

The National Map Viewer User Guide

U.S. Geological Survey
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Table of Contents

Section	Page
1.0 About This Document	1
1.1 Purpose.....	1
1.2 Intended Audience	1
1.3 Document Overview	1
1.4 Assumptions, Constraints, and Dependencies	2
2.0 Introduction.....	3
3.0 System Configuration.....	4
4.0 Using the Map Display	5
4.1 The National Map Viewer	5
4.2 Introducing the National Map Viewer Interface.....	6
4.3 Navigating the Map Display	8
4.4 Options.....	10
4.5 Help.....	12
4.6 The Link Button.....	14
4.7 Changing the Basemap	17
5.0 Using the Toolbar	18
5.1 The Toolbar.....	18
5.2 The Standard Tab of the Toolbar.....	18
5.3 The Advanced Tab of the Toolbar.....	19
5.4 The Annotation Tab of the Toolbar	19
5.5 The USGS Tab of theToolbar.....	19
5.6 Map Navigation	20
5.7 Identify.....	20
5.8 Find Coordinates.....	23
5.9 Reverse Geocode	24
5.10 Clear Graphics	24
5.11 Zoom to Globe (Full Extent)	25
5.12 Zoom to Last Extent	25
5.13 Measure Distance.....	25
5.14 Measure Area.....	26
5.15 Add Data.....	27
5.16 Query Builder	33

Section	Page
5.17 Filter Manager.....	36
5.18 Selection Manager.....	41
5.19 Buffer by Point.....	46
5.20 Buffer by Selection.....	47
5.21 Range Ring.....	49
5.22 Draw Point.....	50
5.23 Draw Line.....	51
5.24 Draw Polygon.....	53
5.25 Draw Text.....	56
5.26 Draw Rectangle.....	58
5.27 Draw Ellipse.....	60
5.28 Draw Bound Ellipse.....	62
5.29 Delete Annotations.....	64
5.30 Export Annotations.....	64
5.31 Upload Shapefile.....	65
5.32 Spot Elevation.....	65
6.0 Using the Overlays Pane.....	67
6.1 Expanding and Collapsing the Overlays Pane.....	67
6.2 Using the Accordion Panels in the Overlays Pane.....	67
6.3 Working with Layers.....	688
6.4 The User Added Content Panel.....	70
6.5 The Shortcut Menu.....	71
6.6 The Reorder Layers Tab.....	76
7.0 Find a Place.....	78
7.1 List of Data Available for Searching.....	78
7.2 Using Find a Place.....	79
7.3 Finding and Using Search Results.....	80
8.0 Using the Tasks/Results Pane.....	82
8.1 Expanding and Collapsing the Tasks/Results Pane.....	82
8.2 Using the Accordion Panels in the Tasks/Results Pane.....	83
8.3 Using the Tasks Panel.....	83
8.4 Using the Active Task Panel.....	84
8.5 Interacting with Task Results.....	85
8.6 Deleting Task Results.....	87
8.7 The Download Cart.....	87

Section	Page
Appendix A—The National Map Viewer Quick-Start Guide	92
Appendix B—Useful Tips	101
Appendix C—KML Support	106

1.0 About This Document

1.1 Purpose

The purpose of the U.S. Geological Survey (USGS) National Map Viewer User Guide is to provide users with information on the basic functionality of the National Map Viewer Web application while focusing on common workflows.

This user guide is intended to be a working document and will be updated to reflect new functionality and workflows as developed.

1.2 Intended Audience

The USGS National Map Viewer User Guide is designed for users who possess a familiarity with basic GIS concepts and visualization tools. Knowledge of advanced geospatial analysis is not assumed.

1.3 Document Overview

This document is divided into eight sections and three appendixes, as outlined below, to provide quick access to each applicable section.

1. **Section 1.0—About This Document:** Provides an overview of the USGS National Map Viewer User Guide
2. **Section 2.0—Introduction:** Presents an overview of the concept of operations
3. **Section 3.0—System Configuration:** Provides information on the Web service
4. **Section 4.0—Using the Map Display:** Describes how to use the available features with the map display in the National Map Viewer
5. **Section 5.0—Using the Toolbar:** Describes how to use the toolbar and what tools are available
6. **Section 6.0—Using the Overlays Pane:** Presents information about interacting with the layers and accordion panels
7. **Section 7.0—Find a Place:** Provides information about performing searches to locate places
8. **Section 8.0—Using the Tasks/Results Pane:** Presents an overview of the tasks that can be performed within the National Map Viewer

9. **Appendix A—The National Map Viewer Quick-Start Guide:** Presents an abbreviated version of the National Map Viewer User Guide and is intended to be a quick-reference guide
10. **Appendix B—Useful Tips:** Provides information about how to change a Microsoft Windows workstation to 24-hour time format and how to add a security certificate in Mozilla Firefox
11. **Appendix C—KML Support:** Provides detailed information on KML tags supported by The National Map Viewer

1.4 Assumptions, Constraints, and Dependencies

It is assumed that analysts using this guide will have a thorough understanding of the business processes (mission) they are supporting through their use of The National Map Viewer. It is further assumed that these users have at least a basic understanding of GIS concepts such as querying, spatial overlays, and routing.

2.0 Introduction

The National Map is modernizing its visualization capabilities, download toolset, and viewer user experience.

Managed by the United States Geological Survey (USGS), National Geospatial Program (NGP), The National Map is transitioning its data assets and viewer applications to a new visualization and delivery environment which will include an improved viewing platform, base map data, and an integrated data download service.

This new viewing platform is based on the National Geospatial Intelligence Agency (NGA)'s Palantira x3. This shared investment provides a solid technology foundation for navigation and basic GIS functionality which allows The National Map to focus on implementing improvements in data services, functions, and data download capabilities.

Key Features

- Fast, cartographically designed base maps using National Atlas and The National Map datasets
- WYSISWG preview and download for all The National Map data and new US Topo maps at one Web site
- Interoperable services with popular viewers such as Google Maps, Bing! Maps, and Google Earth using WMS, KML, or ArcGIS
- Easy mash-up of map services from The National Map and other sources as KML, WMS, RSS, ArcGIS, or ArcIMS
- Popular GIS tools to identify features, change coordinates display, measure, reverse geocode, and search by keyword or spatial extent
- Advanced features such as collaborative annotations and query/filter among many others

Beta Release in December

The National Map beta viewer will replace existing viewers in several National Map subsystems. The initial release of the viewer to the public is at the 125th Anniversary of Mapping in the USGS on December 3, 2009, at USGS headquarters in Reston, VA. Once stabilized and enhanced, this viewer will replace the existing The National Map viewers as the primary distribution point for The National Map data and services.

3.0 System Configuration

The National Map Viewer system architecture is based on commercial off-the-shelf (COTS) software products and commercial relational database management systems (RDBMS). The system is designed to run on COTS hardware and software network protocols. The National Map Viewer is composed of various components at different tiers including desktop, Web-based, and server-oriented resources. The following requirements serve as a baseline desktop configuration for Web-based users:

- Desktop computer running Windows XP or Windows 2000, Service Pack 3, which has a minimum configuration of a 2.7 GHz processor and 1 GB of RAM
- Internet Explorer, version 7; or Mozilla Firefox, versions 2 and 3
- Recommended screen resolution with browser window maximized is 1,024 x 768 pixels

4.0 Using the Map Display

4.1 Starting the National Map Viewer

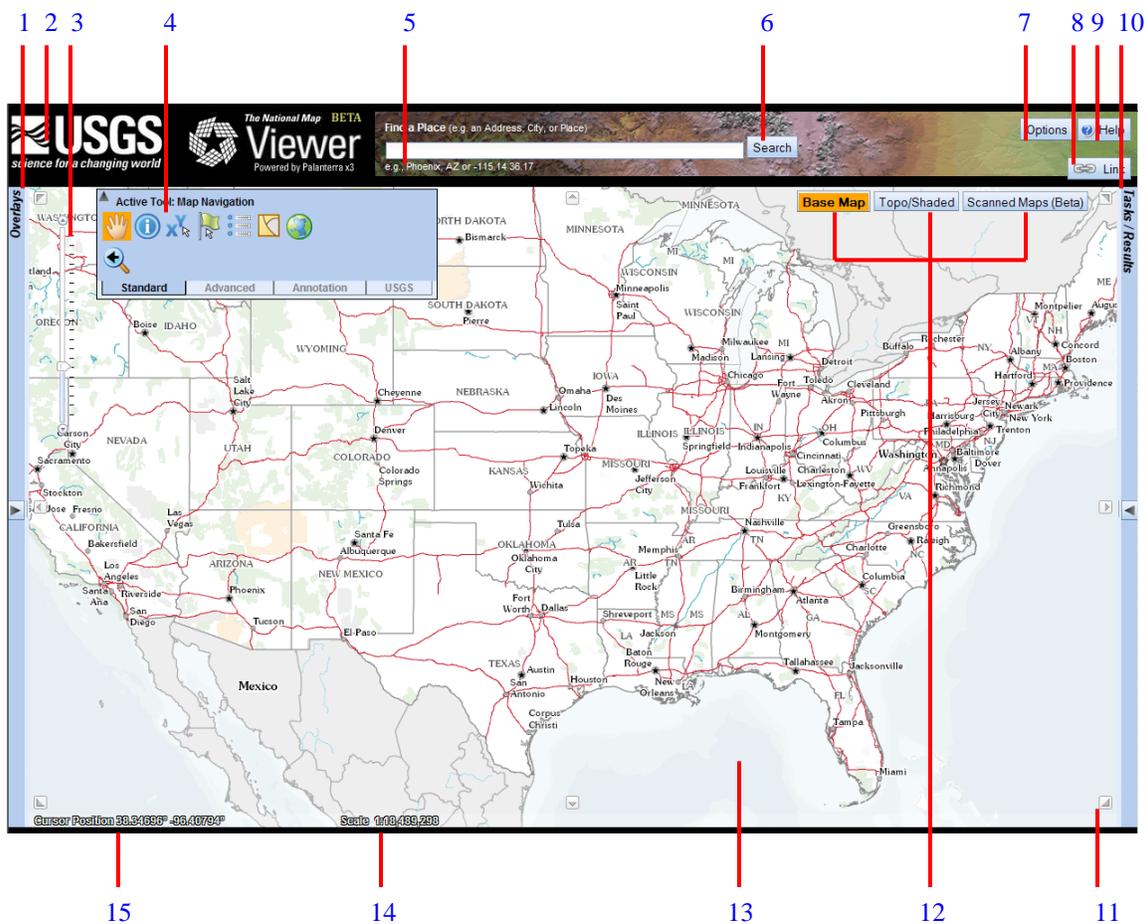
To begin using the National Map Viewer, enter the appropriate uniform resource locator (URL) into a Web browser address box.

- You can access the National Map Viewer at <http://nationalmap.gov/viewers.html>

4.2 Introducing the National Map Viewer Interface

The following diagram (figure 4-2) highlights the key features on the National Map Viewer interface. Refer to the corresponding numbers below to learn more about each feature.

Figure 4-2
Introducing The National Map Viewer



1. The **Overlays** pane is a collection of map overlay layers. Once a layer is selected in the **Overlays** pane, it becomes visible on the map display. For more information, see [section 6.0 Using the Overlays Pane](#).
2. The **USGS logo** is a link to the official USGS Web site: <http://www.usgs.gov/>
3. The **Zoom slider** is used to zoom in and out on the map display. For more information, see [section 4.3 Navigating the Map Display](#).

4. The **toolbar** consists of a variety of tools that can be used on the map display. For ease of use, the toolbar is divided into three tabs: Standard, Advanced, and Annotation. For more information, see [section 5.0 Using the Toolbar](#).
5. **Find a Place** searches for an input value that is entered into the text box provided. For more information, see [section 7.0 Find a Place](#).
6. The **Search** button is clicked once an input value has been entered into the Find a Place text box. For more information, see [section 7.2 Using Find a Place](#).
7. The **Options** button is available so you can change the coordinate display from decimal degrees to any of the following: degrees/minutes/seconds (DMS), Military Grid Reference System (MGRS), and U.S. National Grid (USNG) (NAD83).
8. The **Link** button is a permalink feature that saves the current map extent. You can copy and save this link in your preferred browser. This way, you can work more efficiently because the link is saved within your browser. For more information, see [section 4.6 The Link Button](#).
9. The **Help** button is available as a quick-reference guide to assist if you have any questions while using The National Map Viewer. For more information, see [section 4.5 Help](#).
10. The **Tasks/Results** pane is where the search results appear after the Search button has been clicked. The download cart also appears in this pane. For more information, see [section 8.0 Using the Tasks/Results Pane](#).
11. **Panning arrows** are used to navigate within the map display. For more information, see [section 4.3 Navigating the Map Display](#).
12. The **basemap buttons** change the basemap on the map display. For example, if the Topo/Shaded button is clicked, the topography or shaded layer will appear on the map display. For more information, see [section 4.7 Changing the Basemap](#).
13. The **basemap** is the visible map within the map display.
14. The **scale bar** is visible by default showing the map scale at the target location.
15. The **cursor position** displays the coordinates of your current cursor position on the map display. Each time you move your mouse pointer, the coordinates will change to reflect this movement.

4.3 Navigating the Map Display

4.3.1 Panning

Several pan functions are available in the National Map Viewer. Panning allows you to change the current map extent to view data that is currently out of the present view.

Panning Using the Arrows

You can pan using the eight navigation arrows positioned along the top, sides, and bottom of the map display.

1. Click one of the panning arrows .
2. The map display will move in the direction of the panning arrow you selected. Whichever navigation arrow you select dictates which direction the map display will move.

Panning Using the Keyboard

3. Click the **up arrow** key on the keyboard to pan north.
4. Click the **down arrow** key on the keyboard to pan south.
5. Click the **right arrow** key on the keyboard to pan east.
6. Click the **left arrow** key on the keyboard to pan west.

Panning Using the Mouse

1. Hold the mouse button down on the map display so the **crossed arrows pointer**  appears.
2. Drag the display to the desired location, then release the mouse button.

4.3.2 Zooming

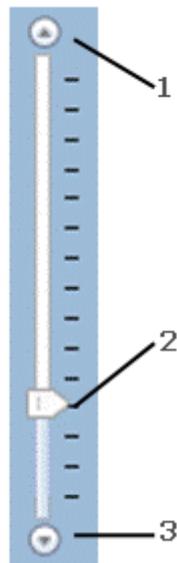
Several zoom functions are available in The National Map Viewer. Zoom functions provide the capability to change the scale of the map view.

Note: If you are zooming in and white space appears on the map, you will need to zoom out for imagery to become visible again. Therefore, white space is an indication that imagery is unavailable at the current scale.

Zooming with the Zoom Slider

Figure 4-3 displays the features of the Zoom slider. The corresponding number below describes how to use each feature.

Figure 4-3
Zoom Slider



1. Click the **up arrow** of the Zoom slider to zoom in on the map display.
2. Drag the **Zoom slider** (figure 4-3) up or down to zoom in or out incrementally.
3. Click the **down arrow** of the Zoom slider to zoom out on the map display.

Zooming with the Keyboard

1. To zoom in, use the plus sign (+) key on the keyboard.
2. To zoom out, use the minus sign (-) key on the keyboard.

Zooming with the Keyboard and Mouse

1. To zoom out, hold down **Shift+Ctrl** and the mouse button while dragging a box around the location.
2. Release the mouse button.

3. To zoom in, hold down **Shift** and the mouse button while dragging a box around the desired location.
4. Release the mouse button.

Zooming with the Mouse

1. To zoom in, **double-click** on the map display.

Zooming with the Mouse Scroll Wheel

1. To zoom in, roll the **mouse wheel** forward (away from your hand).
2. To zoom out, roll the **mouse wheel** back (toward your hand).

4.3.3 Re-centering the Map

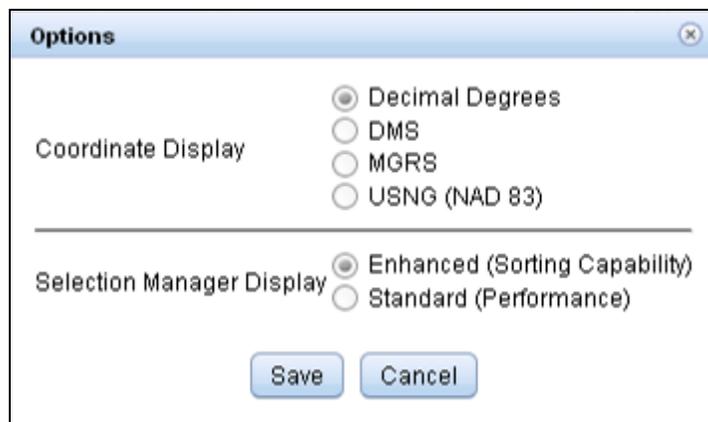
You can re-center the map on a given point.

1. Hold down the **Shift** key and use the mouse to click a point where you want the map to be centered.
2. The map display pans to the clicked location.

4.4 Options

The **Options** button provides a means for users to customize the National Map Viewer interface by selecting the **Coordinate Display** and **Selection Manager Display** options (figure 4-4).

Figure 4-4
Options

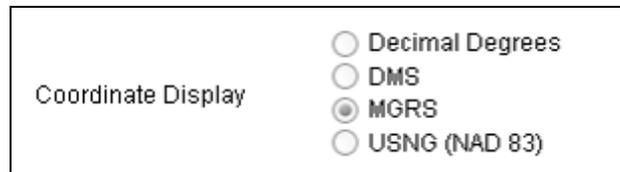


4.4.1 Coordinate Display

The **Options** button allows you to change the format of the coordinates that are visible at the bottom of the map display. Use the **Coordinate Display** option to choose the coordinate format you prefer. By default, the **Coordinate Display** option is set to **Decimal Degrees**.

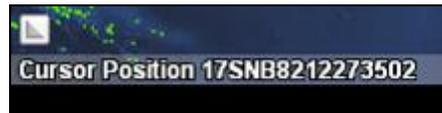
1. Click the **Options** button.
2. Select the coordinate format of your choice in the **Coordinate Display** option (figure 4-5).

Figure 4-5
Coordinate Display Options



3. Click the **Save** button. The **Options** dialog box is closed and the coordinate format is visible at the bottom of the map display is updated (figure 4-6).

Figure 4-6
Coordinate Format Display on Map



4.4.2 Selection Manager Display

The **Selection Manager Display** option on the **Options** dialog box allows you to change the version of the **Selection Manager**. You can select either the **Enhanced** or **Standard** version. The **Enhanced** version allows you to sort features by column and to resize columns. However, it may require a greater processing time if viewing a large number of selections. The **Standard** version does not allow you to sort features or resize columns, but it performs better (is faster) than the **Enhanced** version. It is recommended that you use the **Standard** version if you are viewing a large number of features. By default, the **Selection Manager Display** option is set to **Enhanced**.

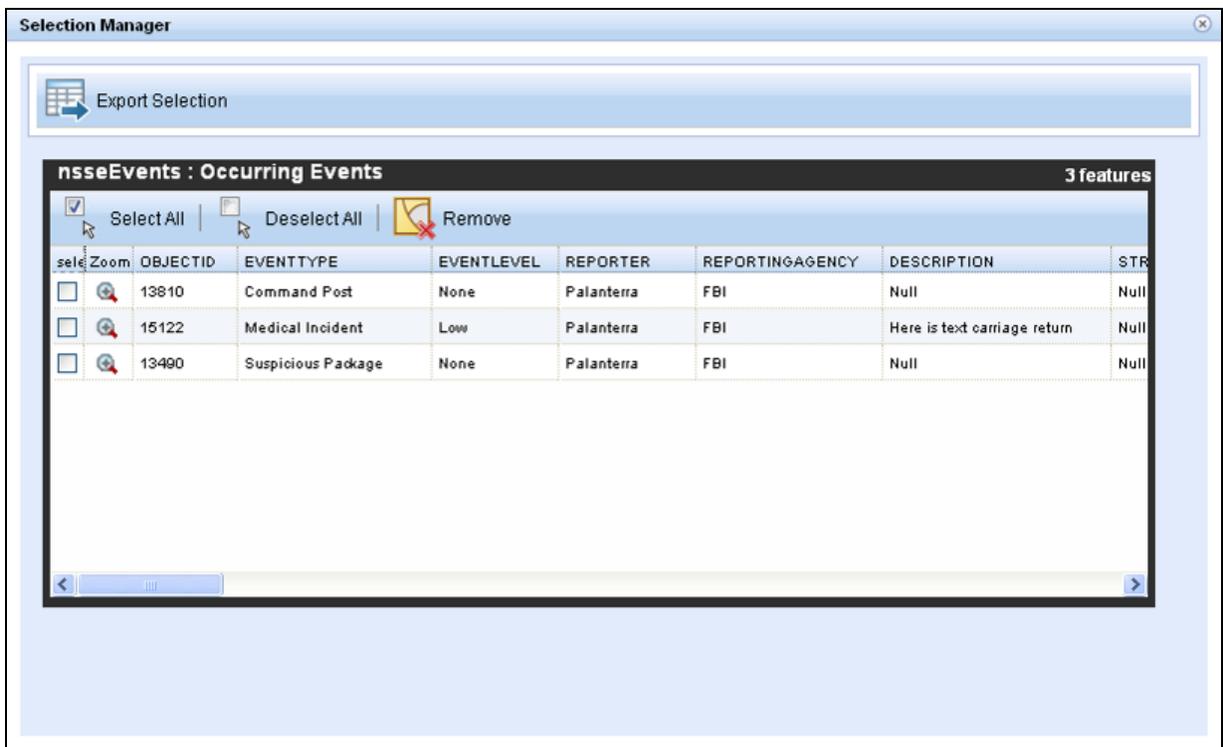
1. Click the **Options** button.
2. Select **Standard (Performance)** for the **Selection Manager Display** option (figure 4-7).

Figure 4-7
Selection Manager Display Options



3. Click the **Save** button.
4. Open the **Selection Manager** tool, located on the advanced toolbar (figure 4-8).

Figure 4-8
Selection Manager: Standard Version



4.5 Help

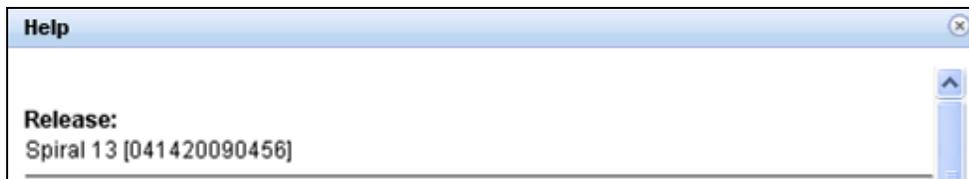
The **Help** button contains information such as the **Release** of the National Map Viewer currently being used, **Map Navigation** shortcuts, an example input for the **Search Box**, **Data Download** information and the **Bandwidth Test**.

4.5.1 Help Tabs

The “About” tab indicates the version of The National Map Viewer that is being used. You can find this information in the Help section in the application.

1. Click the **Help** button .
2. Scroll to the bottom of the **Help** dialog box, under the **About** tab (figure 4-9) to see the release information.

Figure 4-9
Release Information



3. Click the "x" in the upper right corner to close the *Help* dialog box.

The **Map Navigation** tab gives information on panning, zooming, and re-centering the map.

The **Data Download** tab provides some basic information about the download tool.

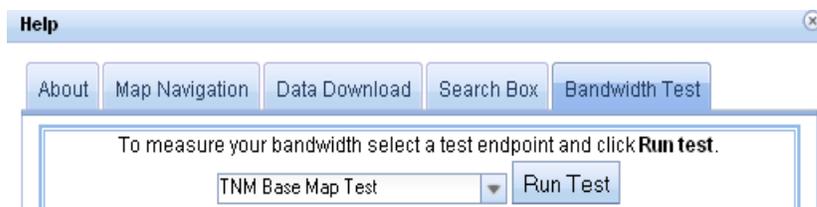
The **Search Box** tab provides a list of supported coordinate formats and examples.

