technology Division (ITD) of the Commonwealth, are a new way of providing map layers to Internet applications. The web services can serve not only map images but also information, such as a point in return for an

address, or a bounding box in return for a place name. The MassGIS web service program is available for projects at the state or local government level. Those internal to the state firewall can access complete documentation at <http://www.mass.gov/mgis/websrv.htm>. Those outside the state firewall working on behalf of government entities should email Aleda Freeman at Aleda.freeman@state.ma.us for a copy.

Database News

All of the Environmental Affairs agencies, other state agencies and partners are continually collecting new data and updating their GIS information, some of which we are serving up. Some of the datalayers are updated more frequently than others. Here are some of our most recent datalayer additions and updates:

NEW DATA:

Census 2000 Data - January 14, 2003

MassGIS is now making available Blocks, Block Groups, Tracts, and TIGER Linework in shapefile format. These statewide layers, originally from the U.S. Census Bureau's 2000 tabulation, have been processed to facilitate use within the Mass. State Plane Mainland NAD83 coordinate system so that they may be used with other MassGIS data. In addition, MassGIS staff has prepared a series of related demographics tables to join to the blocks, block groups and tracts layers. The tables, subsets of the SF1 and SF3 tables released by the Census Bureau, contain information relating to housing, income, age, and other demographics data. For details on these new layers, please see <http://www.mass.gov/mgis/census2000.htm>.

Color Ortho Imagery Available for Entire Mainland! - January 7, 2003

MrSID mosaics are now available for all of Massachusetts (excluding the Islands). The images are 1:5,000-scale half-meter pixel resolution files, developed from aerial photography flown in April 2001. Also, MrSID images tiled by the Ortho Index may now be downloaded. See the News Item at <http://www.mass.gov/mgis/new-colororthos.htm> for more details, sample images, and a link to the download area. Also, comparable imagery for The Islands will be developed from photography to be captured this spring, 2003.

New Legislative District Layers - January 1, 2003

Taking effect in January 2003 are Massachusetts Senate and House and 108th U.S. Congressional district boundaries. Three new layers, with representative information up-to-date through the Fall 2002 elections, are now available. See their respective datalayer description pages:

- * House: <http://www.mass.gov/mgis/house02.htm>
- * Senate: <http://www.mass.gov/mgis/senate02.htm>
- * Congress: <http://www.mass.gov/mgis/cong108.htm>

RECENT UPDATES:

Open Space - January 7, 2003

Various updates to several towns. See details on the Open Space "Recent Updates" page at

http://www.mass.gov/mgis/osp_updates.htm

Bicycle Trails Layer - January 7, 2003

The old Rail Trails layer has undergone an extensive update and is now known as Bicycle Trails. See details on the layer's datalayer description at <http://www.mass.gov/mgis/biketrails.htm>

1:5,000 Orthophoto Wetlands and Streams Data - January 7, 2003

New and updated tiles. For the areas now covered please see the most current Status Map at http://www.mass.gov/mgis/st_wet.htm

DEP Datalayer Updates and Hydrographic Layers - December 24, 2002

The DEP GIS Group has updated the following layers:

- Public Water Supplies - <http://www.mass.gov/mgis/pws.htm>
- Zone IIs, IWPA, IWPACOM - <http://www.mass.gov/mgis/ziis.htm>
- Surface Water Protection Areas (Zone A, B, C) - <http://www.mass.gov/mgis/swp.htm>
- Sub-basins - Tile 7 - <http://www.mass.gov/mgis/subbas.htm>

Title 5 Layer - December 19, 2002

All tiles updated in early October to include buffers around features in the 1:5,000 Orthophoto Wetlands layer. More tiles updated in late October and December in conjunction with other Wetlands updates. See <http://www.mass.gov/mgis/t5.htm> for details on this layer.

New on the Website

.AUX Files for Images - January 10, 2003

Auxiliary files store spatial reference information in a companion file for images. Named the same as an image, but with an .aux extension, they are used by ArcGIS so that images may be projected on the fly in ArcMap if multiple data sources with different projections are loaded into a Data frame. MassGIS has produced .aux files for the 2001 Color Ortho Images, 1:5,000 Black and White Ortho Images, and Scanned USGS Quad Images. When downloading images from <http://www.mass.gov/mgis/dwn-imgs.htm>, ArcGIS 8x users should download the image file and the .aux. ArcView 3.x users should also download the header (.tfw or .sdw).

Updated Municipal GIS and Digital Parcel Development Status Map - January 1, 2003

The GIS Status and Parcel Development map updated from various sources. See <http://www.mass.gov/mgis/munistat.htm>

Note on Imagery

Users may successfully display our meters-based imagery in ArcView 3.x with other data in feet simply by changing the accompanying .sdw files and installing the newest version of the file AVMrSID.dll
<http://www.mass.gov/mgis/AVMrSID.dll>.

The process is as follows:

- 1 - Open the .sdw file in a text editor and multiply all values by 3.2808333316 and save
- 2 - Place the AVMrSID.dll file (download at <http://www.mass.gov/mgis/AVMrSID.dll> in the BIN32 folder where ArcView is installed (e.g., C:\ESRI\AV_GIS30\ARCVIEW\BIN32)

To display the images with feet-based data in ArcMap, be sure the .aux accompanies the image file (.sid) in the same folder, and be sure the spatial reference has been defined on vector data (resulting in a .prj file). The feet-based data or the images will project on the fly (ArcMap does not use the .sdw).

Open Space Corner

For those of you who do not know me, I'm Scott Costello, the Open Space Coordinator for MassGIS. Along with Paula Jasset, my job is to keep the Protected and Recreational Open Space Datalayer <http://www.mass.gov/mgis/osp.htm> as up to date and accurate as possible. As you may well know, this is no easy feat and needs cooperation of those of you who are working in the towns and local organizations who know the land best. If you find something in our data that is missing or incorrect, please let me know about or it won't get fixed! EOEa recently dedicated the North Quabbin Bioreserve, a large region that is actively being protected by state agencies and local land trusts. This work was an example of using GIS to protect Open Space in Massachusetts. MassGIS provided the technical backup for the tremendous work of Mount Grace Land Conservation Trust, who enabled this large push of land protection by DEM and DFWELE to happen. I look forward to working with other local and regional land trusts on similar projects in the future.

Working on an Open Space Plan for your town? Let me know. MassGIS provides a series of maps to aid in the drafting of your plan. They are free-of-charge for the towns actively preparing an Open Space Plan <http://www.mass.gov/envir/conservation/open.htm> for the Massachusetts Division of Conservation Services. <http://www.mass.gov/envir/conservation/cpindex.htm>
See you in the Parks!

Contact: scott.costello@state.ma.us or 617-626-1076.

Upcoming Events

March MGIC (Massachusetts Geographic Information Council)

The next MGIC http://www.mass.gov/mgis/mgic_ix.htm meeting will be held on March 11, 2003 from 10 AM to Noon at the National Grid/Massachusetts Electric Headquarters off Route 9 in Westborough. The topic will have a municipal focus and a tentative title of "If I knew then, what I know now." Speakers will include Kim Honetschlager of North Reading, Kathy Joubert of Northborough, and Richard Ames of Wayland.

March Meeting Statewide Geographic Information Advisory Committee

March 18, 2003. For information about the committee please see <http://www.state.ma.us/mgis/mgiac.htm>.

Any comments or suggestions about the GISette are welcomed
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MassGIS-The Commonwealth's Office of Geographic and Environmental Information is located within the Executive Office of Environmental Affairs and is charged with the collection, enhancement, storage and dissemination of the Commonwealth's geographic data.

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