

June 2005

Welcome to the fourteenth edition of the **MassGIS GISette**, a bi-monthly newsletter e-mailed to our users and partner agencies to keep them informed of data updates, GIS events, and on-going technology developments. This newsletter will not replace more focused E-mails that many of you currently receive. A page on our website has been created for the [GISette](#). There you will find back issues of the GISette and an [online subscription form](#) to receive the newsletter via E-mail.

While our primary intent in publishing the GISette is to disseminate information related to MassGIS initiatives and data development in particular, we also see the GISette as a means of communicating public agency GIS news. So we encourage readers to send in updates or announcements concerning public agencies that they would like included in the GISette. We particularly want to encourage submission of announcements concerning data development projects. Announcements should be sent to Paul Nutting at paul.nutting@state.ma.us.

Database News

Data Updates

- **Updated EOT-OTP Roads replaces MHD Roads** - 6/21/2005
The EOT-OTP Roads datalayer, formerly known as the Massachusetts Highway Department Roads, is the result of the completed project by the Executive Office of Transportation - Office of Transportation Planning (EOT-OTP) to conflate highway inventory data to the linework from the 1:5,000 Road and Rail Centerlines that were interpreted from the Black and White Digital Orthophotos. All linework in the improved EOT Roads layer now matches the 5k ortho base. See the [EOT-OTP Roads datalayer page](#) for details.
- **[Crop Evapotranspiration and Potential Evaporation Grids](#)** - 6/24/2005
These two raster datasets for Massachusetts model average monthly reference crop evapotranspiration and potential evaporation from open water bodies.
- **Updates to DEP Public Water Supply Layers** - 6/8/05
The DEP GIS Group has updated the following layers:
 - [Public Water Supplies](#)
 - [Zone IIs, IWPA](#)
 - [Surface Water Protection Areas \(Zone A, B, C\)](#)
- **C21e Layer Updated** - 6/8/2005
DEP GIS Group has updated the [Tier Classified Chapter 21E Sites](#) datalayer. 141 sites were added and 154 sites were removed.
- **Soils Layers Updated** - 5/18/2005
SSURGO-Certified soils data (polygons and arc and point spot features) are now available for the Worcester Northeast survey area. In addition, the Microsoft Access databases containing the soils related tables are now available for all SSURGO-certified survey areas. View the current [status map](#) and [download](#) the data.

- **Update to Open Space - 5/16/2005**
The MassGIS Protected and Recreational OpenSpace Datalayer has been updated and a new shapefile has been placed on our ftp site. In January the layer underwent major revisions. The underlying data schema was changed and many polygons were added/revised/deleted. See details on the [Open Space Datalayer Description](#) page.
- **BWP Major Facilities Layer Updated - 5/9/2005**
DEP GIS Group has updated the [DEP BWP Major Facilities](#) datalayer. Changes include: 1) New BWP Major Facility type added - Type II Surfacewater Discharge Permits (SWD); 2) LQG BWP Major facility type broken out into MA-regulated LQG of Haz. Waste and EPA/RCRA-regulated LQG of Haz. Waste; 3) Feature level metadata attributes have been removed from the feature class DEP and a location documentation table (BWPMAJOR_PT_LDT) has been created to store DEP standard metadata.

What's New on the MassGIS Web Site

- **[New Standards section](#) - 5/18/2005**
MassGIS' standards for GIS data development. Includes standards for Digital Parcels and Related Data Sets, Digital Plan Submission, and Water, Waste Water, and Storm Water Infrastructure.
- **[MassGIS' Spring NEARC 2005 Presentation](#) - 5/4/2005**
PowerPoint Web presentation on "Life in the Geodatabase" - an overview of the geodatabase and MassGIS' experiences with this spatial data format.

Massachusetts Emergency Management Agency Launches Online Reporting and Planning Tool

MassGIS has worked closely with MEMA to enhance their GIS capabilities. The following article was written by Rob Souza, at MEMA, to announce a new online reporting and mapping tool.

The [Massachusetts Emergency Management Agency](#) (MEMA) coordinates Federal, State, local and private resources throughout the Commonwealth during times of disasters and emergencies. As part of preparing for disasters and emergencies, MEMA coordinates development of Comprehensive Emergency Management Plans (CEMP) by each community in the Commonwealth. Before this year, communities used a labor-intensive process to update their CEM Plans. The process consisted of receiving a Data Collection Packet from MEMA, entering the appropriate information, and then sending the packet back to MEMA for processing. The MEMA Planning Department would then convert the hand-written data into an electronic format using a combination of Microsoft Word, Access, and ESRI's ArcMap. This process was time consuming for both MEMA and our communities. This year, MEMA will implement the eCEMP, which stands for Electronic Comprehensive Emergency Management Planning. The eCEMP is a web-based application developed for the Massachusetts Emergency Management Agency (MEMA) by a consultant. The eCEMP will enable the Commonwealth's communities to log on to a secure web site to create, update, and print their community's CEM Plan as often as they like and based on their own schedule.