4.5.2 Bandwidth Test

The bandwidth test measures the connection speed and connection type from where you are accessing The National Map Viewer. When you click the **Run Test** button, the test is run and finishes with a measurement of your connection rate and speed. This information is displayed in a chart that illustrates where your measurement falls within the other types of connections. For instance, if your connection is rated at 2246.9 Kbps, then your type falls between "Full T1 1.544 Mbps" and "N x T1 3.0 Mbps" in the chart.

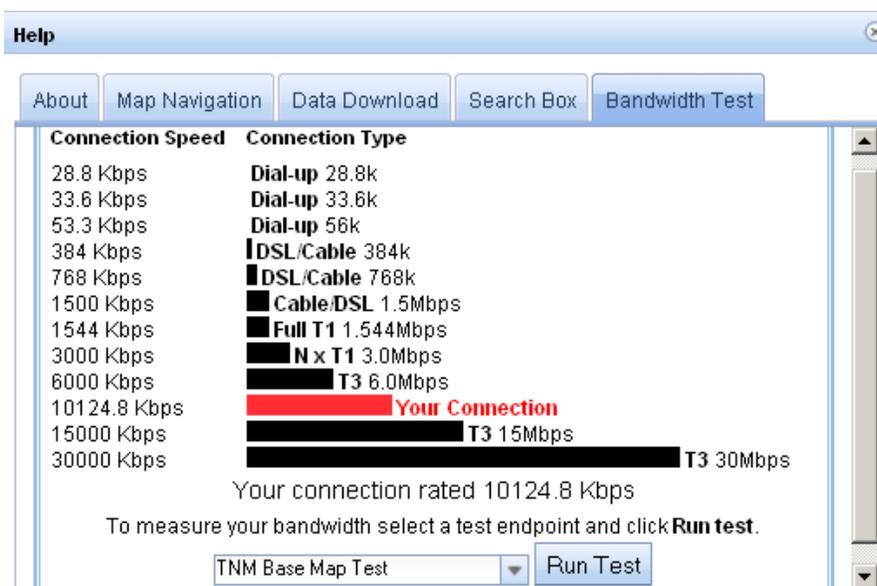
1. Click the **Help** button .
2. Click the *Bandwidth Test* tab at the top right of the **Help** box (figure 4-10).

Figure 4-10
Bandwidth Test Display



3. Select a test end point from the drop-down list.
4. Click the **Run Test** button.
5. View the measurement of connection speed (figure 4-11).

Figure 4-11
Bandwidth Test Chart of Connection Speeds and Types



4.6 The Link Button

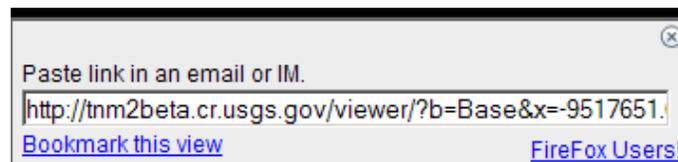
The **Link** button is for capturing and bookmarking map extents. It creates a permalink of the map view. When you click the **Link** button, a pop-up dialog box appears with the permanent link of the current map view. The URL saves the current map extent, current visible layers, and current search string. You can either cut and paste the URL into an e-mail or instant messenger

window, or you can bookmark this extent in your browser of choice (i.e., Internet Explorer or Mozilla Firefox). This feature allows you to work more efficiently and share more easily because the map extent can be shared with others and saved for future use.

Internet Explorer Users

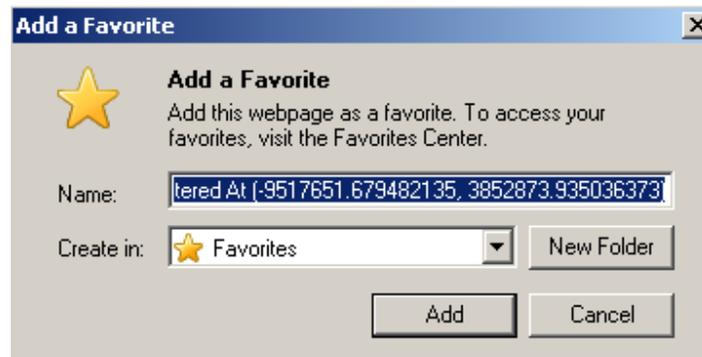
1. Click the **Link** button .
2. A pop-up dialog box appears with a URL address that you can copy and paste into an e-mail or instant messenger window or save as a link in your browser (figure 4-12).

Figure 4-12
Link Display



3. Click the **Bookmark this view** link.
4. In Internet Explorer, an **Add a Favorite** pop-up dialog box appears (figure 4-13).

Figure 4-13
Add a Favorite



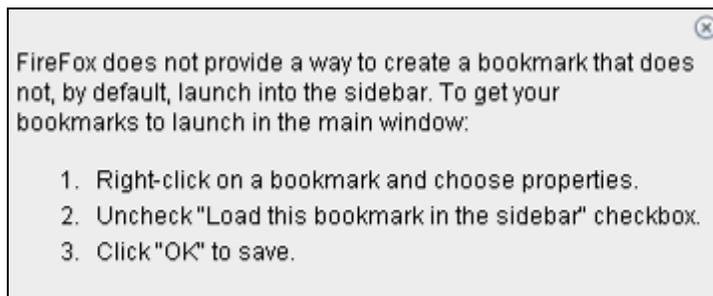
5. Click the **Add** button in Internet Explorer or the **OK** button in Firefox to save the link to your browser.

Firefox Users

You can use the **Link** button and **Bookmark this view** link to create a bookmark in Firefox. However, when creating a bookmark in this manner, Firefox launches it into a sidebar by default.

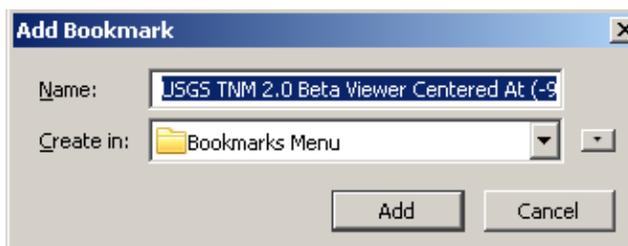
Currently this is a setting in Firefox that cannot be controlled. The **Firefox Users!** link in the **Link** button pop-up provides steps for resolving this issue (figure 4-14).

Figure 4-14
Firefox Users!



1. Click the **Link** button .
2. A pop-up dialog box appears with a URL address that you can copy and paste into an e-mail or instant messenger window or save as a link in your browser.
3. In Firefox, an **Add Bookmark** pop-up dialog box appears (figure 4-15).

Figure 4-15
Add Bookmark



4. Click the **Add/OK** button in Firefox to save the link to your browser.
5. Optionally, select the **Bookmarks** menu in the browser window, right-click the bookmark you just created, and click **Properties**. Uncheck the **Load this bookmark in the sidebar** option and click **Save Changes** to configure the bookmark to launch in the main window instead of the sidebar.

4.7 Changing the Basemap

When you click a basemap button, the map layer will automatically change. The background image will vary depending on which basemap button you select.

Here is an example of using the **Topo/Shaded** basemap button:

1. Click the **Topo/Shaded** button 
2. The Topo/Shaded layer appears on the map display

5.0 Using the Toolbox

5.1 The Toolbox

The toolbox is a set of tools that are grouped together on the map display and arranged in a horizontal strip. This grouping of tools provides quick and convenient access to commonly performed operations. In The National Map Viewer, the toolbox is divided into four tabs: Standard, Advanced, Annotation, and USGS (figure 5-1). At the top of the toolbar, there is an arrow that allows you to close the toolbar so more of the map display is visible. The toolbox is also moveable for user convenience.

Figure 5-1
Toolbar



To close the toolbar

Click the up arrow  on the top left corner of the toolbar to collapse it.

To open the toolbar

Click the down arrow  to expand the toolbar (figure 5-2).

Figure 5-2
Collapsed Toolbar



5.2 The Standard Tab of the Toolbox

The **Standard** tab consists of the following tools: **Map Navigation**, **Identify**, **Find Coordinates**, **Reverse Geocode**, **Clear Graphics**, **Reset Zoom**, and **Zoom to Last Extent** (figure 5-1). Each tool is described in more detail below.

5.3 The Advanced Tab of the Toolbar

The **Advanced** tab consists of the following tools: **Measure Distance**, **Measure Area**, **Add Data**, **Query Builder**, **Filter Manager**, **Selection Manager**, **Buffer by Point**, **Buffer by Selection**, and **Range Ring** (figure 5-3). Each tool is described in more detail below.

Figure 5-3
Advanced Tab



5.4 The Annotation Tab of the Toolbar

The **Annotation** tab consists of the following tools: **Quick Plot**, **Draw Point**, **Draw Line**, **Draw Polygon**, **Draw Text**, **Draw Rectangle**, **Draw Ellipse**, **Draw Bound Ellipse**, **Delete Annotations**, **Export Annotations**, and **Upload Shapefile** (figure 5-4). Each tool is described in more detail below.

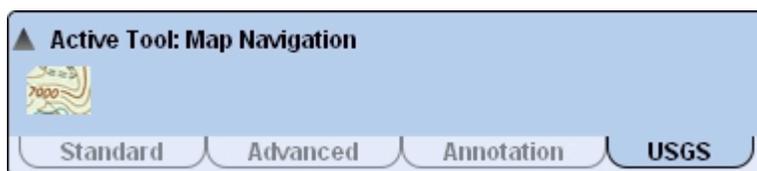
Figure 5-4
Annotation Tab



5.5 The USGS Tab of the Toolbar

The **USGS** tab consists of one tool: **Spot Elevation** (figure 5-5). This tool is described in more detail below.

Figure 5-5
USGS Tab



5.6 Map Navigation

The **Map Navigation** button gives you the ability to pan the map display. The button is active when the background color is orange. This is a convenient tool to navigate to your desired location on the map display.

1. Click the **Map Navigation** button  on the **Standard** tab of the toolbar.

*Note: Upon clicking the **Map Navigation** button, the background turns orange* .

2. Hold down the **mouse** button so the **crossed arrows pointer**  appears on the map display.
3. Drag the display to the desired location, then release the mouse button.
4. To deactivate the tool, click it again. The orange background will turn blue.

5.7 Identify

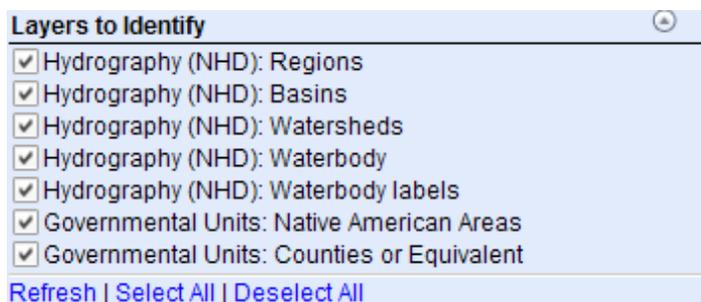
The **Identify** button allows you to view attribute information for features. The feature layer must be visible (checked in the overlays panel) to identify the layer. You can click or drag a box extent around features on the map display to open a pop-up dialog box with attribute information. Features that are returned by the Identify tool are selected. Multiple features can be identified and selected at a time, but the **Identify** pop-up dialog box will display attributes for only one feature at a time. To view the attribute information for all selected features at once, use the **Selection Manager**. You can use the **Identify** tool to view attribute information with search results and graphics added to the map display (i.e., KML). To clear features selected by the **Identify** tool, click the **Clear Graphics** button on the **Standard** toolbar.

*Note: The **Identify** tool does not need to be activated on the toolbar to identify map features. If either no tool on the toolbar is activated or the **Map Navigation** tool is activated, clicking on a map feature will identify it and display the **Identify** pop-up by default.*

1. Click the **Identify** button  on the **Standard** tab of the toolbar.
2. A **Layers to Identify** pop-up displays layers currently visible on the map display (figure 5-6). Optionally, select layers that you want to identify, and deselect layers that you do not want to identify. If you activate layers in the **Overlays** pane, use the **Refresh** link on the **Layers to Identify** pop-up to refresh the list of layers currently on the map. Click the up arrow in the top right corner of the pop-up to minimize it.

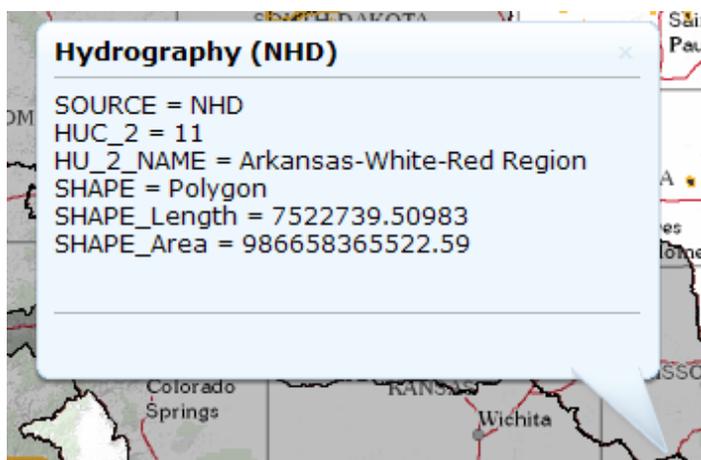
*Note: Upon clicking the **Identify** button, the background turns orange* .

Figure 5-6
Layers to Identify Pop-Up



3. Click a feature on the map display to view its attribute information (figure 5-7).

Figure 5-7
Identify Pop-Up



4. If multiple results are returned, a pop-up displays the results (figure 5-8). Click the link to the result you want to view. If you wish to view another result, click the **Return to Menu** link (figure 5-9) at the top of the **Identify** pop-up to select another result.

Figure 5-8
Multiple Identify Results Found Pop-Up

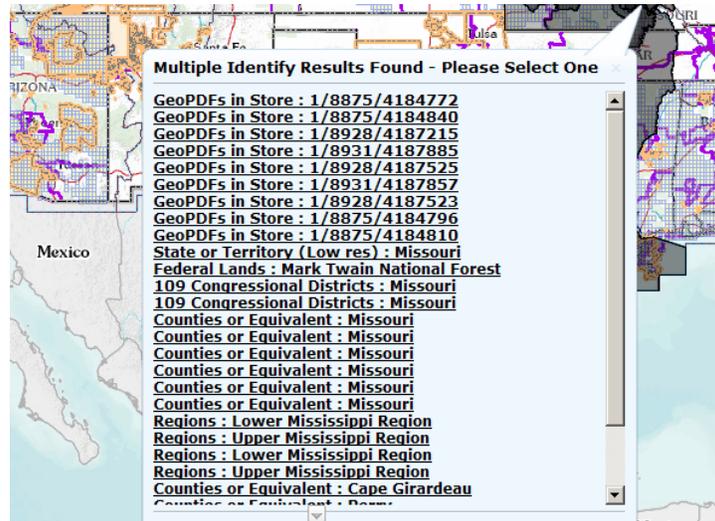
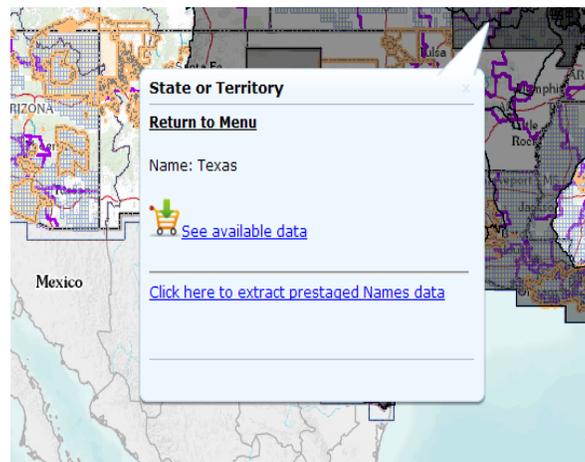


Figure 5-9
Identify Pop-Up: Return to Menu Link

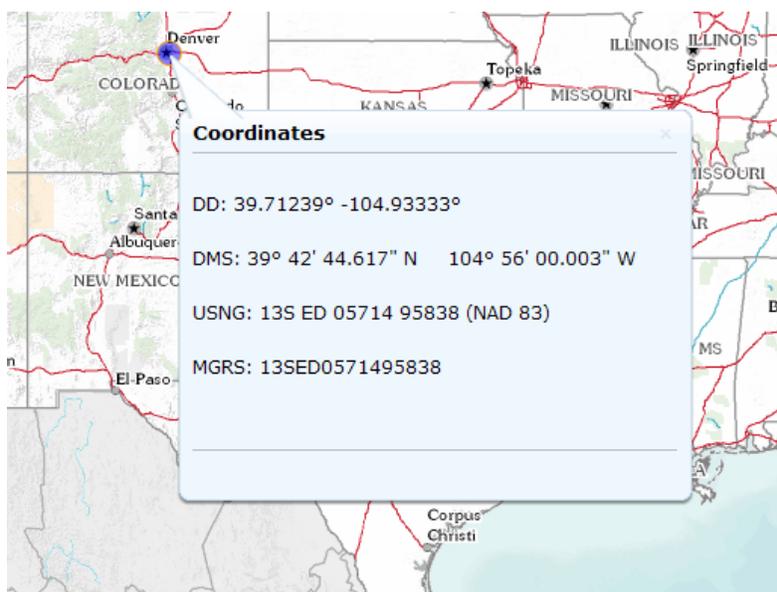


5. To deactivate the tool, click it again. The orange background of the button will turn blue, and the **Layers to identify** pop-up will disappear.
6. To clear the selected feature(s), click the **Clear Graphics**  button on the **Standard** toolbar.

5.8 Find Coordinates

The **Find Coordinates** button assists you in finding the coordinates of a particular location. You can click anywhere on the map display and the coordinates will display in a pop-up dialog box (figure 5-10). Coordinates are displayed in decimal degrees (DD), DMS, USNG, and MGRS formats.

Figure 5-10
Find Coordinates Pop-Up



1. Click the **Find Coordinates** button  on the **Standard** tab of the toolbar.

*Note: Upon clicking the **Find Coordinates** button, the background turns orange .*

2. Click a location on the map display and a pop-up dialog box will display the coordinates in various formats.
3. To deactivate the tool, click it again. The orange background will turn to blue.

5.9 Reverse Geocode

The **Reverse Geocode** button allows you to find an address by clicking on the map display if data is available for that location or scale.

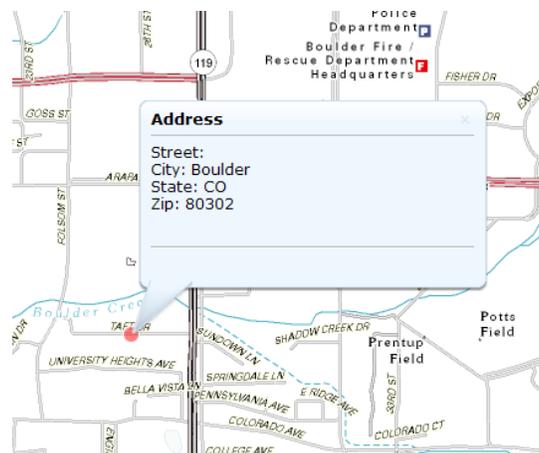
1. Click the **Reverse Geocode** button  on the **Standard** tab of the toolbar.

*Note: Upon clicking the **Reverse Geocode** button, the background turns orange* .

2. Click a point on the map display and a pop-up dialog box will display the address of the selected point (figure 5-11).

Note: If you do not get results, you may need to zoom in.

Figure 5-11
Reverse Geocode Pop-up



3. To deactivate the tool, click it again. The orange background will turn blue.

5.10 Clear Graphics

The **Clear Graphics** tool allows you to clear any graphics or markups that you have created on the map display. Visible graphics disappear automatically when the **Clear Graphics** button is clicked.

1. Click the **Clear Graphics** button  on the **Standard** tab of the toolbar.

5.11 Reset Zoom (Continental US)

The **Reset Zoom** button allows you to zoom to the full extent of the globe on the map display. For instance, if you have zoomed to Washington, D.C., and would then like to see the entire globe, just click the **Reset Zoom** button. The full extent of the globe will be displayed.

1. Zoom to a desired location.

Note: You can zoom in to the map display using various techniques. To see more information about zooming, see [section 4.3 Navigating the Map Display](#).

2. Click the **Reset Zoom** button  on the **Standard** tab of the toolbar.

5.12 Zoom to Last Extent

The **Zoom to Last Extent** button allows you to zoom to the previous extent of the map display. It functions similarly to a "Back" button in a Web browser.

1. Enter an address or a place you would like to locate in the **Find a Place** text box above the map display.
2. Click the **Search** button.

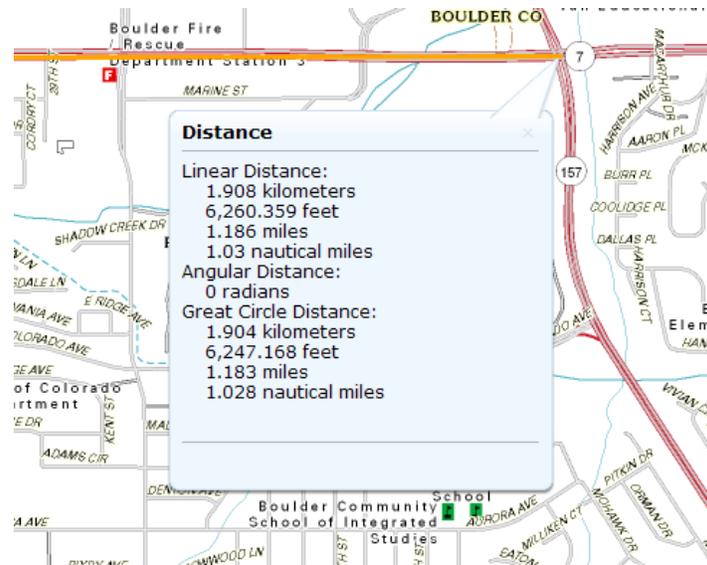
Note: The map automatically zooms to the first result of the search and places an arrow at the search location.

3. Click the **Zoom to Last Extent** button  on the **Standard** tab of the toolbar to go to the previously viewed extent of the map display.

5.13 Measure Distance

The Measure Distance button allows you to measure the distance between two points or more on the map display (figure 5-12).

Figure 5-12
Measure Distance



1. Click the **Measure Distance** button  on the **Advanced** tab of the toolbar.

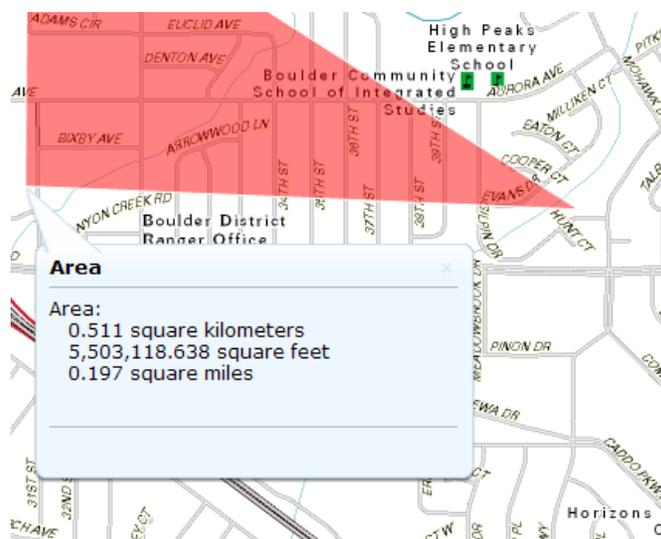
*Note: Upon clicking the **Measure Distance** button, the background turns orange* .

