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Geospatial Information Data Base™ System (GIDB) Thin-Client (web-based)

US PATENT 6,684,219

GIDB Portal System

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1. General Information

Welcome to DMAP

The Geospatial Information Data Base™ System (GIDB) offers a fully Object Oriented (OO) approach to managing the input, storage, retrieval, presentation and mission integration of geospatial data. Since GIDB works in relation to a specific user defined area of interest (AOI), its primary focus is to improve the user's accessibility to spatial data for this region. It utilizes OO technology to establish a portal type connection to various disparate database servers. Likewise it provides users with the capability to store, retrieve and integrate spatial data unique to their own application. GIDB presents this information in both 2D and 3D perspective views, while also offering the flexibility to query this data with reference to time and space. This document describes the common functionality of the GIDB and the steps involved in performing general tasks associated with the input, retrieval and presentation of digital spatial information in the GIDB™ portal System. DMAP is the team responsible for developing the Geospatial Information Database (GIDB) Portal System, simultaneously connected to the most disparate sources of geospatial information available and with no licensing, which you can access by choosing one of the three user interfaces below (Thick, Thin & PDA clients). This document focuses on the thin client (web-based).

2. Browser-based Client

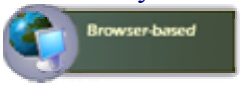
The Portal is accessed through the use of one of three clients. DMAP's Browser-based Client strives to be the simplest method of interacting with the GIDB Portal System by providing a thematic interaction and automatic selection of "best" data for the user. This allows a user to obtain very useful geospatial data without having to know the actual source. Up to five layers can be viewed simultaneously and can vary in order and transparency.

Browser-based Client screenshot

3. Lets Get Started!

The following will walk you through an example of how to use many of the features available in the Thin-Client (web-based) version of Geospatial Information Data Base™ System (GIDB).

3A. THE BASICS

a. Open Internet Explorer and go to the DMAP Homepage located at http://dmap.nrlssc.navy.mil
b. Click on 

You are now into Thin Client (browser based application)

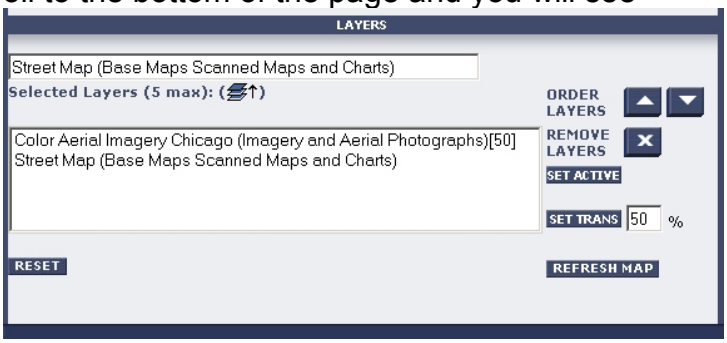
3B. EXERCISE -Viewing Chicago up close (aerial photography)

a. Click on **Region** and then **Zoom to US County**
b. Select **IL** and then **Cook** for the county
c. Now with your mouse click and drag a box around downtown Chicago

The Zoom Tool (red box) can be used to keep zooming into a certain area. You can see the buttons on the right can also be used to zoom down to a certain area also.

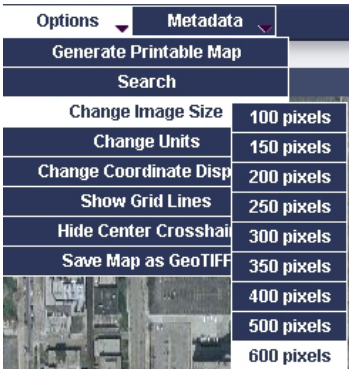
d. Click on the **5k** button

Now by **Layer** and then **Imagery and Aerial Photography** and then **Color Aerial Imagery Chicago**. You can see that nothing happened but if you look at the bottom of the page you can see you have a new layer added. You can add up to five different images from the database at the same time and they all have a transparency level.
Scroll to the bottom of the page and you will see

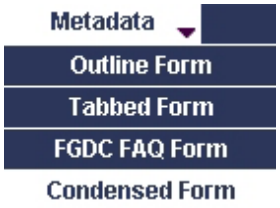


Layers box and if you noticed you have two layers. Click **Refresh Map**. You will notice that the image you receive is a combination of both layers. They are both transparent by 50% and that explains why the image isn't clear. Select **Street Map** and then click the **Remove Layers** button (x). This will delete the street maps and only leave the imagery. Now click **Refresh Map.**

e. To change the image size you can click on **Options, Change Image Size, and 600 pixels.**



f. Information about the current map you are viewing can be found under the metadata options. Example: Click on **Metadata** and then **Condensed Form**

