National Geological Database Portal *Ver. 1*

User Guide

Contents

Overview

National Geological Database Portal from Saudi Geological survey is a Web-based geospatial data portal application that acts as a client for geospatial and geosciences information & services. It is used to find, view, and query geosciences data of the Kingdom published by SGS as web services & maps and to integrate multiple sources into a single map view that can be easily navigated.

The NGD Portal simplifies the process of finding, connecting to, and displaying spatial data published through Web services. It ensures smooth browsing through intuitive navigation controls and technical advances such as asynchronous communication, which ensures that panning and zooming are not interrupted by having to wait for servers to respond. The client's utility is enhanced by additional tools such as measuring area and distance, controlling the appearance of individual map layers, and saving and recalling the current map context.

Key Features

The following are key features of NGD Portal

- View Published Geological, Mineral Occurrences & SGS Topographic Maps
- Simultaneously display maps from different map layers, including the transparency adjustment for a single layer.
- Print map.
- Query for Mineral Occurrences Database.
- Query for datasets in the National Geological Database Catalog.
- Provide intuitive mouse control for simple map navigation and better user experience.
- Measure distances and areas with measuring functions within the map: 2D.
- Save and restore current maps views
- Show overview window.
- Search and browse data (raster, vectors, services, and business data) via **Explore Data Catalog** Tab from **National Geological Database Catalog** archive
- Provides 2D map control supporting the display of a base map and rendering other supported data sources properly.
- Multilingual.

Working with NGD Portal Basic Functions

Navigating the Map

Navigating the maps displayed in NGD Portal is intuitive and can be performed in many ways using different tools. Besides navigating the map with a mouse, you can use tools such as **Navigator**, **Zoom in/out**, and **Zoom by rectangle,** or the buttons that allow you to view the previous/next map state.

All tools for navigating the map are available on the toolbar except **Navigator**, which is located in the upper-left corner of the map window.

You can use one of the following methods to navigate the map in 2D mode:

- Panning around with a mouse. To move the map, hover over the map window. The mouse cursor changes to a hand . Click and hold the left mouse button to move the map. Release the mouse button to finish shifting the map and to set a new view.
- Use the **Navigator**. Hover over the **Navigator** and click the **Navigator** buttons to move the map around. With the **Navigator** you can move the map in four directions (N, E, S, W).

Four navigator buttons used for moving the map
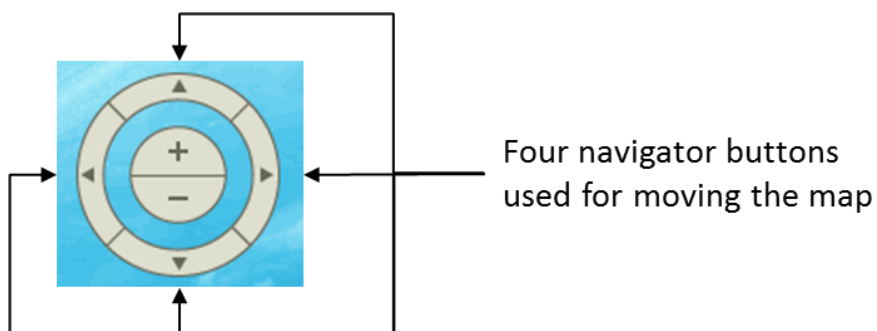
- Click **Previous map view** and the **Next map view** to return to a previous map view or to go to the next map view (these buttons are not available in 3D mode).

Navigator Toolbar

Slidebar
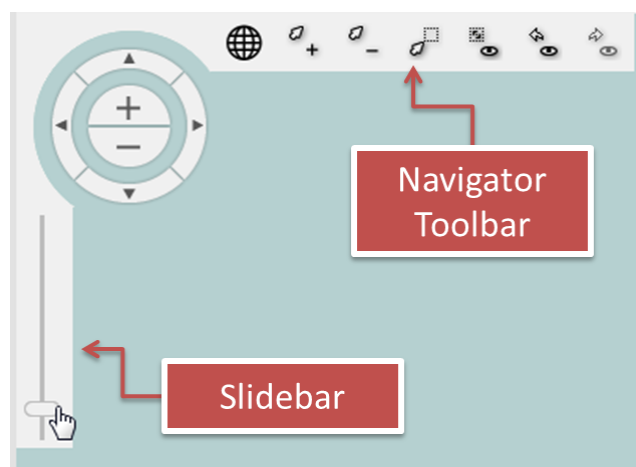
Changing the Scale

You can change the scale of the map in several ways, as follows:

1. Use **Zoom in** or **Zoom out** on the **Navigator** toolbar:

   o Click [image] to zoom in.

   o Click [image] to zoom out.