2. Left-click in the desired location on the map display.
3. Move the mouse pointer away from the first point and click on another location on the map display.
4. Double-click to end the drawing, and a pop-up dialog box will appear with the measured distance.
5. To deactivate the tool, click it again. The orange background will turn blue.

5.14 Measure Area

The Measure Area button allows you to measure the area on the map display. The area can be any shape and have any number of vertices you desire and/or require (figure 5-13).

Figure 5-13
Measure Area



1. Click the **Measure Area** button  on the **Advanced** tab of the toolbar.

*Note: Upon clicking the **Measure Area** button, the background turns orange* .

2. Click in the desired location on the map display. Continue this action until you have picked another desired location to click.
3. Move to the next vertex or point for the area polygon.
4. Continue clicking as many vertices as desired.
5. For the last point, close the shape by clicking the original point and double-click to end the drawing. A pop-up dialog box will appear with the measured area.
6. To deactivate the tool, click it again. The orange background will turn blue.

5.15 Add Data

The **Add Data** tool allows you to add ArcGIS Server, Keyhole Markup Language (KML), Really Simple Syndication (RSS), Web Map Service (WMS), and ArcIMS Internet map server (IMS) data to the map display.

The data is added to the **Overlays** pane in the **User Added Content** panel. These layers can be toggled off and on and interacted with like any other content layer, such as right-clicking to use

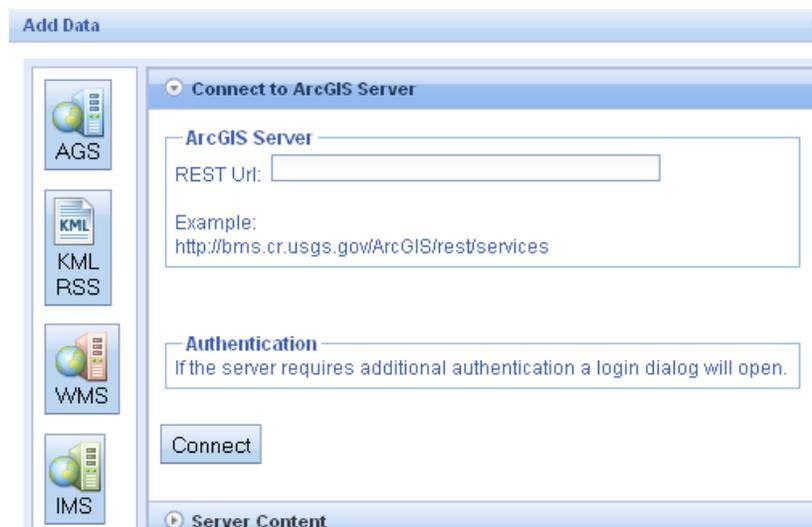
the **Shortcut Menu**. See [section 6.0 Using the Overlays Pane](#) for more information about the **Overlays** pane, the **Shortcut Menu**, and **Classification** and **Caveat** markings.

5.15.1 Add ArcGIS Server Data

ArcGIS Server data can be added to the map using the **Add Data** tool.

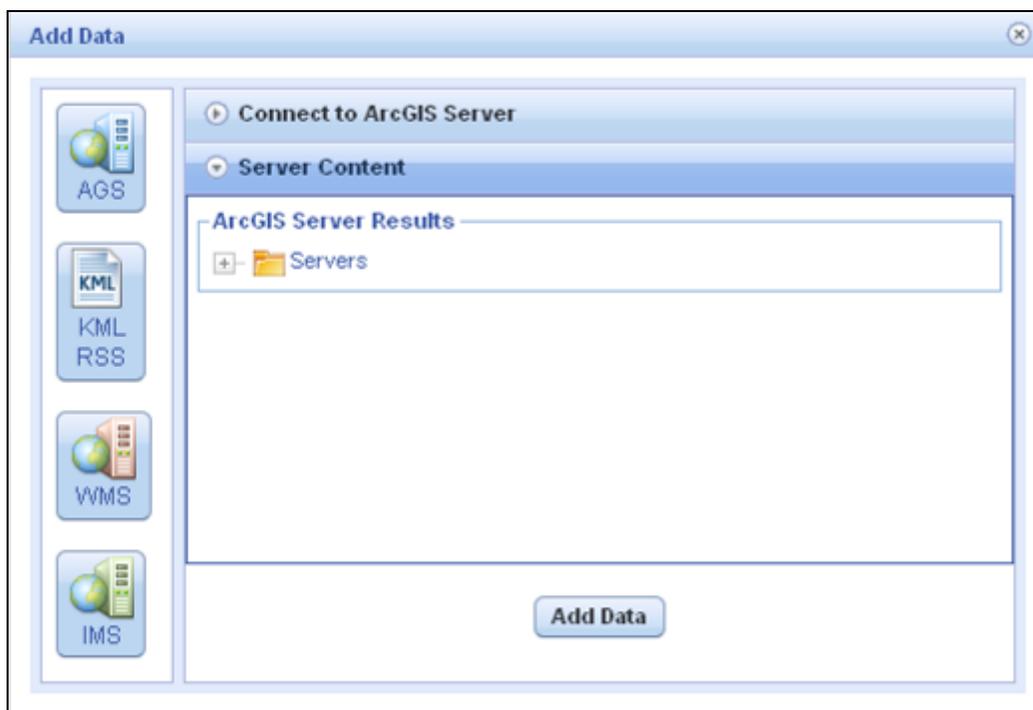
1. Click the **Add Data** button  on the **Advanced** tab of the toolbar (figure 5-14).

Figure 5-14
Add ArcGIS Server Data



2. Type a **REST URL** for ArcGIS Server.
3. Click the **Connect** button.
4. Expand the folders in the **Server Content** section and turn on the data layers to be added to the map display (figure 5-15).

Figure 5-15
Add ArcGIS Server Content



5. Click the **Add Data** button.
6. Expand the layer that has been added under the **User Added Content** section in the **Overlays** pane. See [section 6.4 The User Added Content Panel](#) for a description of this feature located in the **Overlays** pane.
7. Select the box beside the layer to turn the layer on and off on the map display.

Note: The parent layer must be visible (checked) to view any selected child layers.

5.15.2 Add KML or RSS Data

KML and RSS data, including GeorSS data, can be added to the map using the **Add Data** tool. Data can be added by either providing a file or a network link/URL. Not all KML tags are supported by The National Map Viewer. For a list of KML tags that are supported, [see appendix C—KML Support](#). To remove KML that has been added to the map, right-click layer in the **User Added Content** pane and click **Delete** on the **Shortcut Menu**. See [section 6.5 The Shortcut Menu](#) to learn more.

1. Click the **Add Data**  button on the **Advanced** tab of the toolbar (figure 5-16).

Figure 5-16
Add KML or RSS Data



2. Click the **KML RSS** button on the left side of the dialog box.
3. Select **File** to add data from a file, or select **URL** to add data from a URL/network link. If adding data from a **File**, continue to step 4. If adding data from a **URL**, skip to step 6.
4. If adding data from a **File**, click the **Browse** button.
5. Choose a KML or KMZ file in the **Choose File** window or provide a network link (URL) on the **Add Data** dialog box.
6. If adding data from a **URL**, enter the URL or network link in the field provided.
7. Click the **Open** button to add data to the map display.
8. Expand the layer that has been added under the **User Added Content** section in the **Overlays** pane. See [section 6.4 The User Added Content Panel](#) for a description of this feature located in the **Overlays** pane.
9. Select the box beside the layer to turn the layer on and off on the map display.

Note: The parent layer must be visible (checked) to view any selected child layers.

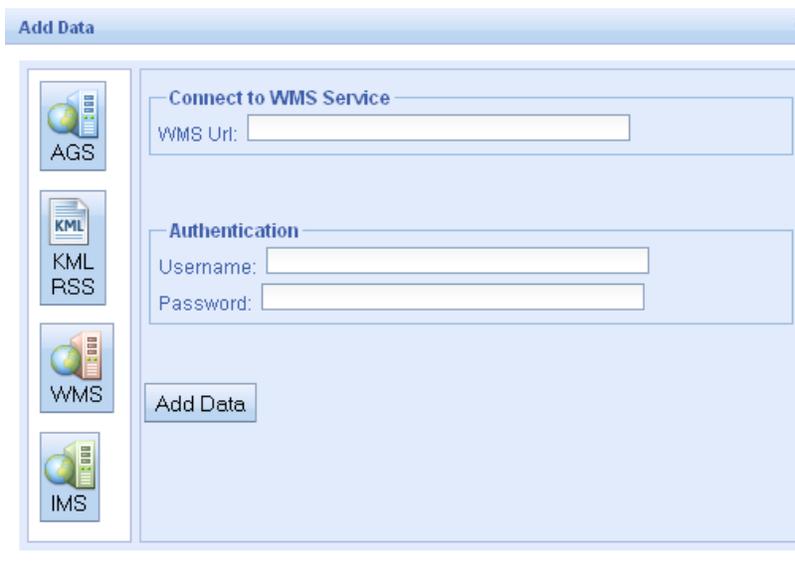
*Note: To remove KML, right-click on the layer in the **User Added Content** pane and click the **Delete** option in the **Context Menu**. See [section 6.5 The Shortcut Menu](#) to learn more.*

5.15.3 Add WMS Data

WMS services can be added to the map using the **Add Data** tool.

1. Click the **Add Data**  button on the **Advanced** tab of the toolbar (figure 5-17).

Figure 5-17
Add WMS Data



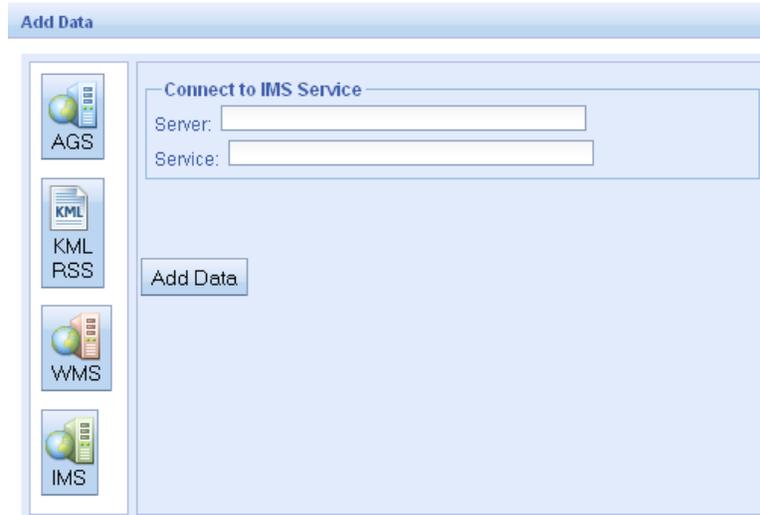
2. Click the **WMS** button on the left side of the dialog box.
3. Enter a **WMS URL**.
4. Enter **Authentication** if any is needed.
5. Click the **Add Data** button.
6. Expand the layer that has been added under the **User Added Content** section in the **Overlays** pane. See [section 6.4 The User Added Content Panel](#) for a description of this feature located in the **Overlays** pane.
7. Select the box beside the layer to turn the layer on and off on the map display.

Note: The parent layer must be visible (checked) to view any selected child layers.

5.15.4 Add IMS Data

ArcIMS data can be added to the map using the **Add Data** tool (see figure 5-18).

Figure 5-18
Add IMS Data



1. Click the **IMS** button on the left side of the dialog box.
2. Enter the **Server** and **Service**.
3. Click the **Add Data** button.
4. Expand the layer that has been added under the **User Added Content** section in the **Overlays** panel. See [section 6.4 The User Added Content Panel](#) for a description of this feature located in the **Overlays** panel.
5. Select the box beside the layer to turn the layer on and off on the map display.

Note: The parent layer must be visible (checked) to view any selected child layers.

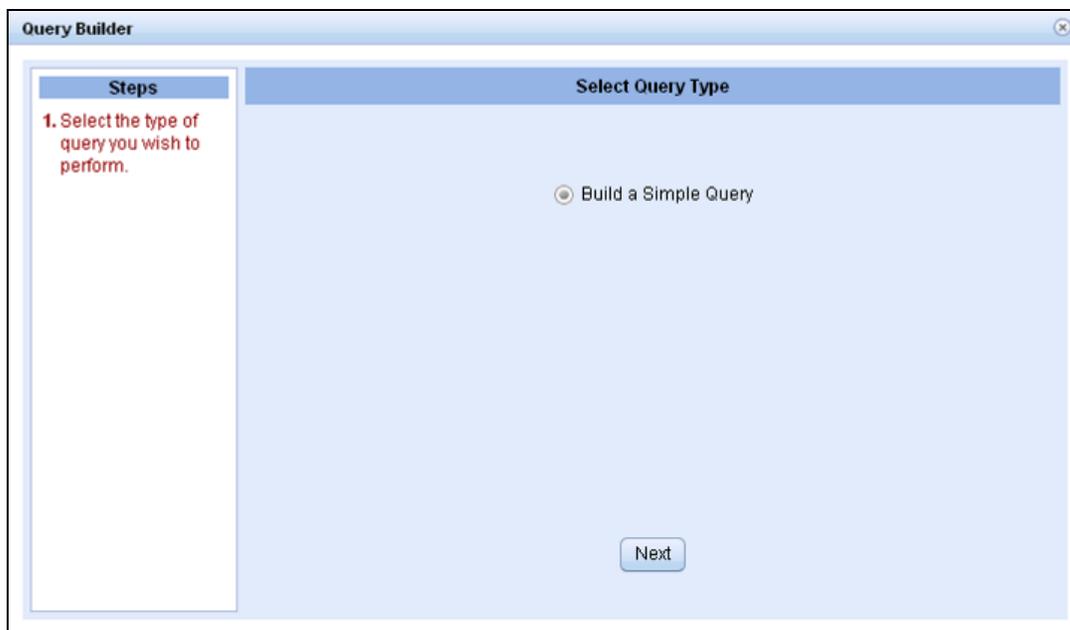
5.16 Query Builder

The **Query Builder** tool allows you to build and run a query. You can query using layers available by default or layers you have added to the map. In addition to running queries, you can use the **Query Builder** to **Create Filters** and open the **Filter Manager**.

5.16.1 Running a Query

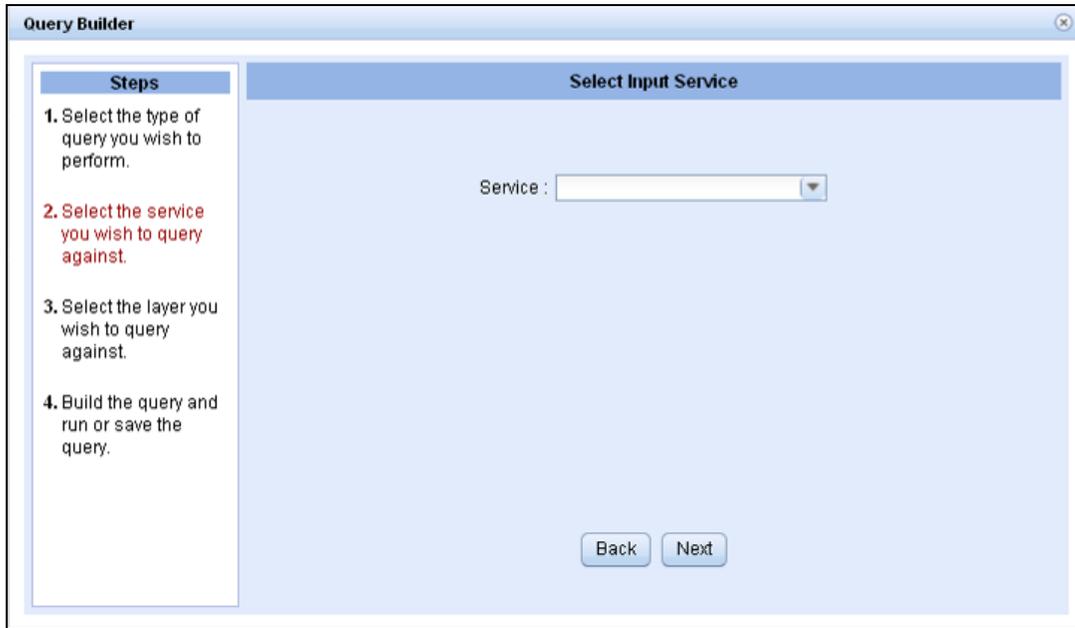
1. Click the **Query Builder** button  on the **Advanced** tab of the toolbar to open the tool (figure 5-19).

Figure 5-19
Query Builder



2. Click the **Next** button on the **Select Query Type** screen of the **Query Builder** dialog box to build a simple query.
3. Select a **Service** from the drop-down list on the **Select Input Service** screen (figure 5-20) and click the **Next** button.

Figure 5-20
Query Builder: Select Input Service



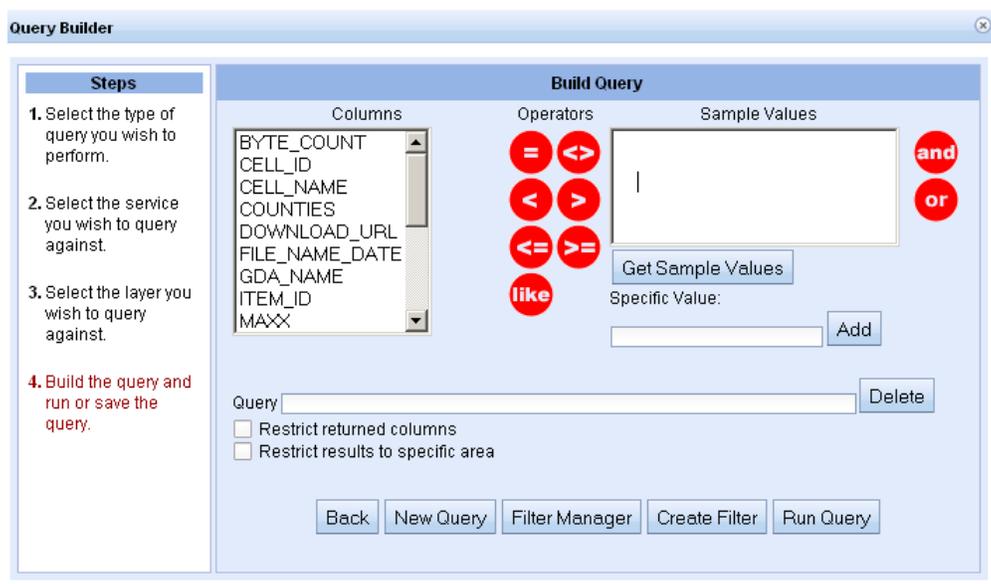
4. Select a **Layer** from the drop-down list on the **Select Input Layer** screen (figure 5-21) and click the **Next** button.

Figure 5-21
Query Builder: Select Input Layer



5. Select a value from the **Columns** list on the **Build Query** screen (figure 5-22).

Figure 5-22
Query Builder: Build Query



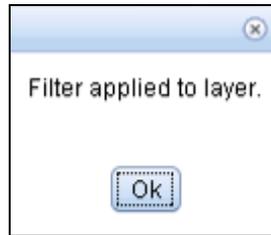
6. Select an **Operator** from the available option buttons.
7. Click the **Get Sample Values** button.
8. Select a sample value from the **Sample Values** list.
9. Click the **Run Query** button.

5.16.2 Creating a Filter

The **Build Query** screen of the **Query Builder** provides the ability to create a filter for the selected layer using the query string. To create a filter, you must first build a query with a completed query string. If the **Create Filter** button is unavailable, you cannot create a filter on the specified layer. Since filters are only allowed on dynamic services, this button will be unavailable if you selected a static or cached layer.

1. Open **Query Builder**.
2. Create a query. Be sure the **Query** field on the **Build Query** screen is complete.
3. Click the **Create Filter** button.
4. Click **OK** on the pop-up that verifies the filter was applied (figure 5-23).

Figure 5-23
Query Builder: Filter Applied to Layer Pop-Up



5.16.3 Opening Filter Manager

The **Query Builder** allows you to open **Filter Manager** directly from the **Build Query** screen.

1. Open **Query Builder**.
2. Go to the **Build Query** screen.

*Note: If **Query Builder** has not been opened in your current National Map Viewer session, you will need to click through the screens until you get to the **Build Query** screen. Otherwise, **Query Builder** will reopen to the last screen visited in the current National Map Viewer session.*

3. Click the **Filter Manager** button to open **Filter Manager**. **Query Builder** will close.

5.17 Filter Manager

The **Filter Manager** tool allows you to view any currently enabled filters and to delete, save, and load filters. Only features that meet the criteria of the filter for a given layer will be displayed on the map. For example, if a filter is enabled that depicts states where the median income is greater than \$30,000, only those states that match that criteria will be displayed on the map.

Use the **Query Builder** to create filters. Filters are only allowed on dynamic service layers. They are not permitted on static or cached service layers. Only one filter can be enabled on any one layer at a time.

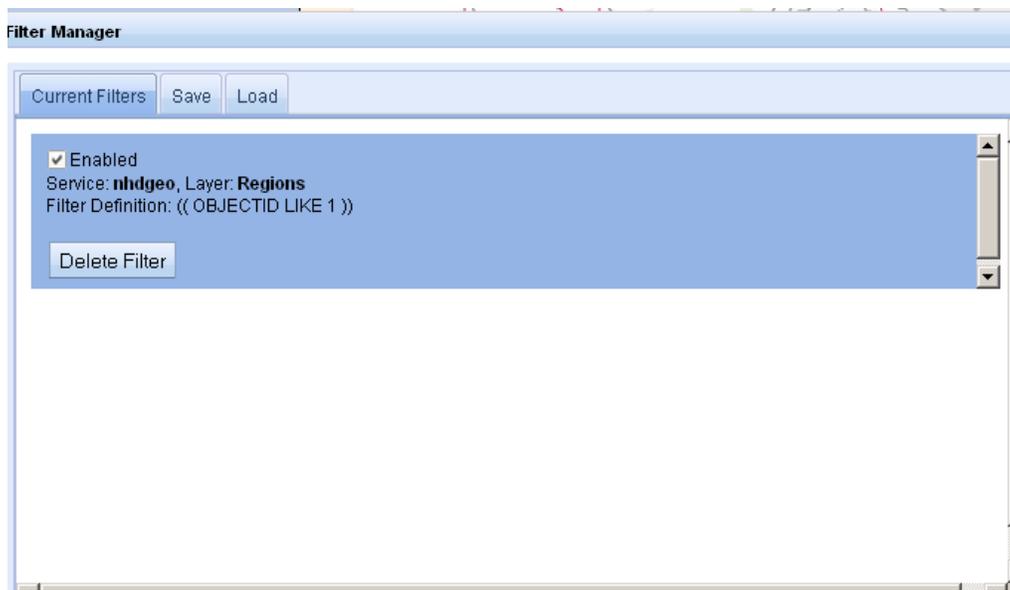
*Note: See [section 6.5 The Shortcut Menu](#) to learn more about enabling and disabling filters in the **Overlays** pane.*

5.17.1 Enabling and Disabling a Filter

The **Current Filters** tab (figure 5-24) in the **Filter Manager** provides an interface to view, enable, and disable filters. You can view the **Service** and **Filter Definition** for any layer. If a

filter is active, the **Enabled** option is checked and only the filtered features are visible on the map display (if the layer is selected in the **Overlays** pane). If a filter is disabled, the **Enabled** option is not checked and all features on the service layer are visible on the map display (if the layer is selected in the **Overlays** pane).