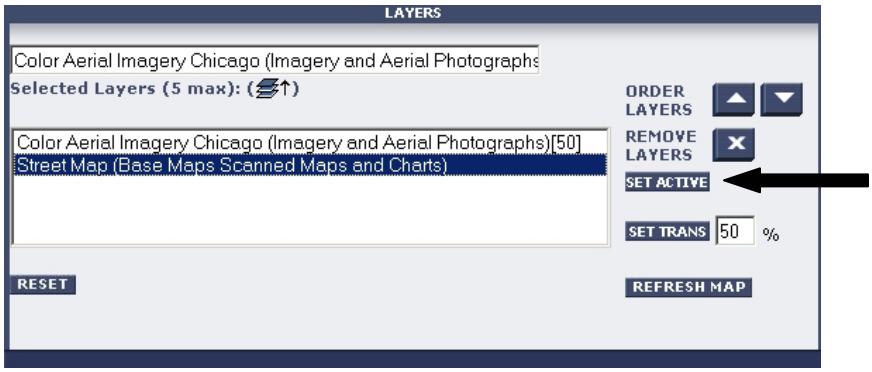


g. Add another layer by Selecting **Layer, Base Maps Scanned Maps and Charts, Street Map**. You will notice in the Layers box you will see two layers now. Click **Refresh Map**.

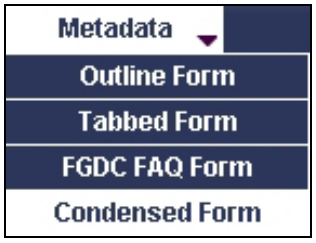
h. Now click on **Street Map** in the Layers Box and then click on the box next to Set Trans % box and type 40 and Click **Set Trans**. Click **Refresh Map.** Now Set Trans to 70% and click **Refresh Map.**

i. Metadata is information about the image you are currently viewing. When querying for the metadata it only obtains information from the active layer.

j. If you have more than one layer, you must select one of the five layers and the set as active. This will then be the layer that generates metadata/legend information.



Click on **Street Map** and then click on **Set Active**. This set the street maps into the Selected layers box at the top. Now click on **Metadata** and choose **Condensed Form** for this exercise.



4. GIDB Web Client Tutorial

The GIDB Web Client has a simple menu-driven user interface.

4a. Region: The region menu allows the user to select the region of interest.

- **Re-center at Address** - Opens the Address Input Page. For US, a minimum of zip code, or city and state is required. If the address field is left blank, the map will be centered on the entered city or zip code. For other countries, a minimum of city and country is required. Street address lookup may not be available for all countries. When selections are submitted by hitting the Go button, the map will be re-centered based on the selections, and will be zoomed in to a scale of 1:50k.
- **Re-center at Coordinate** - Opens the Center at Coordinate Page. The user has the option of centering at decimal degree longitude/latitude, degree minute second longitude/latitude, UTM coordinate, or MGRS coordinate. For decimal degrees, use negative values for the Western and Southern Hemispheres.
- **Zoom to US County** - First opens the State Selection Page. After a state is selected, will open the County Selection Page. When submitted, the map will be centered at the selected county and will be zoomed to the smallest scale that completely contains the county bounds.
- **Zoom to US State** - Opens the State Selection Page. When submitted, the map will be centered at the selected state and will be zoomed to the smallest scale that completely contains the state bounds.
- **Zoom to Country** - Opens the Country Selection Page. When submitted, the map will be centered at the selected country and will be zoomed to the smallest scale that completely contains the country bounds.

4b. Layer: The layer menu allows the user to select the theme and map layer to be displayed. The theme names are based on the ISO19115 standard. The list of available map layers will vary based upon the region of interest and map scale.

4c. Options: The options menu allows the user to set display preferences and perform functions such as generate a printable map, search for a layer, or access additional data available through the National Guard Bureau Digital Mapping Server.

- **Generate Printable Map** - Opens the Map Generator Page. This page allows the user to add a title, set the map size, decide what to include with the generated map, and set the output format. When submitted, a map based on the user's selections is generated. When the generated map appears, just hit the print button on the browser. You can also right click on the generated map and save the image to your local computer.
- **Search** - Opens the Search Page. Enter a key word for the map layer you are interested in finding, such as "school". You also have the option of searching for layers available in your current region of interest, or searching for layers that exist within any region (but not necessarily all regions).

- **Change Image Size** - Allows the user to change the map image size, from 100 pixels to 600 pixels. The default is 400 pixels. Note that the larger the image size, the longer it takes to retrieve and display the map image.
- **Change Units** - Allows the user to change distance display from kilometers to miles and vice versa.
- **Change Coordinate Display** - Allows the user to change the coordinate display to degrees minutes seconds (DMS), Military Grid Reference System (MGRS), Universal Transverse Mercator (UTM), or decimal degrees (DD).
- **DMS Data for Region** - The National Guard Bureau Counter Drug (NGB-CD) has developed a Geographic Data Server (GDS). The GDS is part of the Digital Mapping Server (DMS), and provides links to geographic data for regions around the world. This selection provides links from the GDS that may be relevant to your current region of interest.
- **Show/Hide Grid Lines** - Allows the user to show or hide grid lines. The grid lines will be in the coordinate system currently displayed.
- **Show/Hide Center Crosshair** - Allows the user to show or hide a center crosshair. The crosshair marks the center location on the map.