2. Use the **Navigator** slider rule. To zoom in, move the slider up. To zoom out, move slider down.

3. Use **Zoom by rectangle** [image] to draw a rectangle on the map. The map fits to the drawn shape. Zoom by rectangle works only in 2D display mode.

4. Use **Set the map scale** [image] and type a value for the map scale denominator in the field 1: 39487701 .

5. To restore the default map view (scale and bounding box), click **Fit all** [image].

6. Click **Previous map view** [image] and **Next map view** [image] to return to a previous map view or to go to the next map view.

7. Use the mouse scroll wheel.

Using the Overview Window

The **Overview** window shows the range of the current map view on the thumbnail map. It can be used for quickly moving your position on the map.

To change the display area you simply draw a rectangle with the cross-hair cursor in the **Overview** window, or move the rectangle by holding its edge with the hand-style cursor.

In the context menu (available under the down arrow) in the **Overview** window, the following additional settings are available:

- **Translucency** – A translucency level for the **Overview** window can be set with the slider or by typing a value in the field.

- **Zoom** – Use to adjust the range of the displayed map. The zoom level changes when you select **Zoom** and set the appropriate scale factor.

Selecting Data on the Map

Tools for selecting objects displayed on the map are grouped on the **Selection** tab. You can select objects by clicking on a selected object or by drawing different types of geometries.

The following functionalities used for selecting objects are available in Geospatial Portal:

Icon	Name	Description
	Select features by point	Selects all locatable objects in a designated point.
	Select features by polyline	Selects all locatable objects that intersect with drawn geometry.
	Select features by polygon	Selects all locatable objects within the drawn geometry and intersecting with it.
	Select features by rectangle	Selects all locatable objects within the drawn rectangle geometry and intersecting with it.
	Add selected features to clipboard	Adds the selected features to the clipboard.
	Clear selection	Removes all selections from the map.

In order to add another features to selection press **CTRL** or **SHIFT** key and use any of selection tool. To remove one or more features from selection press right **ALT** key and use any of selection tool available in Selection toolbar.

Objects on the map can also be selected by single clicking on the desired object when the mouse cursor is in the arrow state. Selected objects can be added to the clipboard to further work with the data.

- Functionality for selecting objects is available only for vector features drawn on the map as result of the search / analysis query.

Obtaining Information about Features

The **Feature Info** command ![i] lets you obtain information about the objects displayed on the map.

To open the property dialog box for a feature selected on the map, go to the **Tools** tab on the toolbar and click the **Feature Info** command. When the cursor changes to a cross hair, click on the object on the map.

Performing Measurements on the Map

Geospatial Portal provide a range of tools for performing measurements on the map. The measurements can be performed in both Geospatial Portal view modes: 2D and 3D. Tools for measuring distance, area, and points (read point coordinates) are grouped on the toolbar in the **Measurements** tab.

| Icon	Name	Description
	Measure point	Lets you read the geographical coordinates of a designated point. Coordinates of a point are displayed on the map.
	Measure distance	Lets you measure the distance between two points or multiple points.
	Measure area	Lets you measure the polygon area. Distance between points is also measured.
	Clear measures	Clears all measurements from the map.
	Show/Hide Measurements	Toggles on/off the visibility of labels with the values for the measured objects.

Below are the pictures showing the sample measurements performed on a 2D map.

The measurements can be performed in metric or imperial units. User can choose the type of units on the **Settings** tab using the **System of measurement** pull down list.

Working Map Content Layers & Legend

The legend for the maps displayed in the map window is shown in the **Map Content** panel on the **Sidebar**. Here you can manage your legend, change the layers order, modify a layer styles, and perform other tasks concerned with the map view in the map window.

Map content consists Layers.

In the **Layers** tab, the layers that are currently available in the map window are shown.

The order of items in the **Layers** tab reflects the sequence of layers corresponding to the items on the map. The first element (top) in the list corresponds to the top layer on the map.

To change the order of the layers on the map, use drag and drop to change the order of the corresponding elements in the **Layers** tab.

You can control the display of a layer with a check box next to the layer name. Check the box to display the layer and clear the box to turn off the corresponding layer on the map.