Figure 5-24
Filter Manager: Current Filters Tab

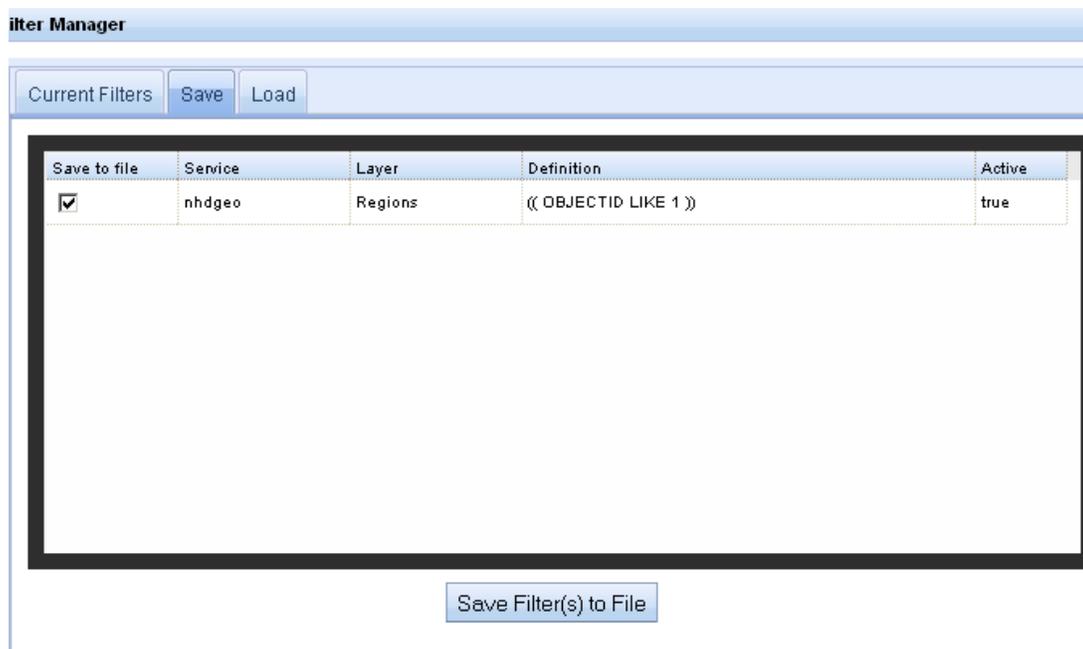


1. Create a filter using **Query Builder**.
2. Click the **Filter Manager** button  on the **Advanced** tab of the toolbar.
3. Disable a filter by deselecting the **Enabled** check box.
4. Enable a filter by selecting the **Enabled** check box.

5.17.2 Saving a Filter

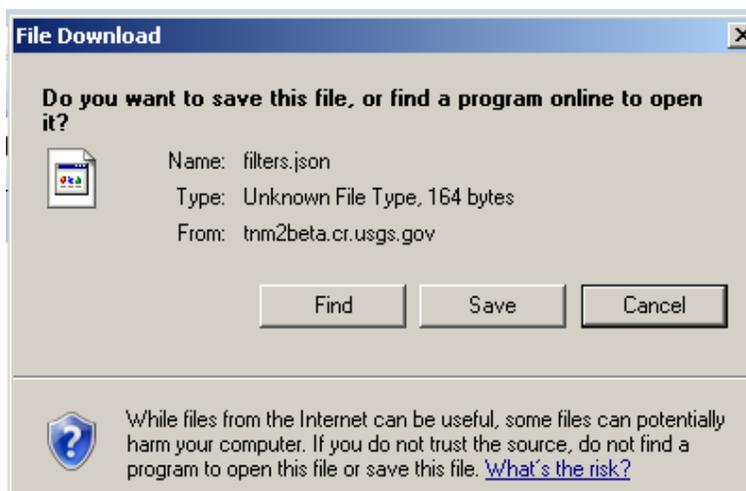
The **Save** tab (figure 5-25) in the **Filter Manager** allows you to save one or more filters to a file. This file can be saved to your local machine.

Figure 5-25
Filter Manager: Save Tab



1. Create a filter using **Query Builder**.
2. Open the **Filter Manager**.
3. Select the **Save** tab.
4. Select all filters you wish to save to file and click the **Save Filter(s) to File** button.
5. Save the file on the **Opening filters.json** dialog box (figure 5-26) and click **Save** to download the file to your local machine.

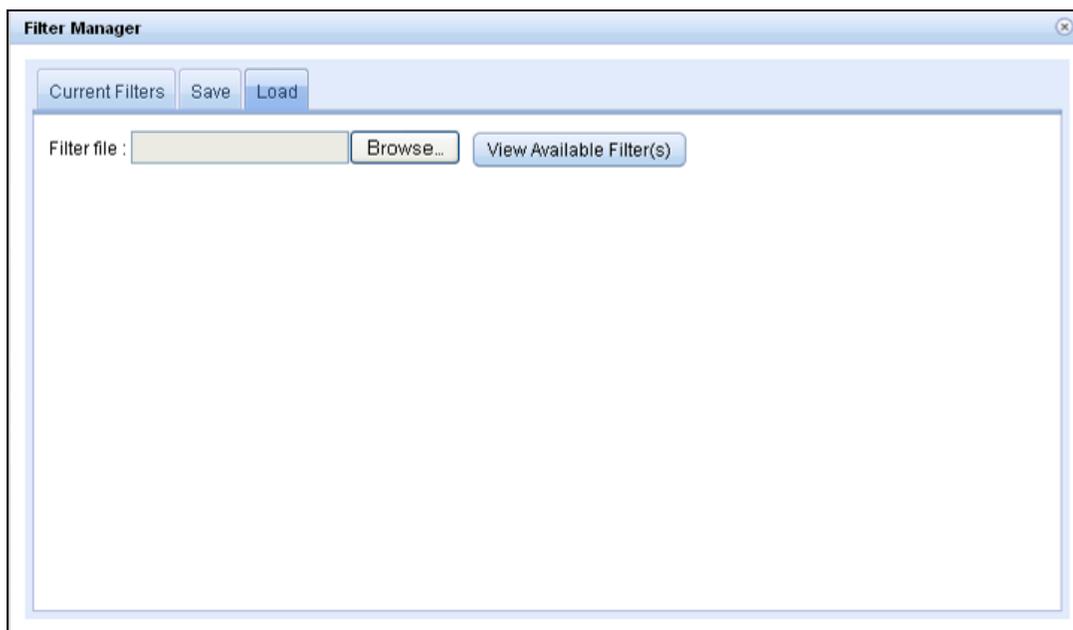
Figure 5-26
Filter Manager: Save Filter File



5.17.3 Loading a Filter

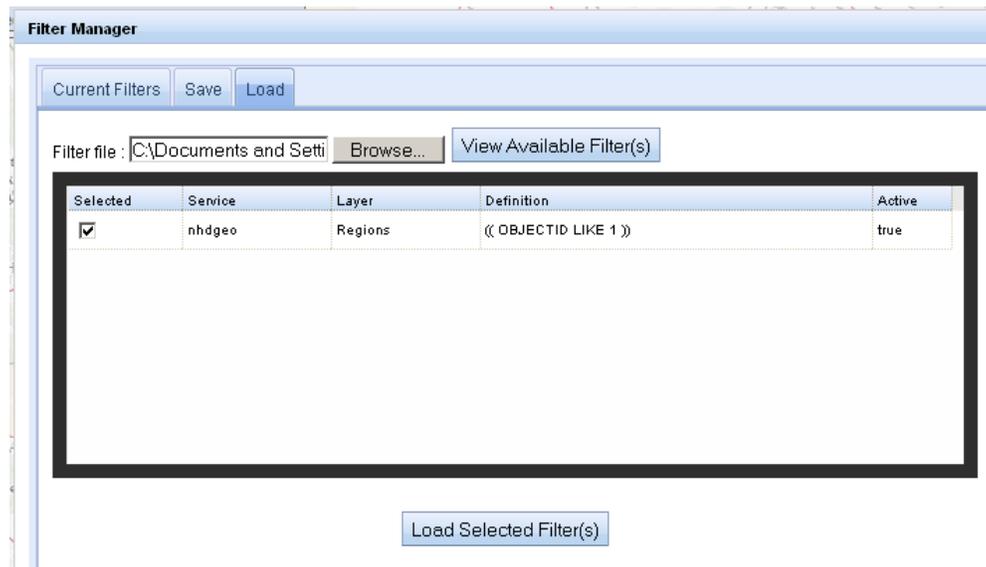
The **Load** tab (figure 5-27) of the **Filter Manager** enables you to load filter files from your local machine into The National Map Viewer. Filter files have a .json extension.

Figure 5-27
Filter Manager: Load Tab



1. Open the **Filter Manager**.
2. Select the **Load** tab.
3. Click the **Browse** button to browse to the location of the saved filter file and click **Open**.
4. Click the **View Available Filter(s)** button to view all filters in the filter file (figure 5-28).

Figure 5-28
Filter Manager: View Available Filters to Load



5. Select any filters you want to load into The National Map Viewer and click the **Load Selected Filter(s)** button to load them. The loaded filters are displayed on the **Current Filters** tab.

5.17.4 Deleting a Filter

The **Current Filters** tab of the **Filter Manager** allows you to delete filters you no longer wish to use.

1. Create a filter using **Query Builder**.
2. Open the **Filter Manager**.
3. Click the **Delete Filter** button for the filter you wish to delete.

5.18 Selection Manager

The **Selection Manager** tool allows you to work with features that are selected on the map display. Features must be visible on the map display in order to be selected. In other words, the layer you wish to select a feature from must be turned on, or checked, in the **Overlays** pane. You can perform multiple actions on the selection results. The results are displayed in a tabular format, and you can select, deselect, remove, export, and/or zoom to those results using the **Selection Manager**.

Features can be selected using the **Identify** and **Query Builder** tools. Any features returned from performing an identify function and/or running a query are automatically selected and can be viewed using the **Selection Manager**.

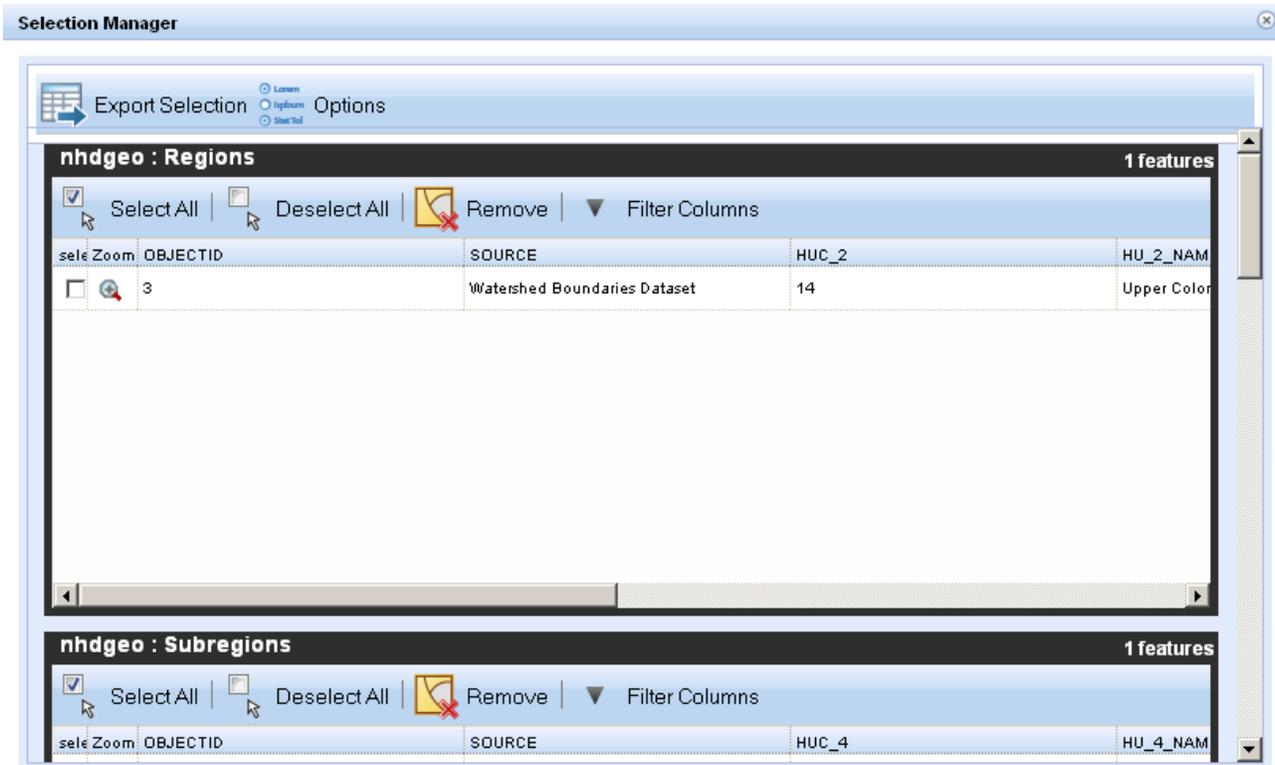
5.18.1 Selecting and Deselecting Features

Features can be selected and deselected in the **Selection Manager**. This is done by either individually toggling each feature or by using the **Select All** and **Deselect All** buttons for each feature layer. Since features are grouped by feature layer in the **Selection Manager**, the **Select All** and **Deselect All** buttons only select or deselect all the features in a particular feature layer.

1. Select one or more features on the map using the **Identify** tool.

2. Click the **Selection Manager**  button on the **Standard** tab of the toolbar (figure 5-29)

Figure 5-29
Selection Manager



3. Click the **Select All** check box for the feature layer in which you want to select all features.
4. Click the **Deselect All** check box for the feature layer in which you just selected all the features.
5. Select a feature by clicking the **selected** check box next to that feature.

5.18.2 Removing a Feature

Use the **Remove** button to delete a selection from the **Selection Manager**. Removing features does not delete them; it removes them from the list of selected results. Since features are grouped by feature layer in the **Selection Manager**, the **Remove** button only removes features in a particular feature layer.

1. Select one or more features on the map.
2. Open the **Selection Manager**.
3. Select a feature.

4. Click the **Remove** button associated with the feature layer of the selected feature to deselect it on the map and remove it from the Selection Manager.

5.18.3 Zooming to a Feature

You can zoom to a feature in the **Selection Manager** by using the **Zoom** slider. Each feature has a **Zoom** icon that can be used to zoom in to the location of that feature.

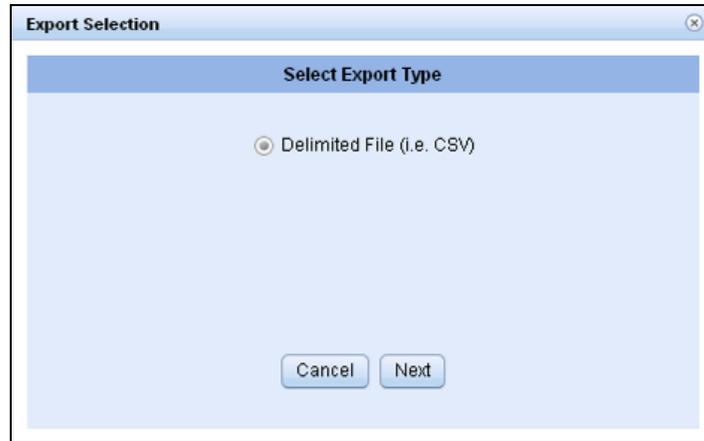
1. Select one or more features on the map.
2. Open the **Selection Manager**.
3. Click the **Zoom** icon  next to the feature you want to zoom to on the map display.

5.18.4 Exporting a Selection

The **Export Selection** tool found in the **Selection Manager** has the ability to export a selection of features to a comma-separated value (CSV) file. It downloads the file to your local machine.

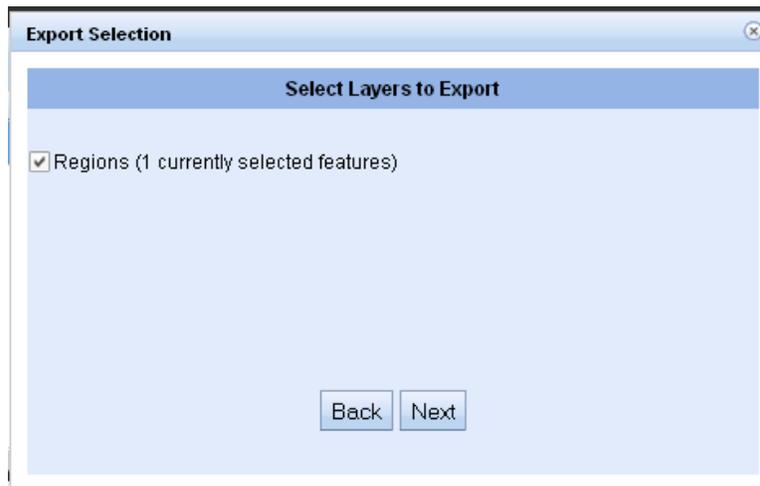
1. Select one or more features on the map.
2. Open the **Selection Manager**.
3. Click the **Export Selection** button.
4. Click the **Next** button on the **Select Export Type** dialog box (figure 5-30).

Figure 5-30
Export Selection: Select Export Type



5. Click the **Next** button on the **Select Layers to Export** dialog box (figure 5-31).

Figure 5-31
Export Selection: Select Layers to Export



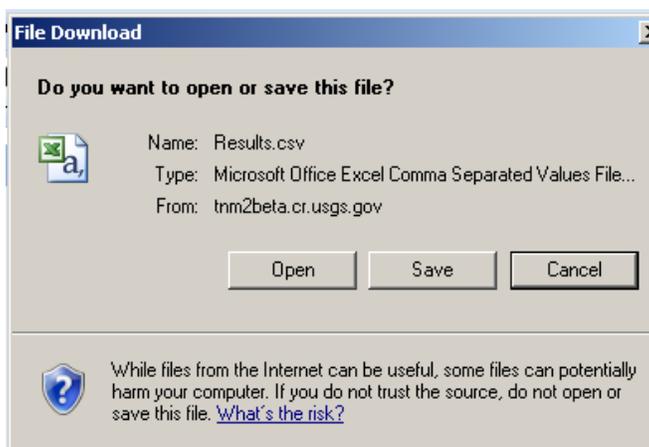
6. Click the **Download Export** button on the **Export Options** dialog box (figure 5-32).

Figure 5-32
Export Selection: Export Options



7. Choose to open or save the file on the **Opening Results.csv** dialog box (figure 5-33) and click **Save** to download the file to your computer.

Figure 5-33
Export Selection: Select Export Type



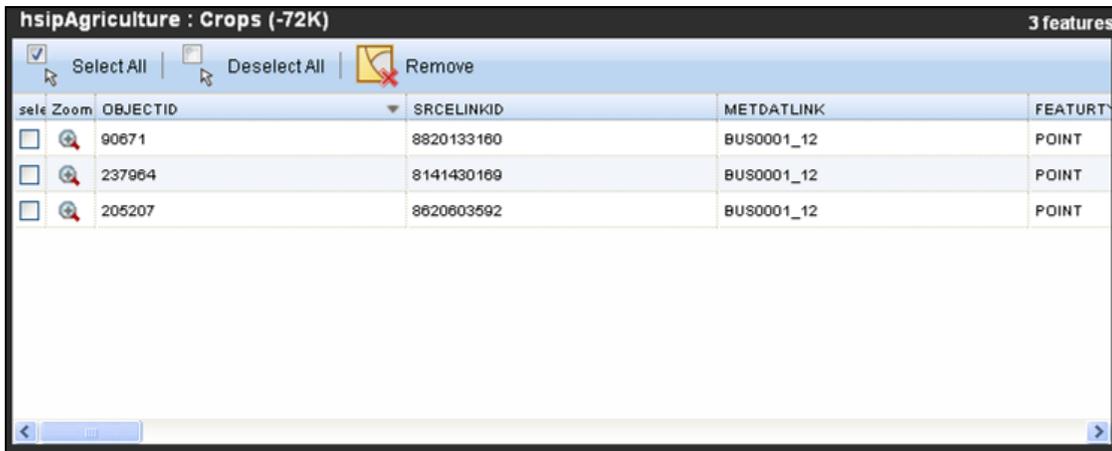
5.18.5 Sorting Results

The **Selection Manager** allows you to sort columns. This enables you to easily find the desired feature(s).

1. Select one or more features on the map.

2. Open the **Selection Manager**.
3. Click on a column name to sort by that column. An arrow appears on the right side of the column to let you know that features are sorted by that attribute (figure 5-34).

Figure 5-34
Selection Manager: Sorting Features



4. Click on the same column to sort it the opposite way.

5.18.6 Resizing Columns

The **Selection Manager** allows you to resize columns. This enables you to easily view the attribute information for features.

1. Select one or more features on the map.
2. Open the **Selection Manager**.
3. Move the mouse pointer in between the columns you want to resize and wait for the pointer to change to horizontal arrows.
4. Drag the column to the desired size and release the mouse.

5.19 Buffer by Point (*Future functionality tool*)

The **Buffer by Point** tool creates a buffer around a point and selects user-specified features contained within that buffered region. You can interactively choose a point on the map around which to create a buffer, choose the layer on which to select features, and specify the distance of the buffer. Once the tool has run, the buffer region is drawn on the map and the features found

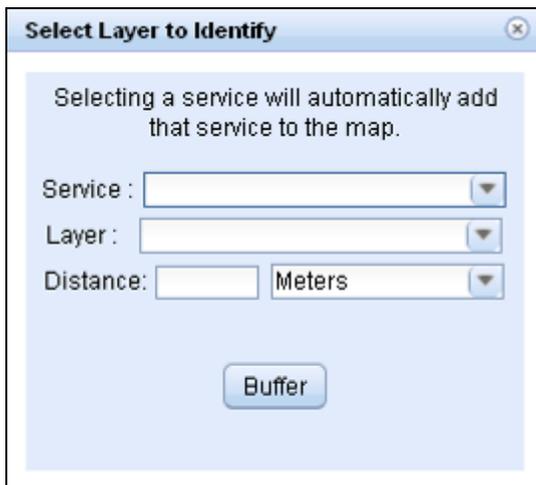
within the buffered region are selected. You can use **Selection Manager** (see [section 5.17 Selection Manager](#)) to interact with the resulting selected feature(s). Use the **Clear Graphics** tool to clear the results on the map display (see [section 5.10 Clear Graphics](#)).

1. Click the **Buffer by Point** button  on the **Advanced** tab of the toolbar.

*Note: Upon clicking the **Buffer by Point** button, the background turns orange* .

2. Click on the map display at the point around which you want to create a buffer.
3. Select a **Service**, **Layer**, and **Distance** to buffer on the **Select Layer to Identify** pop-up (figure 5-35).

Figure 5-35
Select Layer to Identify Pop-Up



4. Click the **Buffer** button.
5. Click a selected feature within the buffered area.

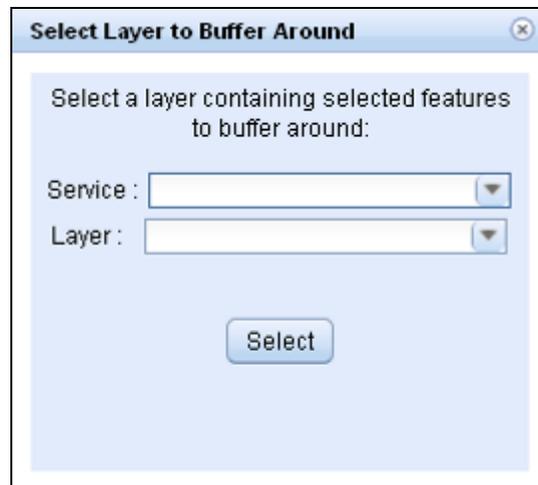
5.20 Buffer by Selection *(future functionality tool)*

The **Buffer by Selection** tool creates a buffer around selected features on the map display. You can choose the layer that contains selected features around which to create a buffer. The already-selected feature(s) becomes the center of the buffer. Next, you choose the layer on which to select features. This layer is one on which you are selecting features that are contained in the buffer region. Finally, you can choose the distance of the buffer. Once the tool has run, the buffer region is drawn on the map and the features that have been found within the buffered region are added to the selection. You can use **Selection Manager** (see [section 5.9 Selection Manager](#)) to

interact with the resulting selected feature(s). Use the **Clear Graphics** tool to clear the results on the map display (see [section 5.10 Clear Graphics](#)).