4d. Metadata: Metadata is information about the current map layer, such as where the data came from, who produced it, how old it is, etc. The metadata is based on the FGDC Metadata Standard. The four metadata display forms show the same information, but in different formats. You can try the four choices to determine which form you like best. You may notice that some data layers have more metadata available than others. The amount of metadata provided is dependent upon the data originator, not the GIDB Portal.

- **Outline Form** - Displays the metadata in an outline form, and is the default for FGDC Metadata.
- **Tabbed Form** - Displays the metadata in a tabular format. This selection is commonly used by ESRI products to display metadata.
- **FAQ Form** - Displays the metadata in a question-based format, similar to a FAQ document.
- **Condensed Form** - Displays the metadata in a summarized format. This is the format used by the Geography Network to display metadata.

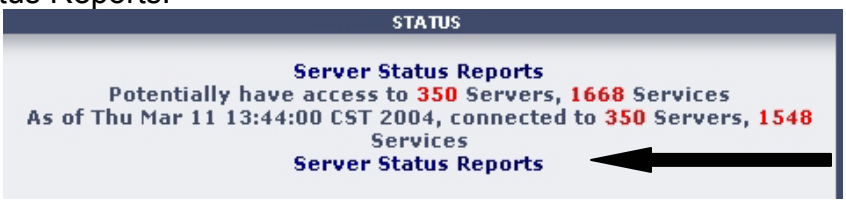
4e. Documentation: Provides several documents related to the GIDB Portal Web Client.

- **GIDB Thin Client Manual**- This document, which describes the capabilities of the GIDB Portal Web Client.

- **Themes and Layers** - Document which lists the layers, layer names, servers, and websites for the themes available in the Web Client.
- **Sources** - Document, which provides a summary of the servers and services which provide data to the Web Client.
- **FAQs** Located on Header Bar- Document containing Frequently Asked Questions about the Web Client.
- **Legend-** is shown for your selected active layer

4f. Server Status reports

The servers that the GIDB uses for data are continually monitored for performance. You can view the data used in the monitoring process through Server Status Reports.



- Current Available Servers A listing of the GIS servers that are connected to the GIDB Portal
- Current Available Layers A listing of themes and layers available in the GIDB Portal
- Current Failure Report A listing of the servers and services that are currently inaccessible
-

4g. Additional Functions (not on menu): There are some capabilities in the GIDB Portal Web Client that are available outside of the menu.

- **Panning** - The pan icons located around the map allow the user to pan the map in the N, S, E, W, NE, NW, SE, and SW directions.
- **Click on Map to Re-center** - The user can manually re-center the map by clicking on the map at the desired new center point.
- **Zoom Buttons** - The user can change the map scale by clicking on the zoom buttons located below the map. The zoom buttons are labeled with the corresponding scale. By holding the mouse over a zoom button, the scale and distance across the map will be displayed.

- **Re-Order Layers** - The user can re-order multiple layers by clicking on a layer in the Selected Layers list and then clicking the up or down arrow icon. Note that the change will not occur on the map until the Refresh Map button is clicked.
- **Remove Layers** - The user can remove a layer by selecting one or more layers from the Selected Layers list and then clicking the remove (X) button. Note that the change will not occur on the map until the Refresh Map button is clicked.
- **Set Active Layer** - The active layer is the layer for which metadata will be retrieved and whose legend will be displayed. The user can set the active layer by selecting a layer from the Selected Layers list and then clicking the Set Active button. Note that the change will not occur on the map until the Refresh Map button is clicked.
- **Set Transparency** - Transparency allows multiple layers to be displayed at once, with top layers more transparent so that bottom layers are visible below them. The bottom layer is never transparent. The degree or percent of transparency can be any value between 0 and 99. To change the transparency of a layer, enter the % transparency then select the layer in the Selected Layers list, then click the Set Trans button. Note that the change will not occur on the map until the Refresh Map button is clicked.
- **Refresh Map** - The Refresh Map button will reload the map based on the current user settings.

5. Conclusions

The GIDB Help documentation is available in both printed and online versions. With each major version release of GIDB, the help documentation is updated and made available within the latest installation script. Any new attempts to start GIDB on a local machine after a new version release will generate a request to download the new version. Therefore, users version of the help documentation should remain up to date with their current version of the GIDB.

6. Questions/Comments/Suggestions

Please email any questions, comments, or suggestions for improvement to

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