In addition to recording a community's inventory data, such as, vehicles, personnel, equipment, etc., eCEMP users can now map points/areas of concern using simple mapping tools provided by the eCEMP application. The eCEMP's mapping function uses Scalable Vector Graphics (SVG) to display maps, allowing users to identify critical infrastructure, draw evacuation routes, and denote areas of special concern, such as, flood prone areas. Map data is supplied by MassGIS and map points placed by the eCEMP user are automatically geocoded and stored in an Oracle database.

The eCEMP is scheduled to be released at the end of June 2005. Training will begin the first week in July and continue through September at more than 10 different training locations throughout the commonwealth. If you would like to know more about eCEMP, please send E-mail to eCEMP@state.ma.us

2005 Color Orthos Update

MassGIS is pleased to announce the successful acquisition of imagery that will be used to produce a new version of the statewide color orthophoto basemap. Images covering the entire state were acquired this past April under excellent atmospheric conditions. The contractor, Sanborn Inc. from Colorado Springs, was selected following a competitive procurement process. The specifications for the orthophotos that will be produced from these images are the same as for the 2001 orthophotos: half meter pixel size, +/- 3m horizontal, true color, etc. Unlike the 2001 iteration, the infrared reflectance band was also captured. Additional products will include a new digital terrain model and stereo-viewable images. The current project schedule calls for orthophotos (color and IR) to be delivered starting in September. Project completion is currently scheduled for March 2006. The Executive Office of Environmental Affairs, the Executive Office of Transportation, the Department of Environmental Protection, and the Department of Public Health provided funding for the project.

Digital Plan Submission Standard is in Development

Neil MacGaffey, Assistant Director at MassGIS, was recently interviewed by Rich Gosselin, the chair of the GIS/LIS Committee for the Massachusetts Association of Land Surveyors and Civil Engineers (MALSCE). The subject of the interview was the proposed standard for Digital Plan Submission to Municipalities. The standard is presently in its second draft and is expected to become final in the next month or two. To read the interview, go to http://www.engineers.org/whatshot/Info/mass_gis.htm. To find the second draft of the standard, go to <http://www.mass.gov/mgis/standards.htm>.

Online Mapping

Single Purpose Viewers

Get Lat/Long in USGS Topographic Maps Viewer

In the last issue, we told you about the "get XY tool" in the Color Orthophoto Viewer. The same enhancement has been made to the [Topo Map Viewer](#). This tool will give you latitude and longitude in both degrees/minutes/seconds and decimal degrees.

Color Ortho Address Search

It is apparent that many people are using the address locator feature in the [Color Ortho Viewer](#). One of the search criteria requires a valid Zip Code or Zone, which the user may not know. We've recently added a link to the [US Postal Service Zip Code Finder](#), so that the correct Zone can be acquired.

NHESP Living Waters Viewer Added to BioMap

The online [BioMap Viewer](#), which shows priority habitats for maintaining biodiversity that were identified by the Natural Heritage and Endangered Species Program, has been augmented with a [Living Waters Viewer](#) that identifies the most critical sights for maintaining freshwater biodiversity.

Tips on Printing

The online [21e viewer](#) now produces a decent printout with a legend. Zoom to your area of interest, and then click the printer logo in the bottom right corner of the vertical toolbar. In the bottom center of the viewer, change the map title if desired, and then click the "Create Print Page" button. A new window will pop up titled "Map Output" (if it doesn't pop up, you may have to temporarily disable your popup blocker). Choose File/Print Preview. Click on the Page Setup icon in the upper left (looks like a white piece of paper with a yellow gear) which will open a dialog box. Choose the Landscape orientation in the lower left. Change the left and right margins to 0.5 inches. Your printout should look complete on screen now, and should print out all on one page.

OLIVER Enhancements

[OLIVER](#) now has a menu called Bookmarks. Bookmarks are similar to Internet Explorer Favorites or Netscape/Firefox Bookmarks. A bookmark retains all the information related to the creation of a certain map - including the layers and the geographic extent.

When you want to "save" a map in OLIVER, choose the Bookmarks menu and then "Add Bookmark of Current Map". You'll be prompted to name the bookmark. For example, if you are viewing Malden and have schools on the map you might name the bookmark "Malden Schools." Now you can return to that saved map at any time by choosing the Bookmarks menu and the choice "Current Bookmarks" which contains a list of your saved bookmarks. Bookmarks can also be deleted - choose the Bookmarks menu, then Delete Bookmarks, then either highlight a bookmark in the list and click the Delete Bookmark button or click the Delete All button to delete all bookmarks. Bookmarks are stored on your computer and will be remembered between OLIVER sessions. If you want to share a map with someone, you now have four options:

Option 1 is to right-click the map and "Save Current Map Image to Disk". You choose the name and location of the file. The image file is of type PNG (a new replacement for GIF or TIFF). This image file is static and thus cannot be edited.