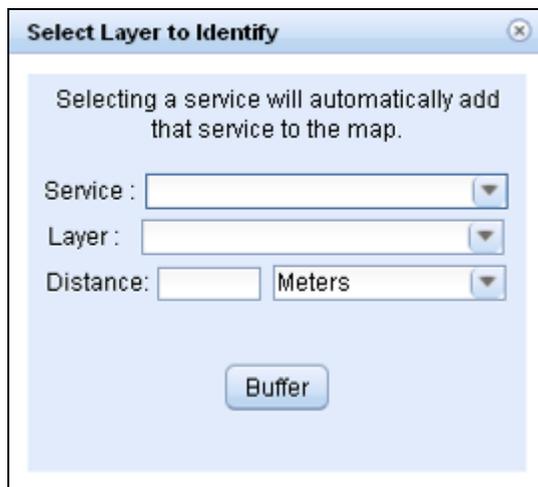
1. Click the **Buffer by Selection** button  on the **Advanced** tab of the toolbar.
2. On the **Select Layer to Buffer Around** pop-up, select the **Service** and **Layer** containing the feature(s) that is currently selected on the map (figure 5-36). This selected feature(s) will be the center of the buffer.

Figure 5-36
Select Layer to Buffer Around Pop-Up



3. Click the **Select** button.
4. On the **Select Layer to Identify** pop-up (figure 5-37), select a **Service** and **Layer** from the drop-down lists to choose the layer on which you would like to find features within the buffer. Input the buffer **Distance**.

Figure 5-37
Select Layer to Identify Pop-Up



5. Click the **Buffer** button to display the buffer and any resulting selected feature(s) on the map.

5.21 Range Ring

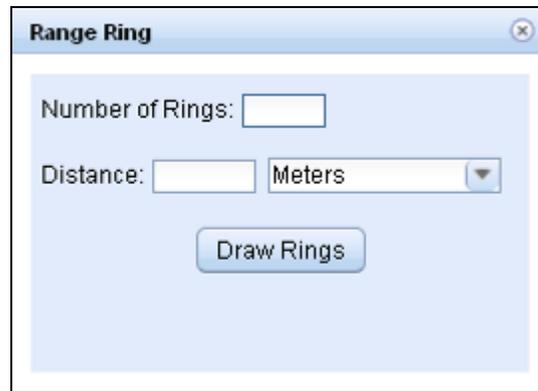
The **Range Ring** tool creates a range ring from a user-specified point on the map display. You can choose the **Number of Rings** and **Distance** between each ring. Use the **Clear Graphics** tool to clear the results on the map display (see [section 5.10 Clear Graphics](#)).

1. Click the **Advanced** tab of the toolbar and select the **Range Ring**  button.

*Note: Upon clicking the **Range Ring** button, the background turns orange* .

2. Click a point on the map on which you want to center the range ring.
3. On the Range Ring pop-up (figure 5-38), enter a numeric value into the **Number of Rings** and **Distance** fields. Select the desired units of measure.

Figure 5-38
Range Ring Pop-Up



4. Use the drop-down list to select the units of measure: Meters, Kilometers, Miles, or Feet.
5. Click the **Draw Rings** button.

5.22 Draw Point

The **Draw Point** button allows you to draw a point at a desired location on the map display. A Map Markup dialog box is available for you to change how the point will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).

1. Click the **Draw Point** button  on the **Annotation** tab of the toolbar.

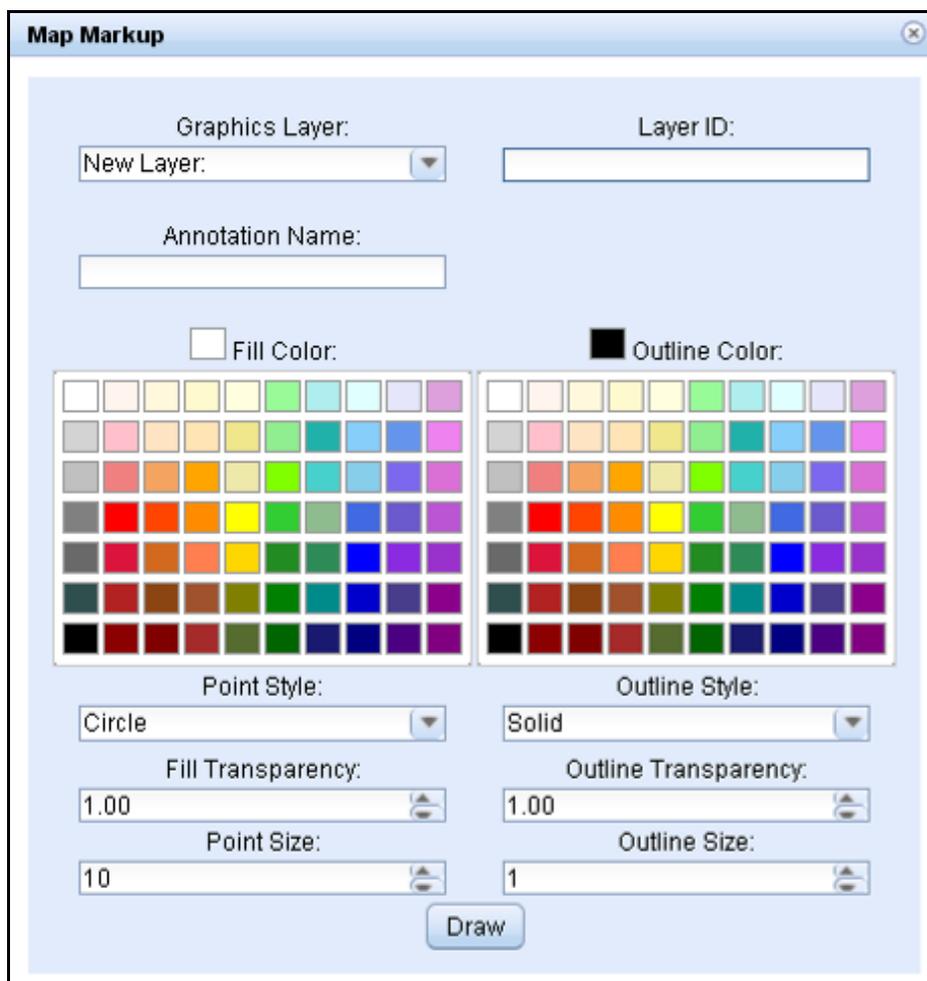
*Note: Upon clicking the **Draw Point** button, the background turns orange* .

2. Click a point on the map.

Note: This is the location where the point will be drawn.

3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-39).

Figure 5-39
Draw Point Map Markup



5. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

6. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the point on and off in the map display.

5.23 Draw Line

The **Draw Line** button allows you to draw a line at a desired location on the map display. A Map Markup dialog box is available for you to change how the line will appear on the map display.

See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).

1. Click the **Draw Line** button  on the *Annotation* tab of the toolbar.

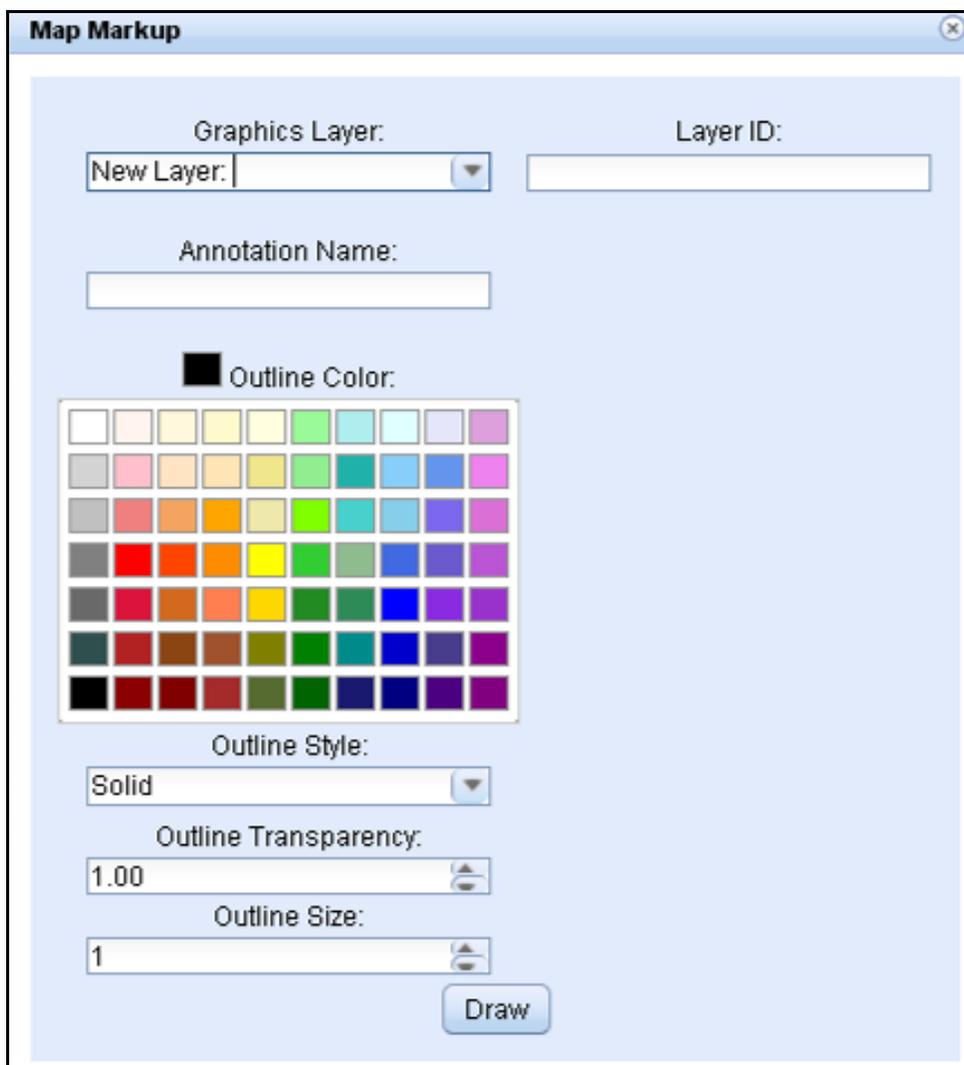
*Note: Upon clicking the **Draw Line** button, the background turns orange* .

2. Draw a line on the map display by clicking on the map to create vertices. Double-click to draw the ending vertex of the line.

Note: This is the location where the line annotation will be drawn.

3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-40).

Figure 5-40
Draw Line Map Markup



5. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

6. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the line on and off in the map display.

5.24 Draw Polygon

The **Draw Polygon** button allows you to draw a polygon at a desired location on the map display. A Map Markup dialog box is available for you to change how the polygon will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).

1. Click the **Draw Polygon** button  on the **Annotation** tab of the toolbar.

*Note: Upon clicking the **Draw Polygon** button, the background turns orange*



2. Draw a polygon on the map display by clicking on the map to create vertices. Double-click to draw the last vertex of the polygon.
3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-41).

Note: If you are using Firefox 2 then the fill style is unavailable on the Map Markup dialog box. However, if you are using Internet Explorer or Firefox 3, these options are available.

Figure 5-41
Draw Polygon Map Markup



5. Click the **Draw** button.

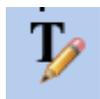
*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

6. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the polygon on and off in the map display.

5.25 Draw Text

The **Draw Text** button allows you to enter text, sometimes called a **Map Note**, at a desired location on the map display. A Map Markup dialog box is available for you to change how the text will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).



1. Click the **Draw Text** button on the **Annotation** tab of the toolbar.



*Note: Upon clicking the **Draw Text** button, the background turns orange*

2. Click the location where text should appear on the map display.
3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-42).

Figure 5-42
Draw Text Map Markup



5. Enter text in **Text to Draw** in the text box.
6. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

7. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the map note on and off in the map display.

5.26 Draw Rectangle

The **Draw Rectangle** button allows you to draw a rectangle at a desired location on the map display. A Map Markup dialog box is available for you to change how the rectangle will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).

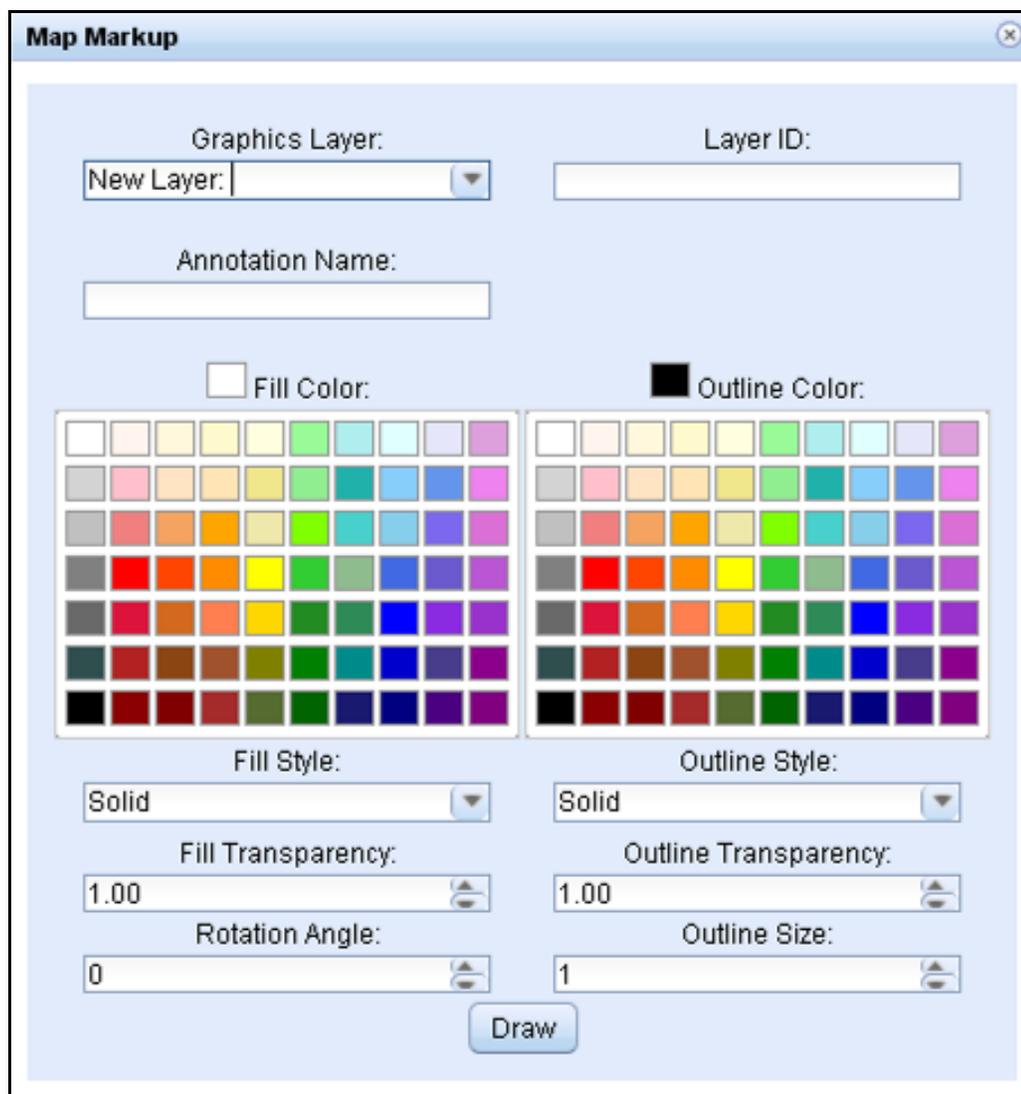
1. Click the **Draw Rectangle** button  on the **Annotation** tab of the toolbar.

*Note: Upon clicking the **Draw Rectangle** button, the background turns orange* .

2. Right-click on the map display to draw a rectangle. Release the mouse.
3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-43).

Note: If you are using Firefox 2, the fill style is unavailable on the Map Markup dialog box. However, if you are using Internet Explorer or Firefox 3, these options are available.

Figure 5-43
Draw Rectangle Map Markup



5. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

6. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the rectangle on and off in the map display.

5.27 Draw Ellipse

The **Draw Ellipse** button allows you to draw an ellipse at a desired location on the map display. A Map Markup dialog box is available for you to change how the text will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).



1. Click the **Draw Ellipse** button on the **Annotation** tab of the toolbar.



*Note: Upon clicking the **Draw Ellipse** button, the background turns orange.*

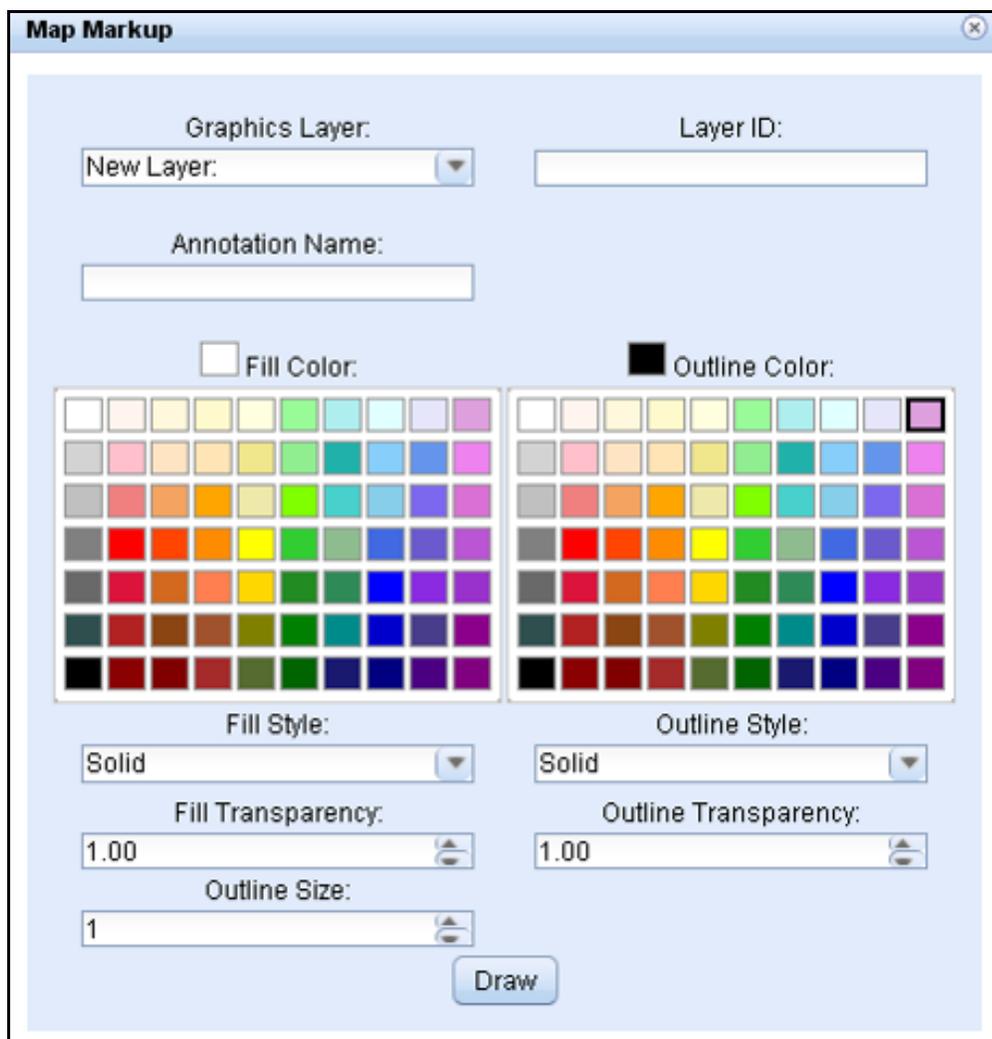
2. Right-click on a point on the map display.
3. Enter values for Angle, Major Axis, and Minor Axis and click the **Draw Ellipse** button (figure 5-44).

Figure 5-44
Draw Ellipse

A screenshot of a dialog box titled "DrawEllipse". The dialog box has a light blue background and a close button (X) in the top right corner. It contains three input fields: "Angle:" followed by a text box; "Major Axis:" followed by a text box and a dropdown menu currently set to "Meters"; and "Minor Axis:" followed by a text box and a dropdown menu currently set to "Meters". At the bottom center of the dialog box is a button labeled "Draw Ellipse".

4. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
5. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-45).

Figure 5-45
Draw Ellipse Map Markup



6. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

7. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the ellipse on and off in the map display.

5.28 Draw Bound Ellipse

The **Draw Bound Ellipse** button allows you to draw a bound ellipse at a desired location on the map display. A Map Markup dialog box is available for you to change how the text will appear on the map display. See [section 5.28 Delete Annotations](#) to learn how to delete annotation layers. Annotation features and layers can also be deleted by right-clicking and choosing the **Delete** option in the **Shortcut Menu** (see [section 6.5 The Shortcut Menu](#)).



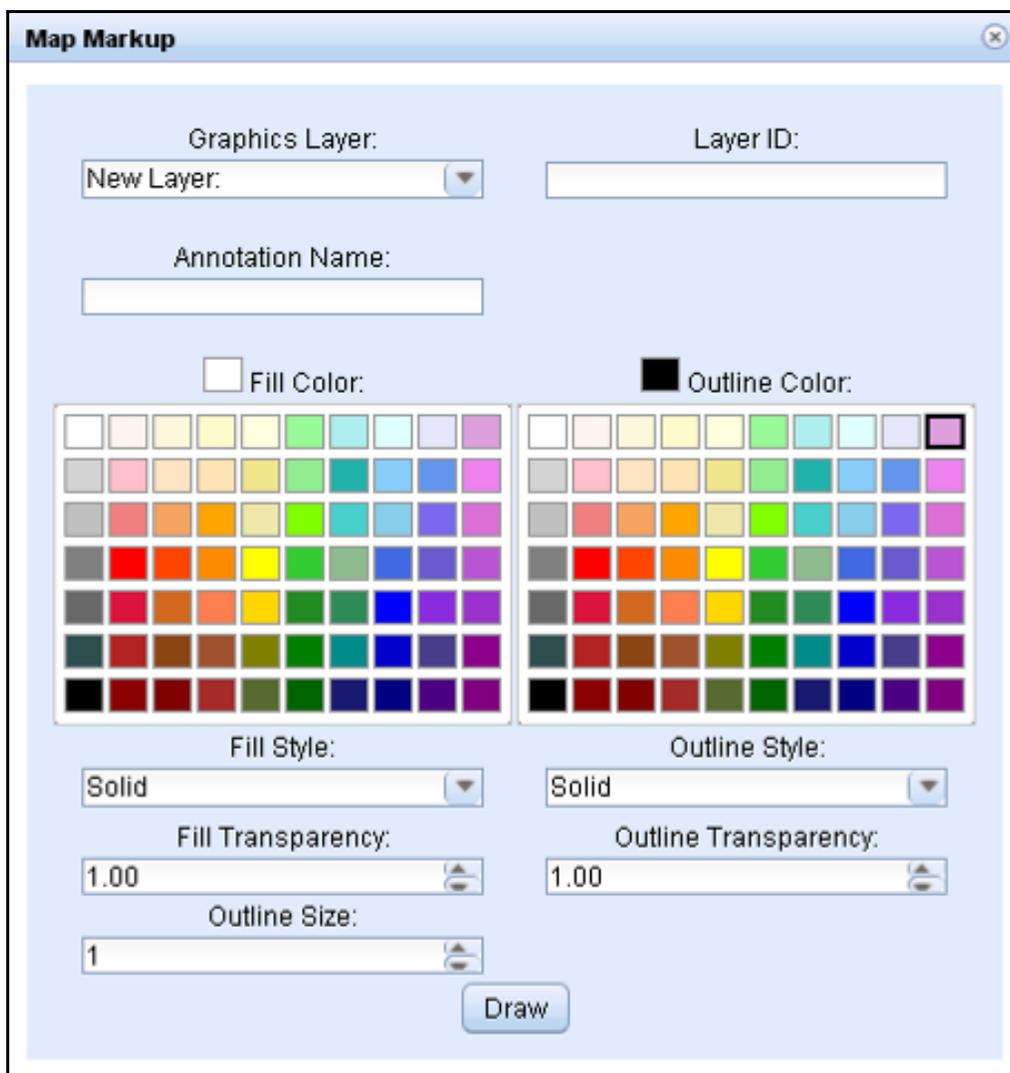
1. Click the **Draw Bound Ellipse** button on the **Annotation** tab of the toolbar.