Option 2 is to click the Generate Map URL button (also under Tools menu). This opens a window with a long Internet URL (address) in it. If you send this URL to someone and they enter it into their web browser, a map is generated dynamically based on the layers and geographic information in the URL. This is different than the PNG in option 1 because each time someone goes to the URL the layers are drawn again from the database, including any database updates. The PNG in option 1 may draw faster, but with option 2 the dynamically generated image is "fresh".

Option 3 is now available with bookmarks. You can export your bookmarks to a binary file using the Bookmarks menu, "Export Bookmarks to File on Disk". You get to name the file and determine where it is saved on your hard drive, but the extension will be .obm - OBM for OLIVER Book Mark. Another user of OLIVER can then Import the bookmarks, and your bookmarks will be added to their list of bookmarks. Then they can display your favorite maps, just as they appeared to you. This is a good way to share a lot of maps with someone else. Note - bookmarks generated from different versions of Java, such as 1.4.2 and 1.5, are not currently compatible.

Option 4 is to use the Tools menu, "Generate Launch URL for Current Map". This URL will open OLIVER and display the saved map.

General Tips and Tricks

ArcView 3x and MrSID

Some ArcView 3.x users may find that ArcView 3.x does not recognize some newer MrSID files. For example, the [Shaded Relief \(1:5,000\) image](#) is distributed in the MG3 MrSID format. If users try to add the theme in ArcView 3.x and the image is not listed in the Add Theme dialog for images (with the MrSID Extension turned on), or an error appears when trying to add the .sid file, the problem may be an older AVMrSID.dll file that does not recognize the newer .sid file format. The solution is to download the latest [AVMrSID.dll](#) from Lizardtech, the developers of the MrSID format. The new .dll should allow you to successfully add the image.

Displaying Route Markers Data

MassGIS has created an ArcMap layer file that plots ideal location points, and then labels them using the RT_NUMBER field. The [layer file](#) is included in the .exe file with the downloadable shapefile and also is included on MassGIS Data Viewer CDs.

Jim Mossman of Data Deja View has created a set of [ArcGIS Desktop.style files](#) and [ArcInfo Workstation markersets](#). Follow the directions in the download to install.

To plot the route markers points in ArcView 3.x with appropriate route shield markers, do the following:

1. [Download a set of route shields](#) created for Massachusetts by Jim Mossman from the ESRI ArcScripts page.
2. Follow the instructions included in the .zip file for installation of the fonts onto a Windows PC.
3. [Download rtemarkers_pt.avl](#), a MassGIS-produced ArcView legend file, for symbolization.

4. Add the Route Location theme in ArcView and load the mhdrtid.avl legend, symbolizing on the RT_ID item.
5. You may want to adjust the size of the markers or select a subset based on the MARKER field to avoid too many shields plotting, depending on your map scale.

Please note that the locations of these points have been chosen to optimize display and do not represent actual roadside locations of route signs.

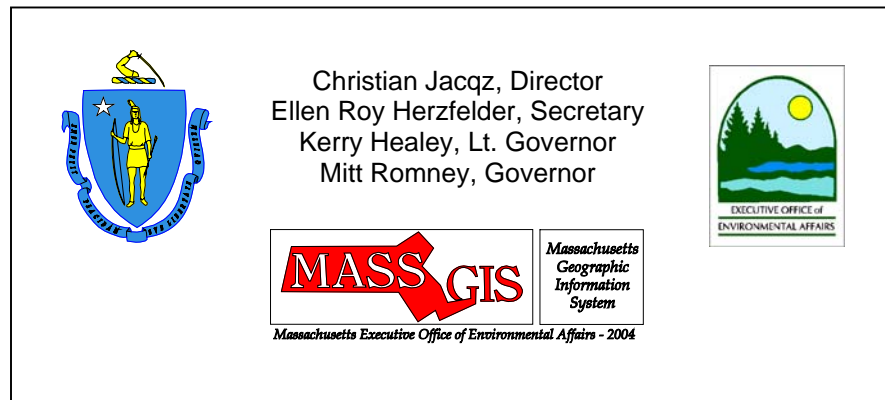
To achieve the look of the route markers as on actual highway signs (i.e. red, white and blue Interstate; U.S. shields; boxes for State routes) when plotting these using Arcplot, use the marker set solidshld.mrk; a special font - fnt029 - must be located either locally or in the \$arhome/igl63exe directory. Issue the pointmarkers command and use the RT_ID (route number) or ART_ID (alternate route number) field, which matches the appropriate symbol in the solidshld.mrk marker set. Download these files: [fnt029](#) | [solidshld.mrk](#)

Any comments or suggestions about the GISette are welcomed paul.nutting@state.ma.us.

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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