*Note: Upon clicking the **Draw Bound Ellipse** button, the background turns orange.*

2. Right-click to draw a box on the map display.
3. Select a **Graphics Layer** from the drop-down list or create a new one by selecting **New Layer** in the **Graphics Layer** drop-down list and entering a **Layer ID**.
4. Change the values on the Map Markup dialog box to reflect how you would like the annotation to appear on the map display (figure 5-46).

Figure 5-46
Draw Bound Ellipse Map Markup



5. Click the **Draw** button.

*Note: The point automatically appears on the map display and appears under **User Added Content** in the **Overlays** pane.*

6. Click the box beside the annotation layer that was just added to **User Add Content** in the **Overlays** pane.

Note: This will toggle the bound ellipse on and off in the map display.

5.29 Delete Annotations

The **Delete Annotations** button allows you to clear the annotations that have been made on the map display.

1. Draw an annotation on the map display. Use one of the Draw buttons on the **Annotation** tab of the toolbar.



2. Click the **Delete Annotations** button on the **Annotation** tab of the toolbar.
3. Select the layer(s) to be deleted.
4. Click the **Delete** button.

5.30 Export Annotations

The **Export Annotations** button allows you to export the annotations that have been made on the map display. You can export one or more annotation layers at a time.



1. Click the **Export Annotations** button on the **Annotation** tab of the toolbar.
2. Select the check box next to the layer(s) to be exported on the **Export Annotations** pop-up (figure 5-47).

Figure 5-47
Export Annotations Pop-Up



3. Click the **Export** button.
5. Save the file and click **OK**.

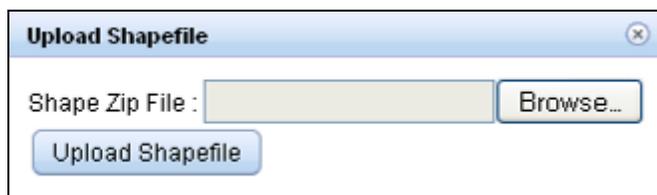
5.31 Upload Shapefile (*Future Functionality Tool*)

The **Upload Shapefile** tool allows you to upload a shapefile to The National Map Viewer. It can be found on the **Annotation** tab of the toolbar. This tool uploads a zip file, unzips it, and loads one shapefile. The shapefile is loaded into the **User Added Content** panel in the **Overlays** pane as a layer and is displayed on the map. The map automatically zooms to the extent of the feature(s) contained in the shapefile. Only one shapefile is loaded using the **Upload Shapefile** tool. If there are multiple shapefiles in a zip file, only the first one will be loaded.



1. Click the **Upload Shapefile** tool on the **Annotation** toolbar.
2. Click the **Browse** button to browse to the location of the zipped shapefile (figure 5-48).

Figure 5-48
Upload Shapefile



3. Browse to the zipped shapefile and click **OK**.
4. Click the **Upload Shapefile** button.
5. Complete the **Map Markup** form that is displayed and click the **Draw** button.

5.32 Spot Elevation

The **Spot Elevation** tool allows you to view the elevation of any individually clicked point on the map.



1. Click the **Spot Elevation** tool on the **USGS** toolbar.
2. Click any point on the map where you would like to see the specific elevation. Once you click, a black triangle will pop up with elevation numbers (figure 5-49).

Figure 5-49
Spot Elevation



6.0 Using the Overlays Pane

The **Overlays** pane consists of two tabs: the **Content** tab and the **Reorder Layers** tab. When the **Overlays** pane is expanded, the **Content** tab is active by default. It is the section of The National Map Viewer where you can choose which data layers you would like to visualize on your map. The pane contains panels that group data thematically. The **Reorder Layers** tab allows you to reorder how layers are drawn on the map display. It is located on the left-hand side of the browser window. When The National Map Viewer starts, this pane is closed.

6.1 Expanding and Collapsing the Overlays Pane

In The National Map Viewer, you can expand the Overlays pane to look at its contents, then collapse it to see more of the map display. It contains panels that can be individually expanded and collapsed.

1. Click the arrow  to expand the **Overlays** pane.
2. Click the arrow  again to collapse the **Overlays** pane.

6.2 Using the Accordion Panels in the Overlays Pane

The accordion panels in The National Map Viewer are menus that you can expand or collapse to switch between choosing data layers or tasks in the **Overlays** pane. This allows you to interact with and analyze your data while viewing the map. Expanding the panes allows you to manipulate the data, and collapsing them allows you to see more of the map. The **Overlays** pane, which is the left pane in your browser, is an accordion container, or a collection of accordion panels. Only one panel can be visible at a time. Clicking the title bar of a panel will make it the new active panel within the accordion, and all other panels will collapse at this time. However, the **Tasks/Results** pane, which is the right pane in your browser, is a collection of title panes and behaves differently from the Overlays pane. To learn more, see [section 8.0 Using the Tasks/Results Pane](#).

Below is a step-by-step example of how to use the accordion panels.

1. Expand the **Overlays** pane.
2. Click a title bar to expand the panel so that you can see the layer contents of that theme.

Note: The first time you expand the pane, the top panel will open by default, but on subsequent times when expanding the pane, the last panel you had open in the previous session will open by default.

3. Click the original title bar to collapse the panel.

6.3 Working with Layers

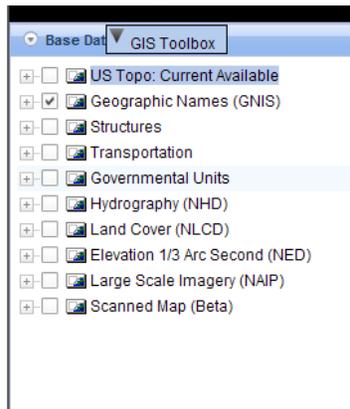
The **Content** tab of the **Overlays** pane contains the layers that can be visualized on the map. Layers contain data that, when turned on, appear over the basemap. They can be manipulated and queried against for analytic purposes. If the layer is on, it will appear on the map, and if it is turned off, it will not be visible. The layers are grouped into themes, or panels, on the **Content** tab. They can be thought of as a directory tree of data content that can be viewed on the map.

6.3.1 Toggling Layers On and Off

Layers in the **Content** pane can be turned on and off using the check box next to each layer. A check mark means the layer is active and can be viewed on the map if the data is visible at the current map extent. Active layers can be identified. An empty check box means that the layer is not active on the map display.

1. Expand the **Overlays** pane.
2. Expand a theme panel.
3. Choose a layer to activate by clicking to place a check mark in the box to the left of the layer name (figure 6-1).

Figure 6-1
Content Layer Toggled On



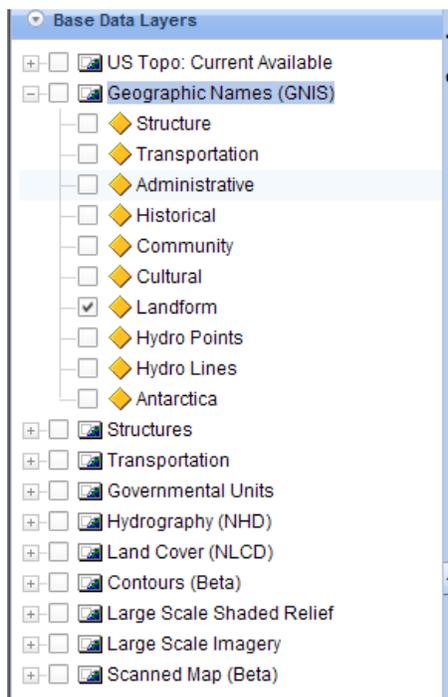
6.3.2 Expanding and Collapsing Layers

Layers on the **Content** tab can be expanded so that you can view sublayers. This is helpful because you can toggle on a subset of feature layers from the parent layer. The fewer features that need to be brought into the map when you turn on a layer, the faster it will load.

1. Expand the **Overlays** pane.

2. Expand a theme panel.
3. Select a layer to expand by clicking the  button next to the desired layer (figure 6-2).

Figure 6-2
Content Layer Expanded



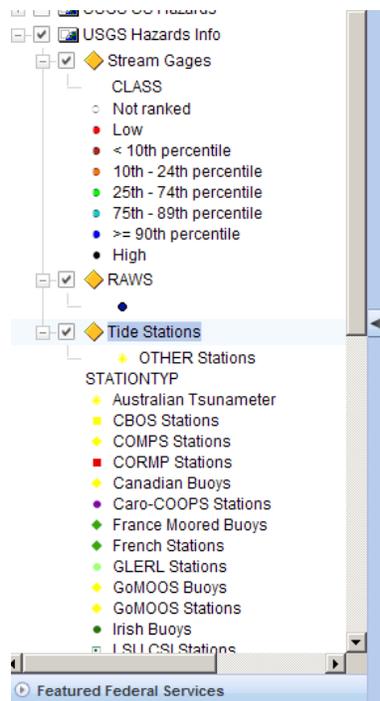
4. Collapse the layer by clicking the  button.

6.3.3 Symbology

Symbology is a set of conventions, rules, or encoding systems that define how geographic features are represented with symbols on a map. In the **Overlays** pane, you can navigate to a layer and view the symbology that is used on the map display for that particular layer. This enables you to have a clear understanding of how features on that layer are represented on the map display.

1. Expand the **Overlays** pane.
2. Expand a theme.
3. Expand a layer down to its symbology. You may need to expand more than one sublayer to access the symbology, which is at the lowest level of the layer tree view (figure 6-3).

Figure 6-3
Content Layer Symbology

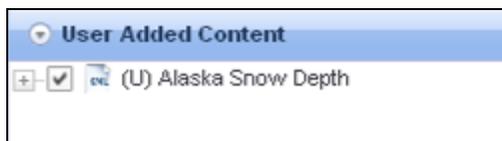


6.4 The User Added Content Panel

The **Content** tab in the **Overlays** pane has a panel named **User Added Content** (figure 6-4). This panel is important because it contains the content that you have added to The National Map Viewer. You can add data to the map display using the **Add Data** tool on the toolbar (see [section 5.0 Using the Toolbar](#)). You can add annotation to the map using the tools on the **Annotation** tab of the toolbar. Therefore, the **User Added Content** panel contains annotation layers as well as layers added using the **Add Data** tool.

Layers contained in the **User Added Content** panel can be interacted with just like any other content layer. You can turn the layers on and off so that the data will appear or disappear on the map display. You can also expand a layer to see any sublayers associated with it. See [section 6.3 Working with Layers](#) to learn more. Use the **Delete** option on the **Shortcut Menu** to delete data you've added to The National Map Viewer. To do this, right-click the layer you wish to delete and choose the **Delete** option on the **Shortcut Menu**. See [section 6.5 The Shortcut Menu](#) to learn more.

Figure 6-4
The User Added Content Panel

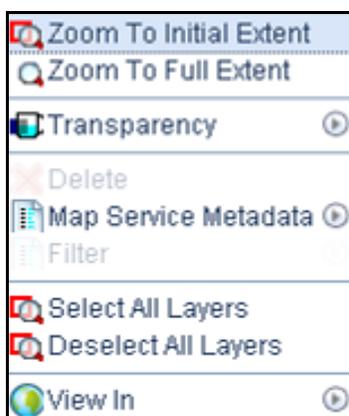


6.5 The Shortcut Menu

The layer **Shortcut Menu** contains additional functionality for a particular layer. Tools within the shortcut menu include **Zoom To Initial Extent**, **Zoom To Full Extent**, **Transparency**, **Delete**, **Map Service Metadata**, **Filter**, **Select All Layers**, **Deselect All Layers**, and **View In**. Each tool is described below in more detail. To access the shortcut menu, right-click the desired layer name. To access certain options on the **Shortcut Menu**, the layer will need to be activated by either expanding it or turning it on. Options that are not available for the layer will appear dimmed.

1. Navigate to the desired layer in the **Overlays** pane.
2. Right-click the desired layer name to view the **Shortcut Menu** for that layer (figure 6-5).

Figure 6-5
Shortcut Menu



6.5.1 Zoom To Initial Extent

The **Shortcut Menu** on the **Content** tab contains a **Zoom To Initial Extent** option. This tool zooms to the initial extent of the specified layer. The initial extent of the layer is defined by the map document that was used to create the layer and/or service. To use this tool, you first need to activate the layer by turning it on or expanding it. If the specified layer has not been activated,

the **Zoom To Initial Extent** option will appear dimmed. Once the layer has been activated, the **Zoom To Initial Extent** option becomes available on the **Shortcut Menu**.

1. Navigate to the desired layer in the **Overlays** pane.
2. Activate a layer by either turning it on or expanding it.
3. Right-click the layer name to display the **Shortcut Menu**.
4. Click the **Zoom To Initial Extent** option to zoom to the initial extent of the layer.

6.5.2 Zoom To Full Extent

The **Shortcut Menu** on the **Content** tab contains a **Zoom To Full Extent** option. This tool zooms to the full extent of the specified layer. The full extent of the layer is defined by the map document that was used to create the layer and/or service. To use this tool, you first need to activate the layer by turning it on or expanding it. If the specified layer has not been activated, the **Zoom To Full Extent** option will appear dimmed. Once the layer has been activated, the **Zoom To Full Extent** option becomes available on the **Shortcut Menu**.

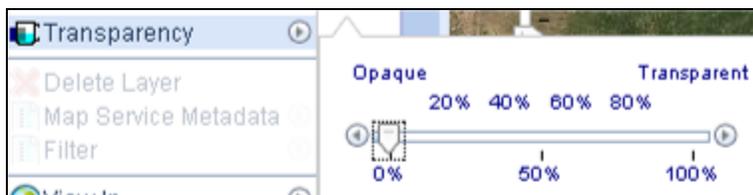
1. Navigate to the desired layer in the **Overlays** pane.
2. Activate a layer by either turning it on or expanding it.
3. Right-click the layer name to display the **Shortcut Menu**.
4. Click the **Zoom To Full Extent** option to zoom to the full extent of the layer.

6.5.3 Transparency

The **Shortcut Menu** on the **Content** tab contains a **Transparency** option. This tool allows you to alter a layer's transparency. To use this tool, you first need to activate the layer by turning it on or expanding it. If the specified layer has not been activated, the **Transparency** option will appear dimmed. Once the layer has been activated, the **Transparency** option becomes available on the **Shortcut Menu**.

1. Navigate to the desired layer in the **Overlays** pane.
2. Activate a layer by either turning it on or expanding it.
3. Right-click the layer name to display the **Shortcut Menu**.
4. Click or pause your cursor on the **Transparency** option to display the transparency slider (figure 6-6).

Figure 6-6
The Transparency Slider



5. Use the arrows or drag the slider to change the transparency of the features on the map display.

6.5.4 Delete

The **Shortcut Menu** on the **Content** tab contains a **Delete** option. This tool allows you to delete a layer you have added to the map display. Only annotation layers and layers added using the **Add Data** tool (see [section 5.15 Add Data](#)) and in the **User Added Content** panel (see [section 6.4 The User Added Content Panel](#)) will have this option available. Any other National Map Viewer layers will have the **Delete** option dimmed on the **Shortcut Menu**.

1. Navigate to the desired layer in the **Overlays** pane.
2. Right-click the layer you want to delete.
3. Select the **Delete** option on the **Shortcut Menu** to delete the layer from the **Content** tab and the map display.

*Note: You will need to add in the layer/service you just deleted (using the **Add Data** tool on the toolbar) if you want to visualize or use it again on the map display.*

6.5.5 Map Service Metadata

Metadata is often described as data about data. It might be information about who created the data, when it was created, how it was collected and assembled, or how reliable it is, to name a few. Metadata is usually created by the data author but can be added at many stages of the data creation process. Not all data in The National Map Viewer has metadata associated with it. This is because there are many metadata standards but no single, unified standard. When metadata does exist, there is no standard for what it contains and how it is presented. Therefore, the **Map Service Metadata** option on the **Shortcut Menu** will only be available for layers that have metadata defined for them. If there is no metadata for the specified layer, the **Map Service Metadata** option will be unavailable.

1. Navigate to the desired layer in the **Overlays** pane.

2. Click or pause your cursor over the **Map Service Metadata** option in the **Shortcut Menu** to open a pop-up containing the metadata information for the specified layer (figure 6-7).

Figure 6-7
Map Service Metadata

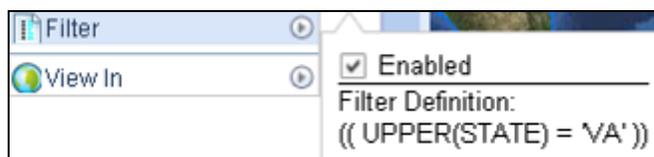


6.5.6 Filter

The **Shortcut Menu** on the **Content** tab contains a **Filter** option. This option can be used to turn filters on and off for a specified layer. Filters can be created using the **Query Builder** tool (see [section 5.16 Query Builder](#)) and are managed using the **Filter Manager** tool (see [section 5.17 Filter Manager](#)). If there are no filters defined for the specified layer in the current session of The National Map Viewer, the **Filter** option will be dimmed and unavailable. If a filter is defined for the specified layer, the **Filter** option provides a mechanism for enabling and disabling the filter. If the filter is enabled, only those features that meet its criteria are displayed on the map. If the filter is disabled, all features on the layer are displayed on the map.

1. Navigate to the desired layer in the **Overlays** pane.
2. Expand a service layer that has a filter defined for it in the current National Map Viewer session.
3. Right-click the sublayer name to display the **Shortcut Menu**.
4. Click or pause your mouse pointer on the **Filter** option to display a pop-up (figure 6-8).

Figure 6-8
The Shortcut Menu Filter Option



5. Select the **Enabled** check box to enable the filter on the specified sublayer. Deselect the **Enabled** check box to disable the filter on the specified sublayer.

6.5.7 Select All Layers

1. Navigate to the desired layer in the **Overlays** pane.
2. Activate a layer by either turning it on or expanding it.
3. Right-click the layer name to display the **Shortcut Menu**.
4. Click the **Select All Layers** option to select all layers (figure 6-9).

Figure 6-9
The Select All Layers Option



6.5.8 Deselect All Layers

1. Navigate to the desired layer in the **Overlays** pane.
2. Activate a layer by either turning it on or expanding it.
3. Right-click the layer name to display the **Shortcut Menu**.
4. Click the **Deselect All Layers** option to deselect all layers (figure 6-10).

Figure 6-10
The Deselect All Layers Option



6.5.9 View In

The **Shortcut Menu** on the **Content** tab contains a **View In** option. This option allows you to display the specified layer in **ArcMap**, **ArcGIS Explorer**, or **Google Earth**. Selecting any of these options will display a pop-up dialog box that allows you to save a file that can be viewed in the selected viewer. If you want to view a layer in **ArcMap**, the Save pop-up lets you save a layer file with an .lyr extension. If you want to view a layer in **ArcGIS Explorer**, the Save pop-up lets you save the layer as an ArcGIS Explorer Map file with an .nmf extension. If you want to view a layer in **Google Earth**, the Save pop-up lets you save the layer as a KMZ file with a .kmz extension. Once you save the layer in the appropriate file format, you can view the layer in the desired viewer.

1. Navigate to the desired layer in the **Overlays** pane.
2. Right-click the layer name to display the **Shortcut Menu**.
3. Click or pause your mouse pointer on the **View In** option to display a submenu (figure 6-11).

Figure 6-11
The View In Menu



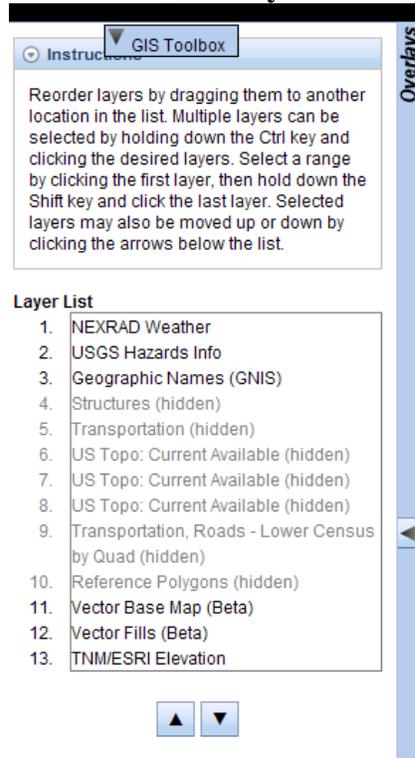
4. Select the application in which you would like to view the specified layer.
5. Save the layer file on your local machine.
6. To view the layer in the specified application, open the saved file in the appropriate application.

6.6 The Reorder Layers Tab

The **Reorder Layers** tab allows you to change the order in which layers are displayed on the map viewer. You can move layers up and down within the reorder list. This upward and downward movement changes the visibility of map layers on the map display. The layers are put on top of or below other layers. A layer higher in the list will draw on top of lower layers.

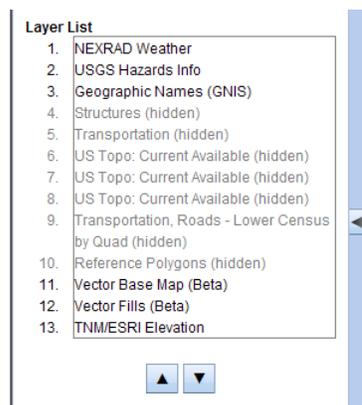
1. Expand the **Overlays** pane.
2. Click the **Reorder Layers** tab (figure 6-12).

Figure 6-12
Reorder Layers



3. In the **Layer List**, click to select a layer name (figure 6-13).

Figure 6-13
Layer List



4. Click the up  or down  arrow to move the layer name within the layer list to the desired draw order.

Note: You will notice as you move the arrow up or down that layer names move within the list and the map display changes.

7.0 Find a Place

You can perform a search to locate a place within the map display. For example, you can search for a specific address, an area of interest, or a coordinate pair using The National Map Viewer. An arrow appears on the map display as an indication that the location has been found. After a successful search, you will see a list of search results on the **Search** tab in the **Tasks/Results** pane on the right-hand side of the application. To clear the search results and remove the search result markings from the map display, simply click the **Clear Search Results** button.

7.1 List of Data Available for Searching

You can search for the following types of data:

- Coordinates

- Decimal Degrees

- ◆ 32.34375° -98.08594°
- ◆ 32.34375d, -98.08594d
- ◆ 32.34375 -98.08594
- ◆ 32.34375N, -98.08594W

- Degrees Minutes

- ◆ 32° 20.625' -98° 5.1564'
- ◆ 32d 20.625m, -98d 5.1564m
- ◆ 32 20.625 -98 5.1564
- ◆ 32 20.625N, -98 5.1564W

- Degrees/Minutes/Seconds

- ◆ 32° 21' 17.051" N 98° 07' 17.152" W
- ◆ 32 21 17.051 N 98 07 17.152 W
- ◆ 32d 21m 17.051s, -98d 07m 17.152s
- ◆ 32 21 17.051, -98 07 17.152

- Military Grid Reference System

- ◆ 14SNA8266580095
- ◆ 14SNA88
- ◆ Support for 1- to 5-digit coordinates (2- to 8-digit coordinate string)

- United States National Grid (NAD83)
 - ◆ 14S NA 82665 80095
 - ◆ 14S NA 8 8
 - ◆ Support for 1- to 5-digit coordinates
- Address (*Future search functionality*)
 - 4600 Sangamore Rd Bethesda, MD
- City
 - Washington DC
 - Bethesda, MD
- Place (*Future search functionality*)
 - Statue of Liberty
 - Lincoln Memorial
- Geonames Content
 - London
 - Paris, FR
- Gazetteer Content (*Future search functionality*)
 - Central Park, NY
 - Saint Patrick's Cathedral, NY

7.2 Using Find a Place

Use the **Find a Place** field to search for a place on the map. **Find a Place** is centered above the map display on the National Map Viewer interface. It is a single-line search mechanism. To use the field, input the search criteria (or search string) into the **Find a Place** field and click the **Search** button.

1. Enter an address or a place you would like to locate in the **Find a Place** text box above the map display (figure 7-1). For example, you could put in NGA's address: 4600 Sangamore Rd Bethesda, MD, or a landmark: Lincoln Memorial.

Figure 7-1
Find a Place



2. Click the **Search** button . The map automatically zooms to the first result of the search and places an arrow marker at the search location (figure 7-2).

Figure 7-2
Find a Place Map Results



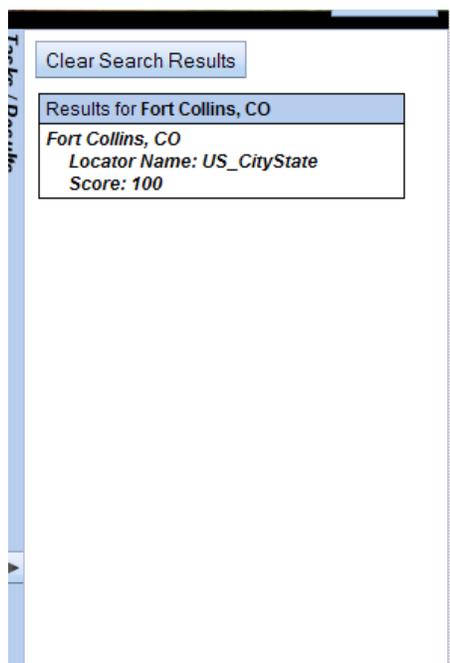
7.3 Finding and Using Search Results

Search results are displayed on the **Search** tab of the **Tasks/Results** pane. When a search is performed, the search results are displayed automatically. The map automatically zooms to the first result of the search and places an arrow at that location. If the search yields multiple results, other results can be selected and the map will zoom to those locations and place a marker there as well. Use the **Clear Search Results** button on the **Search** tab to clear the results of a search.

Note: When a search has been performed, the map zooms in on the first result of the search and displays an arrow. If white space appears on the map, then you will need to zoom out for imagery to become visible again. Therefore, white space is an indication that imagery is unavailable at the current scale.

1. Perform a search (see [section 7.2 Using Find a Place](#) for more details).
2. An arrow  appears on the map display at the search location.
3. The results from the search appear in the **Search** tab of the **Tasks/Results** pane (figure 7-3).

Figure 7-3
Search Results



4. Click the desired result on the **Search** tab. The map display will automatically pan to and center on the desired location.

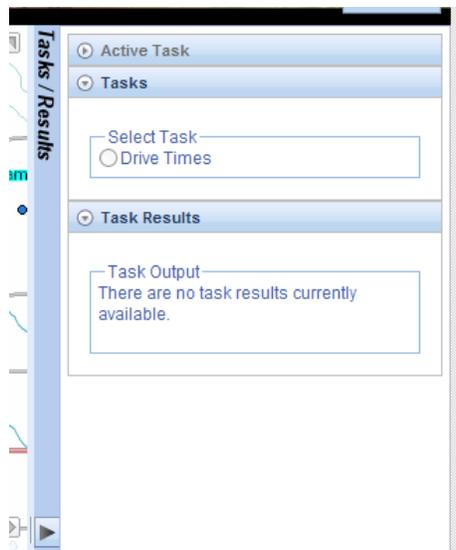
*Note: Each search result is returned with a **Locator Name** and **Score** value. The **locator name** is the name of the locator that found the result. The **score** is a percentage value that indicates the accuracy of the search result.*

5. Click the **Clear Search Results** button to clear the search results returned from the **Find a Place** search.

8.0 Using the Tasks/Results Pane

The **Tasks/Results** pane is divided into three sections: **Tasks**, **Search**, and **Cart**. You can access each section by clicking each tab at the bottom of the pane (figure 8-1). The **Tasks** section allows you to interact with your data to perform analysis. On the **Tasks** tab, there are the following panels: **Active Task**, **Tasks**, and **Task Results**. The **Search** tab displays the search results from a search that has been performed on the map display. The **Cart** tab displays your download data cart. The **Tasks/Results** pane is located on the right-hand side of the browser window. When The National Map Viewer starts, this pane is closed.

Figure 8-1
Tasks/Results Pane



8.1 Expanding and Collapsing the Tasks/Results Pane

In The National Map Viewer, you can expand the **Tasks/Results** pane to look at its contents, then collapse it to see more of the map. It also contains panels that can be individually expanded and collapsed.

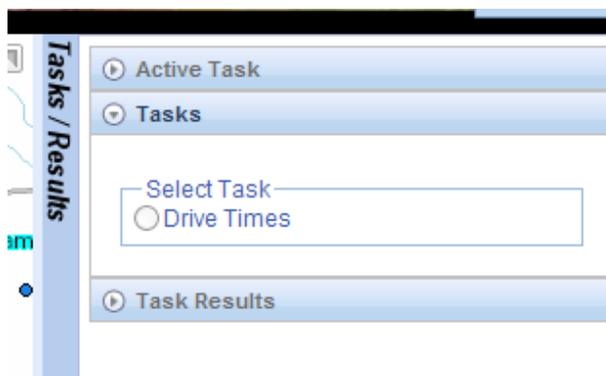
1. Click the arrow  to expand the **Tasks/Results** pane.
2. Click the arrow  again to collapse the **Tasks/Results** pane.

8.2 Using the Accordion Panels in the Tasks/Results Pane

The accordion panels in The National Map Viewer are menus that you can expand or collapse to switch between choosing data layers or tasks in the **Tasks/Results** pane. This allows you to interact with and analyze your data while viewing the map. The **Tasks/Results** pane, which is the right pane in your browser, is a collection of title panes. Any number of these, or none, can be visible at one time. Each pane can be visible and hidden by clicking the title bar of the panel. However, the **Overlays** pane, the left pane in your browser, is an accordion container, which is a collection of accordion panes (see [section 6.0 Using the Overlays Pane](#)).

1. Expand the **Tasks/Results** pane
2. The **Tasks** panel is expanded by default. Click the **Tasks** title bar to collapse the panel.
3. Click the **Tasks** title bar to expand it (figure 8-2).

Figure 8-2
Tasks



8.3 Using the Tasks Panel

The **Tasks** panel contains a list of analytic tasks in The National Map Viewer. The **Tasks** panel is located in the middle of the panel stack in the **Tasks/Results** pane between the **Active Task** panel and the **Task Results** panel. When the **Tasks/Results** pane is expanded, this panel is open. **Tasks** are represented as a list of option buttons. Once a **task** is selected, the **Active Task** panel will open and you can begin to perform analysis. You can select different tasks.

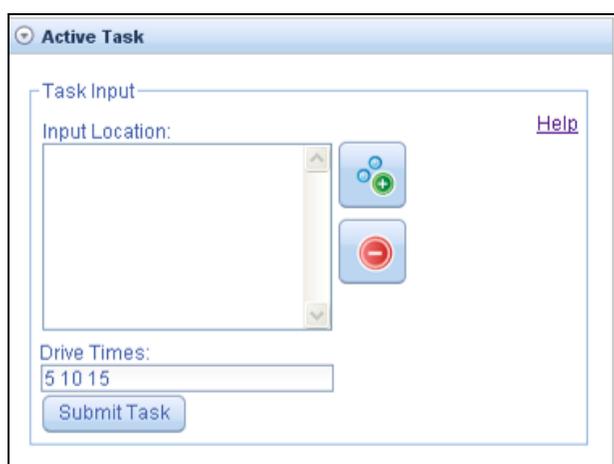
1. Click the **Tasks** panel.
2. Select a task.

*Note: The **Active Task** panel displays the input form for the selected task.*

8.4 Using the Active Task Panel

The **Active Task** panel displays parameter and input information for the task that is currently activated. It is located at the top of the panel stack in the **Tasks/Results** pane. When the **Tasks/Results** pane is initially expanded, this panel is closed by default. Nothing will appear in the **Active Task** panel until you have selected a task in the **Tasks** panel. Once you have selected a task, the Task Input section appears in the panel (figure 8-3).

Figure 8-3
Active Task—Drive Times



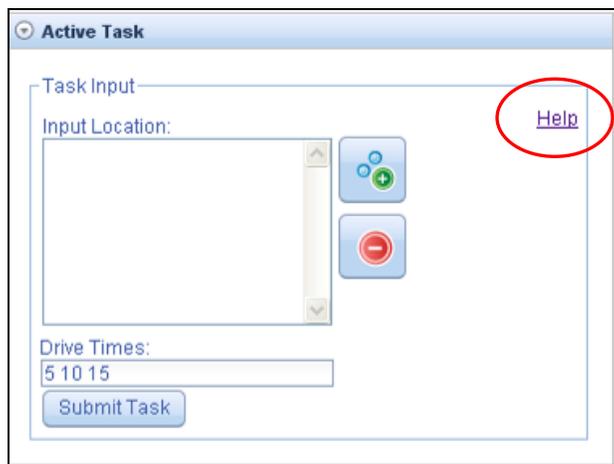
To activate a task

1. Make sure the **Tasks** panel is activated. It is expanded by default.
2. Select a task.
3. The **Active Task** panel will expand, and you will see the input form for the selected task.

To get help for a task

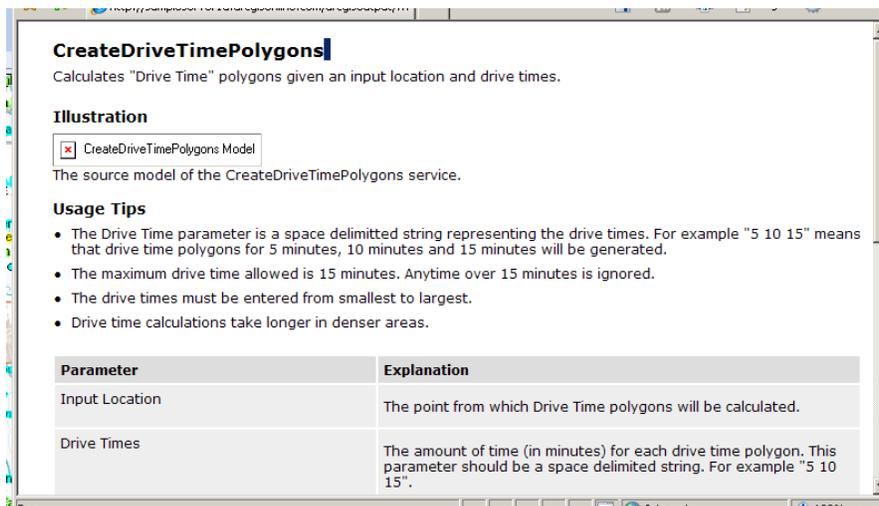
1. Activate a task.
2. Click the **Help** link in the **Active Task** panel (figure 8-4).

Figure 8-4
Help Link



3. The help information will appear in another browser window (see figure 8-5).

Figure 8-5
Help Information

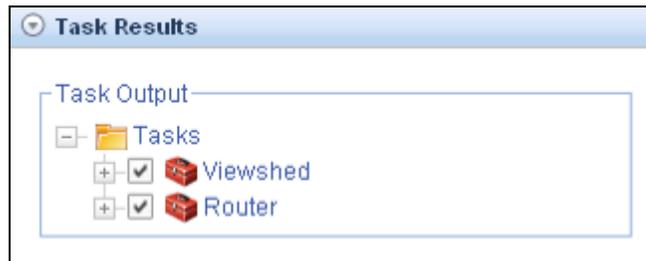


8.5 Interacting with Task Results

The output of a task is displayed in the **Task Results** panel of the **Tasks** tab. When a task has run successfully, the **Task Results** panel is activated automatically (figure 8-6). Task results are found in the **Task Output** area under the **Tasks** folder. The result of a task is named for the task.

For example, if you run the **Viewshed** task, the result of the task is named Viewshed under the **Tasks** folder.

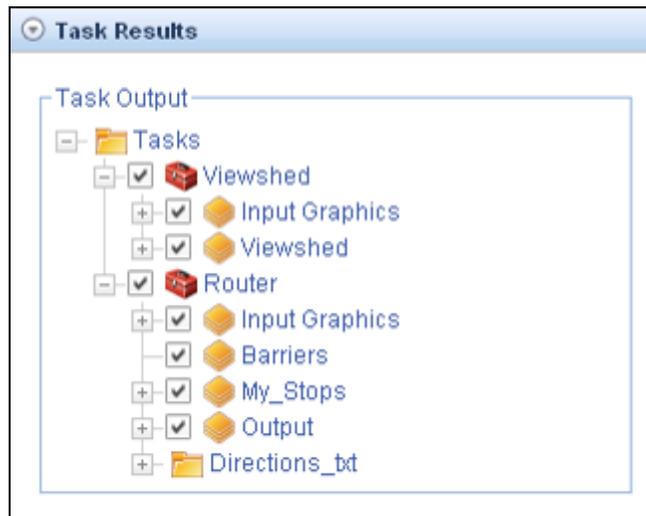
Figure 8-6
Task Results



Expanding and Collapsing Results

1. Expand a task result by clicking the button next to it (figure 8-7).

Figure 8-7
Expanded Task Results



2. Collapse a task result by clicking the button next to it.

Toggling Results On and Off

Task results are turned on by default after a task has run.

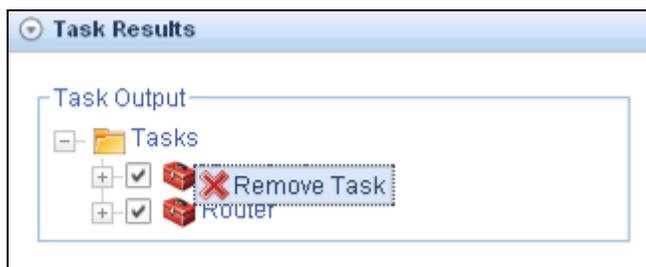
1. Toggle a result off by deselecting the check box.
2. Toggle a result on by selecting the check box.

8.6 Deleting Task Results

Tasks can be deleted from the **Task Results** panel by right-clicking the task result.

1. Expand the **Task Results** panel.
2. Right-click the task you want to delete.
3. Click **Remove Task** on the pop-up to delete the results from the **Task Results** panel (figure 8-8).

Figure 8-8
Delete Task Results

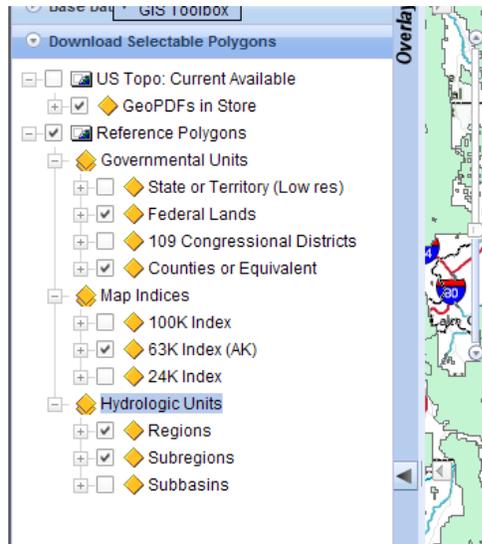


8.7 The Download Cart

The download cart exists as the last tab under the Tasks/Results pane. This function allows you to add items in the cart by selecting polygons from the "Download Selectable Polygons/Reference Polygons" layer from the Overlays pane.

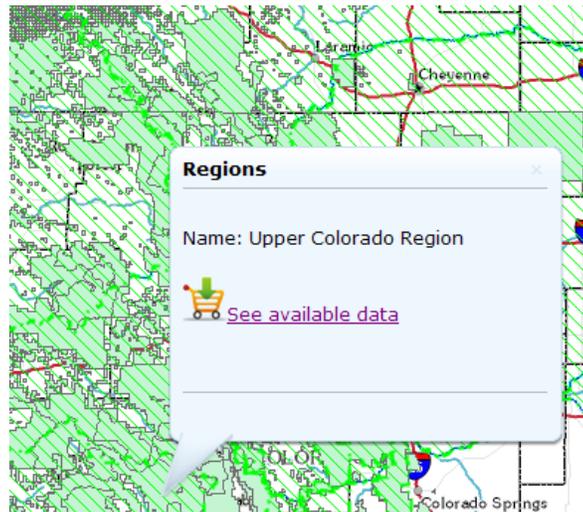
1. Make sure you have selected polygons from the Download Selectable Polygons tab from the Overlays Pane (Figure 8.9).

Figure 8.9
Download Selectable Polygons



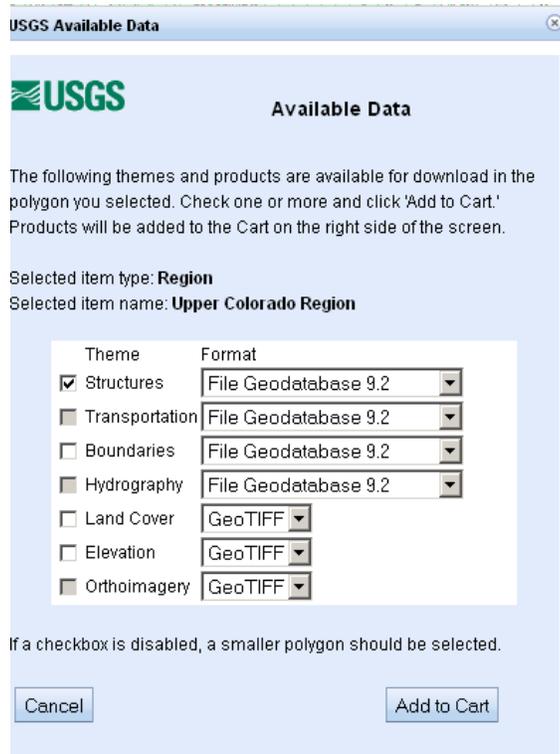
2. Select a polygon from the basemap. Different windows will pop up showing you either a list of specific polygons to choose from or a region. Pick the desired polygon and click the cart icon that says, **See Available Data** (Figure 8.10).

Figure 8.10
See Available Data



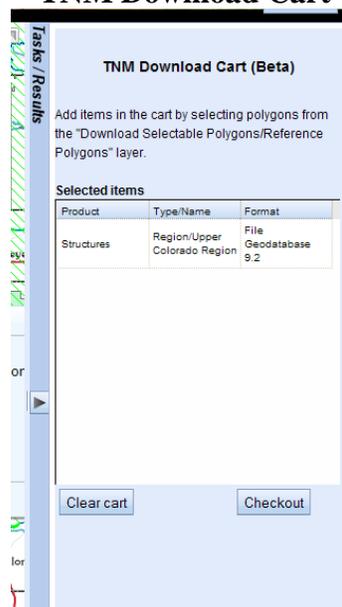
3. An Available Data window will appear, providing themes and projects that are available for download in the polygon you selected. Check one or more and click 'Add to Cart' (Figure 8.11).

Figure 8.11
USGS Available Data



4. Products will be added to the **Cart** on the right side of the screen, located in the **Results/Tasks** pane (Figure 8.12).

Figure 8.12
TNM Download Cart



5. Click **Checkout** to download the polygons to your computer, click **Clear cart** to clear the polygons currently selected in the cart, or add more polygons for download by selecting specific polygons on the basemap.

Appendix A

The National Map Viewer Quick-Start Guide

The National Map Viewer Quick-Start Guide

This document provides an overview of the interface and a quick description of some of the tools included in the Web application.

User Interface



1. The **Overlays** pane is a collection of map overlay layers. Once a layer is selected in the **Overlays** pane, it becomes visible on the map display.
2. The **USGS logo** is a link to the official USGS Web site: <http://www.usgs.gov/>.
3. The **Zoom slider** is used to zoom in and out on the map display.
4. The **Toolbar** consists of the following tools that can be used on the map display:
Standard Tools: Map Navigation, Identify, Find Coordinates, Reverse Geocode, Selection Manager, Clear Graphics, Zoom to Globe, and Zoom to Last.

Advanced Tools: Measure Distance, Measure Area, Add Data, Query Builder, Filter Manager, Selection Manager, Buffer by Point, Buffer by Selection, and Range Ring.

Annotation Tools: Quick Plot, Draw Point, Line, Polygon, Text, Rectangle, Ellipse, Bound Ellipse, Delete Annotation, Export Annotation, and Upload Shape File.

USGS Tools: Spot Elevation

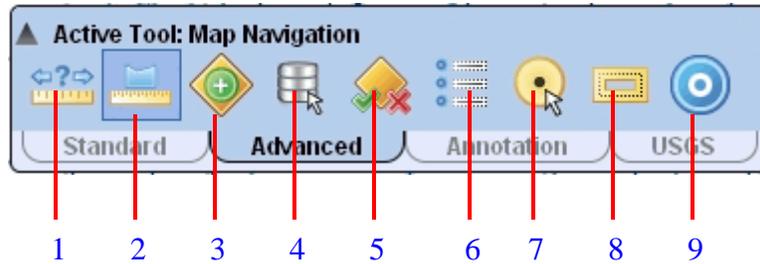
5. **Find a Place** searches for an input value that is entered into the text box provided such as City and State.
6. The **Search** button is clicked once an input value has been entered into the Find a Place text box.
7. The **Options** button is available so you can change the coordinate display from decimal degrees to any of the following: DMS, MGRS, and USNG (NAD83).
8. The **Link** button is a permalink feature that saves the current map extent. You can copy and save this link in your preferred browser. This way, you can work more efficiently because the link is saved within your browser.
9. The **Help** button is available as a quick reference guide to assist if you have any questions while using The National Map Viewer.
10. The **Tasks/Results** pane contains search results and the download cart. The search results appear after the Search button has been clicked.
11. **Panning arrows** are used to navigate within the map display.
12. The **basemap buttons** change the basemap on the map display. For example, if the Topo/Shaded button is clicked, the topography or shaded layer will appear on the map display.
13. The **basemap** is the visible map within the map display.
14. The **scale bar** is visible by default showing the map scale at the target location.
15. The **cursor position** displays the coordinates of your current cursor position on the map display. Each time you move your mouse pointer on the map display, the coordinates will change to reflect this movement.

Standard Toolbar



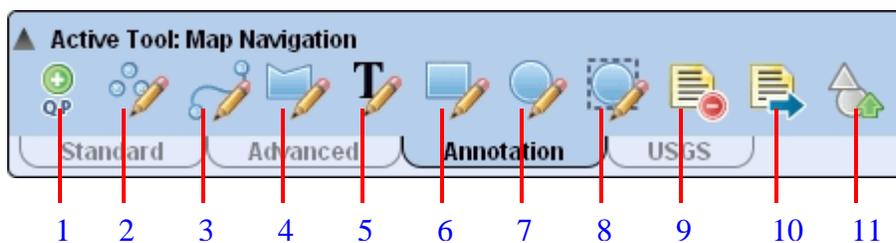
1. The **Hide** arrow is for closing the toolbar so you can see more of the map display.
2. The **Map Navigation** button gives you the ability to pan the map display.
3. The **Identify** button allows you to view attribute information for features.
4. The **Find Coordinates** button assists you in finding the coordinates of a particular location.
5. The **Reverse Geocode** button allows you to find an address by clicking on the map display if data is available for that location or scale.
6. The **Clear Graphics** button allows you to clear any graphics or markups that you have created on the map display
7. The **Zoom to Globe** button returns the basemap to full screen.
8. The **Zoom to Last Extent** button returns the basemap to the previous selected zoom.

Advanced Toolbar



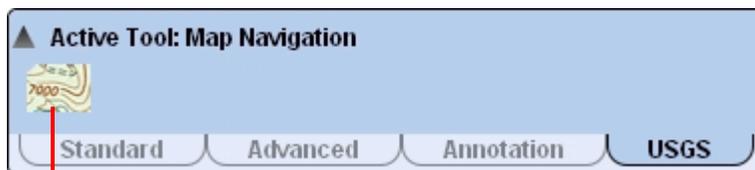
1. The **Measure Distance** tool allows you to measure the distance between two or more points on the map display.
2. The **Measure Area** tool allows you to measure the area on the map display.
3. The **Add Data** tool allows you to add ArcGIS Server, Keyhole Markup Language (KML), Really Simple Syndication (RSS), Web Map Service (WMS), and ArcIMS Internet map server (IMS) data to the map display.
4. The **Query Builder** tool allows you to build and run a query and create filters.
5. The **Filter Manager** tool allows you to view any currently enabled filters and to delete, save, and load filters.
6. The **Selection Manager** tool allows you to choose certain attributes to display by selecting and deselecting within the selection manager window.
7. The **Buffer by Point** tool creates a buffer around a point and selects the user-specified features contained within that buffered region. *Note: This tool will be available in the near future.*
8. The **Buffer by Selection** tool creates a buffer around selected features on the map display. *Note: This tool will be available in the near future.*
9. The **Range Ring** tool creates a range ring from a user-specified point on the map display.

Annotation Toolbar



1. The **Quick Plot** tool allows you to place a point on a specified location within the basemap.
2. The **Draw Point** button allows you to draw a point at a desired location on the map display.
3. The **Draw Line** button allows you to draw a line at a desired location on the map display.
4. The **Draw Polygon** button allows you to draw a polygon at a desired location on the map display.
5. The **Draw Text** button allows you to enter text, sometimes called a **Map Note**, at a desired location on the map display.
6. The **Draw Rectangle** button allows you to draw a rectangle at a desired location on the map display.
7. The **Draw Ellipse** button allows you to draw an ellipse at a desired location on the map display.
8. The **Draw Bound Ellipse** button allows you to draw a bound ellipse at a desired location on the map display.
9. The **Delete Annotations** button allows you to clear the annotations that have been made on the map display.
10. The **Export Annotations** button allows you to export the annotations that have been made on the map display.
11. The **Upload Shapefile** tool allows you to upload a shapefile to the Viewer.

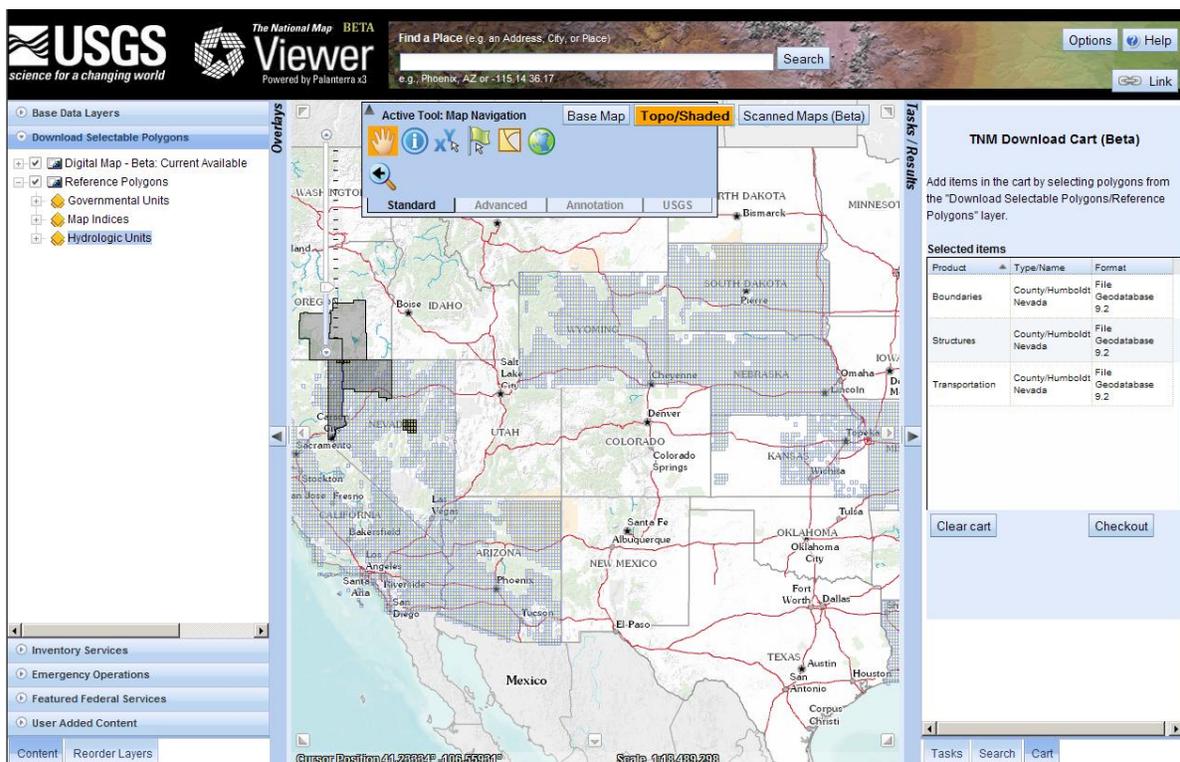
USGS Toolbar



1

1. The **Spot Elevation** tool will present elevation in feet and in meters when you click on any part of the map display. If you click on the triangle, a window will pop up, exhibiting elevation and the source.

Overlays and Tasks/Results Panes

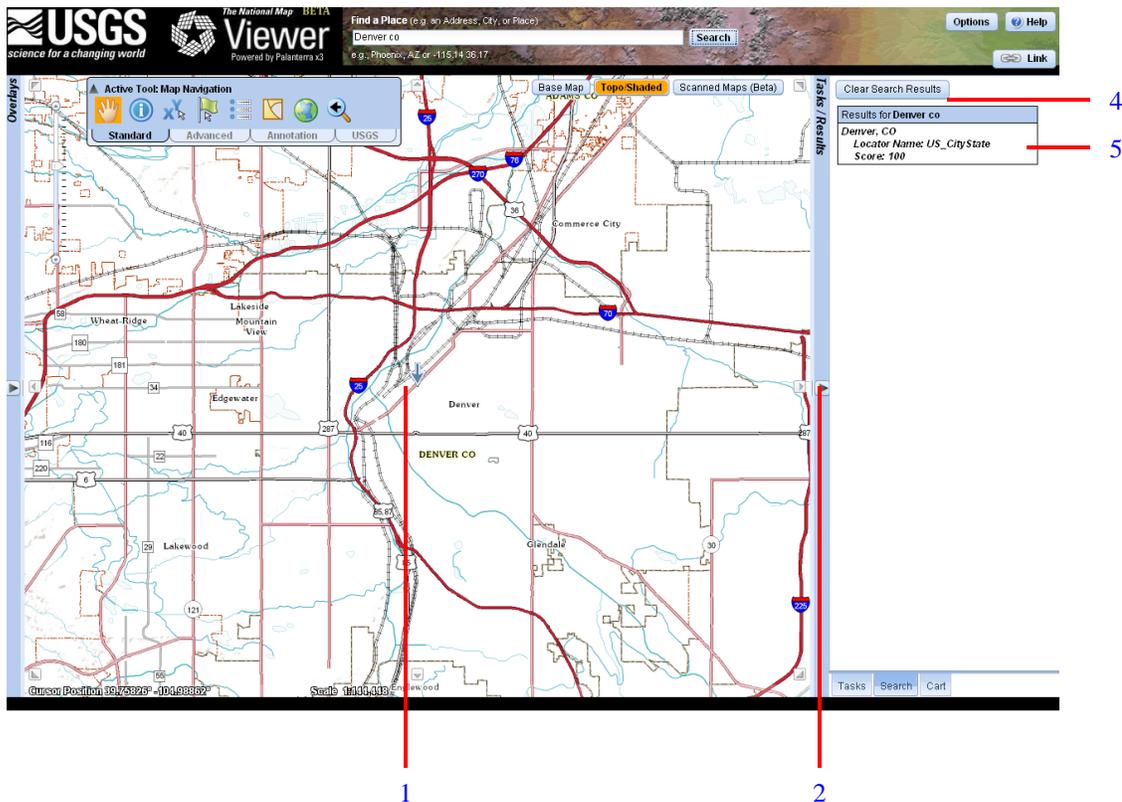


The accordion panels in The National Map Viewer are menus that can expand or collapse to let you interact with and analyze your data within the basemap.

- The **Overlays** pane, which is the left pane in your browser, is an accordion container that is a collection of accordion panels. You may click layers that display on the basemap on or off or right click each layer to receive more information or options.
- The **Tasks/Results** pane, which is the right pane in your browser, is a collection of title panes. Search information will display here as well as the **Download Cart**, as pictured above.

Any number of these panels can be visible at one time or none. Each panel can be visible and hidden by clicking the title bar of the panel.

Searching



You may locate any of the following by entering it in the **Find a Place** text box.

- City and/or State
- Latitude and Longitude
 - *Note: Please enter the latitude first, followed by a space and the longitude.*
- Addresses (*Future search option*)
- Landmark (*Future search option*)
- Kml file

Click the **Search** button .

1. An arrow  appears on the map display.
2. This expands and collapses the **Tasks/Results** pane.
3. The results from the search appear in the **Tasks/Results** pane under the **Search Results** panel.

*Note: Each search result is returned with a **Locator Name** and **Score** value. The **locator name** is the name of the locator that found the result. The **score** is a percentage value that indicates the accuracy of the search result.*

4. Click the **Clear Search Results** button  to clear the search results returned from the **Find a Place** search.

Appendix B

Useful Tips

Appendix B—Useful Tips

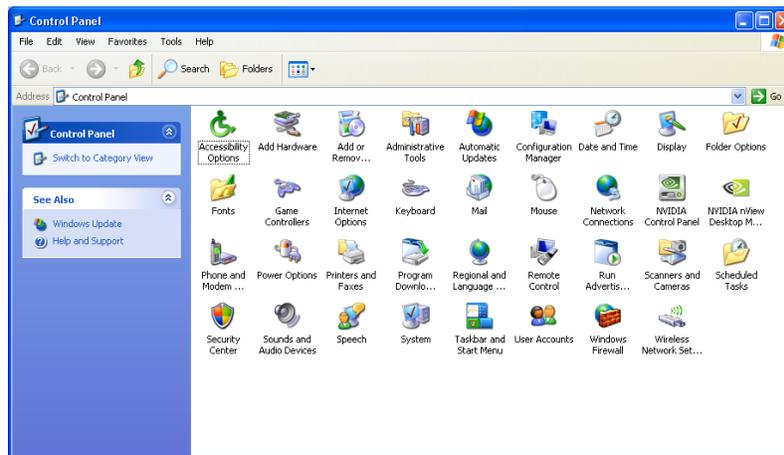
This document provides workflows to demonstrate useful tips when using the The National Map Viewer Web application.

How to change to 24-hour time format in Microsoft Windows

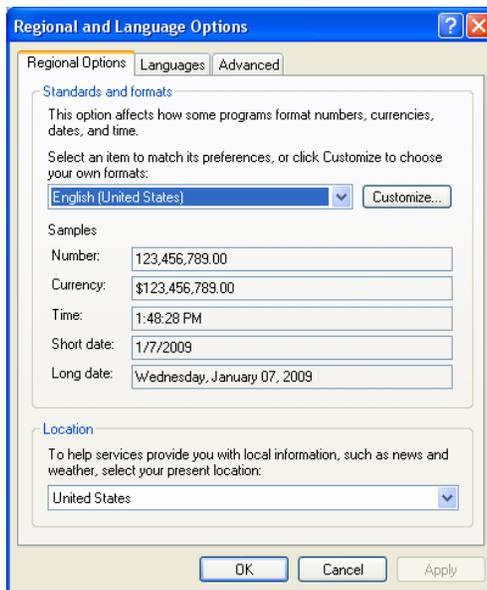
1. Click **Start**.



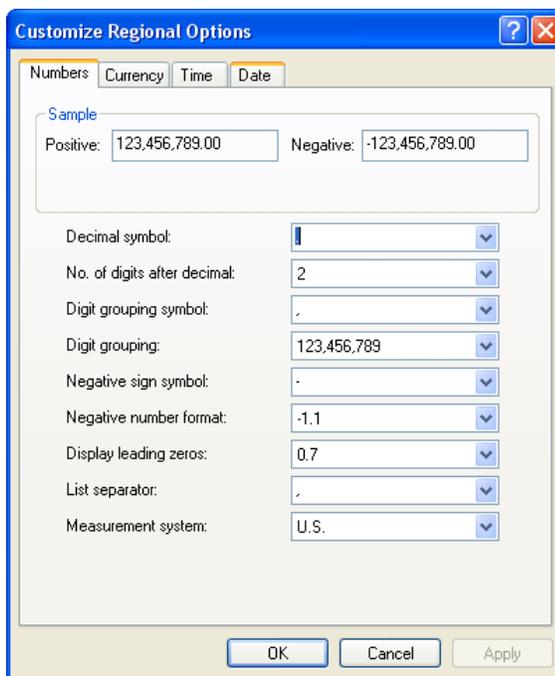
2. Click **Control Panel**.



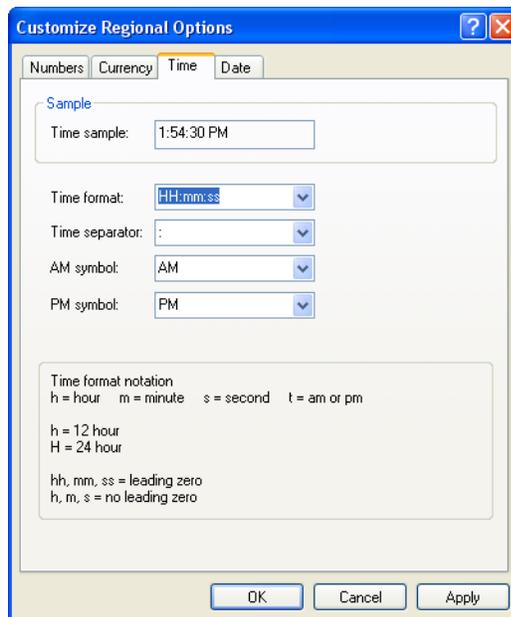
3. Double-click **Regional and Language Options** in Control Panel.



4. Click the **Customize** button on the Regional and Language Options dialog box.



5. Click the **Time** tab on the Customize Regional Options dialog box.
6. Select **HH:mm:ss** from the **Time format** drop-down list.



7. Click **Apply** on the Customize Regional Options dialog box.
8. Click **OK** on the Customize Regional Options dialog box.
9. Click **OK** on the Regional and Language Options dialog box.
10. The time format is now changed and should be in 24-hour format.



Appendix C

KML Support

Appendix C—KML Support

The National Map Viewer supports the following KML elements:

- Placemarks
- Icons
- Folders
- Descriptive HTML
- KMZ (compressed KML)
- Polylines and polygons
- Styles for polylines and polygons (including color and fill)
- Network links to import data dynamically
- Ground overlays and screen overlays

The KML parser silently ignores XML tags that it does not understand.

There are currently no size and complexity restrictions for KML rendering in The National Map Viewer.

Details about KML Support in Google Maps versus The National Map Viewer

The following table provides detailed information on which KML elements are supported in the Spiral 13 version of The National Map Viewer. Please refer to Google Maps documentation for the most accurate KML Support¹ and KML Elements Support² details.

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
<address>	No	No	
<AddressDetails>	No	No	
<Alias>	No	No	<Model> not supported
<altitude>	No	No	3D feature
<altitudeMode>	No	No	3D feature
<atom:author>	Yes	No	<atom> not supported
<atom:link>	Yes	No	<atom> not supported
<atom:name>	Yes	No	<atom> not supported
<BalloonStyle>	No	No	
<begin>	No	No	<TimeSpan> not supported
<bgColor>	No	No	<BalloonStyle> and

¹ Google Code, *KML Support*, <http://code.google.com/apis/kml/documentation/mapsSupport.html> (6 February 2009).

² Google Code, *KML Elements Supported in Google Maps*, http://code.google.com/apis/kml/documentation/kmlelements_in_maps.html (6 February 2009).

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
			<ListStyle> not supported
<bottomFov>	No	No	<PhotoOverlay> not supported
<Camera>	No	No	
<Change>	Partially	No	<Update> not supported
<color>	Partially	Partially	Not supported in <IconStyle>; <ScreenOverlay> and <GroundOverlay> not supported
<colorMode>	No	No	
<cookie>	No	No	
<coordinates>	Yes	Yes	
<Create>	No	No	<Update> not supported
<Data>	Yes	No	<ExtendedData> not supported
<Delete>	No	No	<Update> not supported
<description>	Yes	Yes	
<displayMode>	No	No	<BalloonStyle> not supported
<displayName>	No	No	
<Document>	Partially	Yes	
<drawOrder>	No	No	
<east>	Yes	Partially	<GroundOverlay> and <PhotoOverlay> supported; <Region> not supported
<end>	No	No	<TimeSpan> not supported
<expires>	Yes	No	<NetworkLinkControl> not supported
<ExtendedData>	Partially	No	
<extrude>	No	No	3D feature
<fill>	Yes	Yes	
<flyToView>	No	No	
<Folder>	Yes	Yes	
<geomColor>	No	No	Deprecated
<GeometryCollection>	No	No	Deprecated
<geomScale>	No	No	Deprecated
<gridOrigin>	No	No	<PhotoOverlay> not supported
<GroundOverlay>	Yes	Yes	
<h>	Yes	No	Deprecated
<heading>	Yes	No	
hint	Yes	No	
<hotSpot>	Yes	No	
<href>	Yes	Yes	
<httpQuery>	No	No	

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
<Icon>	Yes	Yes	Cannot be rotated
<IconStyle>	Yes	Partially	<colorMode>, <heading>, <hotSpot>, and <scale> not supported
<ImagePyramid>	No	No	<PhotoOverlay> not supported
<innerBoundaryIs>	Yes	Yes	
<ItemIcon>	No	No	<ListStyle> not supported
<key>	No	No	<StyleMap> not supported
<kml>	Yes	Yes	
<labelColor>	No	No	Deprecated
<LabelStyle>	No	No	
<latitude>	Yes	No	<Camera>, <Location>, and <LookAt> not supported
<LatLonAltBox>	No	No	<Region> not supported
<LatLonBox>	Yes	Yes	
<leftFov>	No	No	<PhotoOverlay> not supported
<LinearRing>	Yes	Yes	
<LineString>	Yes	Yes	
<LineStyle>	Yes	Yes	
<Link>	Yes	Partially	Supported in <NetworkLink>; <Model> not supported
<linkDescription>	No	No	
<linkName>	No	No	
<linkSnippet>	No	No	
<listItemType>	No	No	<ListStyle> not supported
<ListStyle>	No	No	
<Location>	No	No	<Model> not supported
<Lod>	No	No	<Region> not supported
<longitude>	Yes	No	<Camera>, <Location>, and <LookAt> not supported
<LookAt>	No	No	
<maxAltitude>	No	No	<Region> not supported
<maxFadeExtent>	No	No	<Region> not supported
<maxHeight>	No	No	<PhotoOverlay> not supported
<maxLodPixels>	No	No	<Region> not supported
<maxSessionLength>	No	No	
<maxWidth>	No	No	<PhotoOverlay> not supported
<message>	No	No	<NetworkLinkControl> not supported
<Metadata>	No	No	Deprecated
<minAltitude>	No	No	<Region> not supported

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
<minFadeExtent>	No	No	<Region> not supported
<minLodPixels>	No	No	<Region> not supported
<minRefreshPeriod>	No	No	
<Model>	No	No	
<MultiGeometry>	Partially	No	
<name>	Yes	Yes	
<near>	No	No	<PhotoOverlay> not supported
<NetworkLink>	Yes	Yes	
<NetworkLinkControl>	Partially	No	
<north>	Yes	Partially	<GroundOverlay> and <PhotoOverlay> supported; <Region> not supported
<open>	Yes	No	
<Orientation>	No	No	<Model> not supported
<outerBoundaryIs>	Yes	Yes	
<outline>	Yes	Yes	
<overlayXY>	No	Partially	x/yunits attribute value of "fraction" and "pixels" supported; "insetPixels" not supported
<Pair>	No	No	<StyleMap> not supported
<phoneNumber>	No	No	
<PhotoOverlay>	No	No	
<Placemark>	Yes	Yes	
<Point>	Yes	Yes	
<Polygon>	Yes	Yes	
<PolyStyle>	Yes	Yes	
<range>	Yes	No	<LookAt> not supported
<refreshInterval>	Partially	Partially	Supported in <Link> only; not in <Icon>
<refreshMode>	Yes	Yes	Supported for <onInterval> and <onChange>, not <onExpire>
<refreshVisibility>	No	No	
<Region>	No	No	
<ResourceMap>	No	No	<Model> not supported
<rightFov>	No	No	<PhotoOverlay> not supported
<roll>	No	No	<Camera> and <Model> not supported
<rotation>	No	No	<LatLonBox> and <PhotoOverlay> not supported
<rotationXY>	No	No	<ScreenOverlay> not supported

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
<Scale>	No	No	<Model> not supported
<scale>	No	No	
<Schema>	No	No	
<SchemaData>	No	No	
<ScreenOverlay>	Yes	Yes	
<screenXY>	No	No	
<shape>	No	No	<PhotoOverlay> not supported
<SimpleData>	No	No	<SchemaData> not supported
<SimpleField>	No	No	<Schema> not supported
<size>	Yes	Yes	
<Snippet>	Yes	No	
<south>	Yes	Partially	<GroundOverlay> and <PhotoOverlay> supported; <Region> not supported
<state>	No	No	<ListStyle> not supported
<Style>	Yes	Yes	
<StyleMap>	No	No	Rollover (highlight) effects not supported
<styleUrl>	No	No	<StyleMap> not supported
<targetHref>	Partially	No	<Model> and <Update> not supported
<tessellate>	No	No	3D feature
<text>	No	No	<BalloonStyle> not supported
<textcolor>	No	No	<BalloonStyle> not supported
<tileSize>	No	No	<PhotoOverlay> not supported
<tilt>	No	No	
<TimeSpan>	No	No	
<TimeStamp>	No	No	
<topFov>	No	No	<PhotoOverlay> not supported
<Update>	Partially	No	
<Url>	Yes	Yes	Deprecated
<value>	Yes	No	<ExtendedData> not supported
<viewBoundScale>	No	No	
<viewFormat>	No	No	
<viewRefreshMode>	Partially	Partially	"never" and "onStop" supported
<viewRefreshTime>	Yes	Yes	
<ViewVolume>	No	No	<PhotoOverlay> not supported
<visibility>	Partially	No	
<w>	Yes	No	Deprecated

KML Element	Supported in Google Maps	Supported in National Map Viewer	Comments (on The National Map Viewer KML Support)
<west>	Yes	Partially	<GroundOverlay> and <PhotoOverlay> supported; <Region> not supported
<when>	No	No	<TimeStamp> not supported
<width>	Yes	Yes	
<x>	Yes	No	Deprecated
<y>	Yes	No	Deprecated