Layer properties such as display mode, locatable, translucency, and format can be set in the **Layers** tab. The properties possible to be set depend on the service (data source). All settings for layers are accessible from the context menu for the selected item.
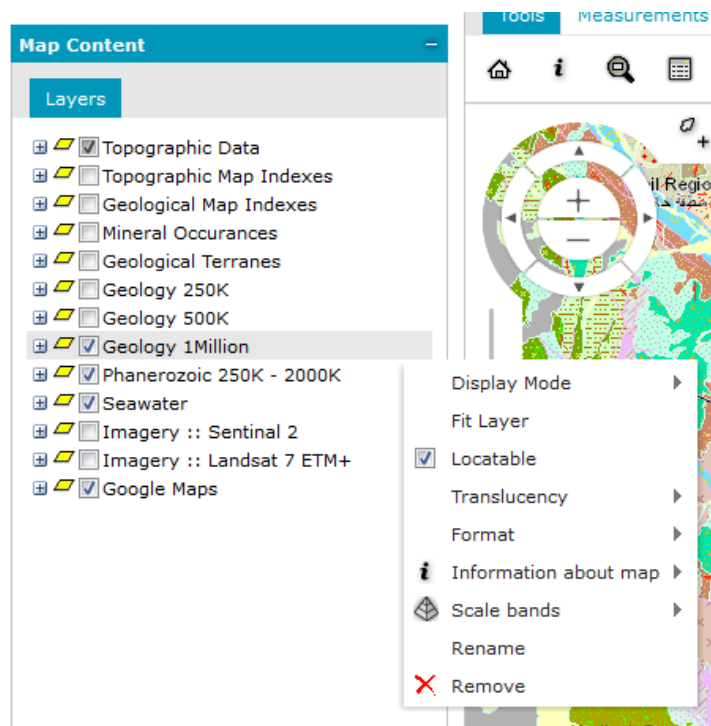
The following features and commands for layers are available:

Menu Item	Description
Display mode	Sets options for the quality and efficiency for displaying layers on the map. Two modes are available: buffer view and tiling.
Fit layer	Adjusts the map window so the entire layer is visible.
Locatable	If enabled, highlights and selects features on the map. This is required for the **Feature info** command to work properly.
Translucency	Defines the transparency for the layer.
Format	Changes the format in which data is presented on a map, for example, *.png*, *.jpeg*, *.svg*, *.svgz*, and *.gif*.
Rename	Changes the name of the layer.
Remove	Removes a layer from the **Map Content**. You can also remove layers by selecting the layer and clicking **Delete**.
Filter	Filters the vector data by attribute values. It applies only to data derived from sources such as Analysis / Vector Map Services

The graphic indicator (icon), along with a message that appears when you hover over the entry, is shown in **Map Content** if the number of objects displayed on the map is limited by the MaxFeatures parameter for Vector Data service. The message for the MaxFeatures indicator shows what the limitation is.

In case more restrictions apply to a given feature class (for example, the data is out of scale), the message for the **MaxFeatures** limitation will be visible only when you hover over the graphic indicator icon. Messages for other limitations will be displayed when you hover on an entry in the legend.

Changing the Layer Display Style

To change the display style for a vector data layer coming from **Advanced Spatial Search** or **Mineral Search / Analysis** from the Legend in Map Contents:

1. Double click on the pictogram for the selected layer The **Style** dialog box opens.
2. In the **Style** dialog box, choose the geometry type appropriate for a given layer (for example, the area style as shown in the picture below), and select the style type to be defined.
3. Define the style using the available controls, such as **Width**, **Translucency**, **Color or Line Type**
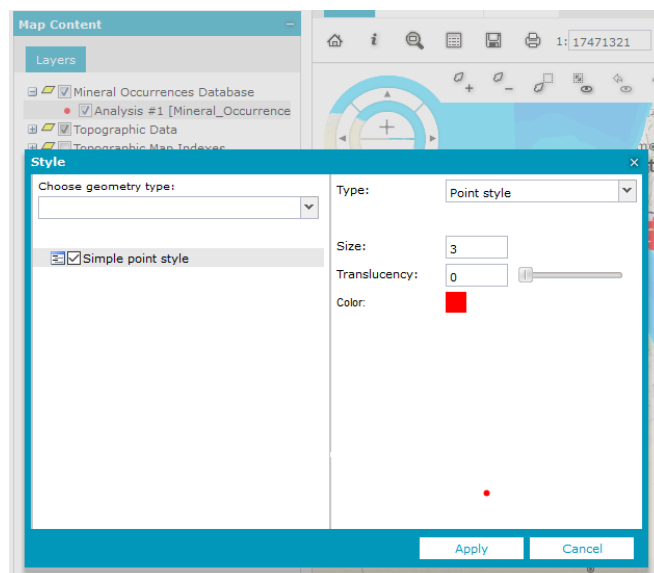
4. After defining the style properties, click **Apply**.

   The functionality for changing the style for displayed layers is accessible only for layers that come from services which support style changing and not all Map Layers.
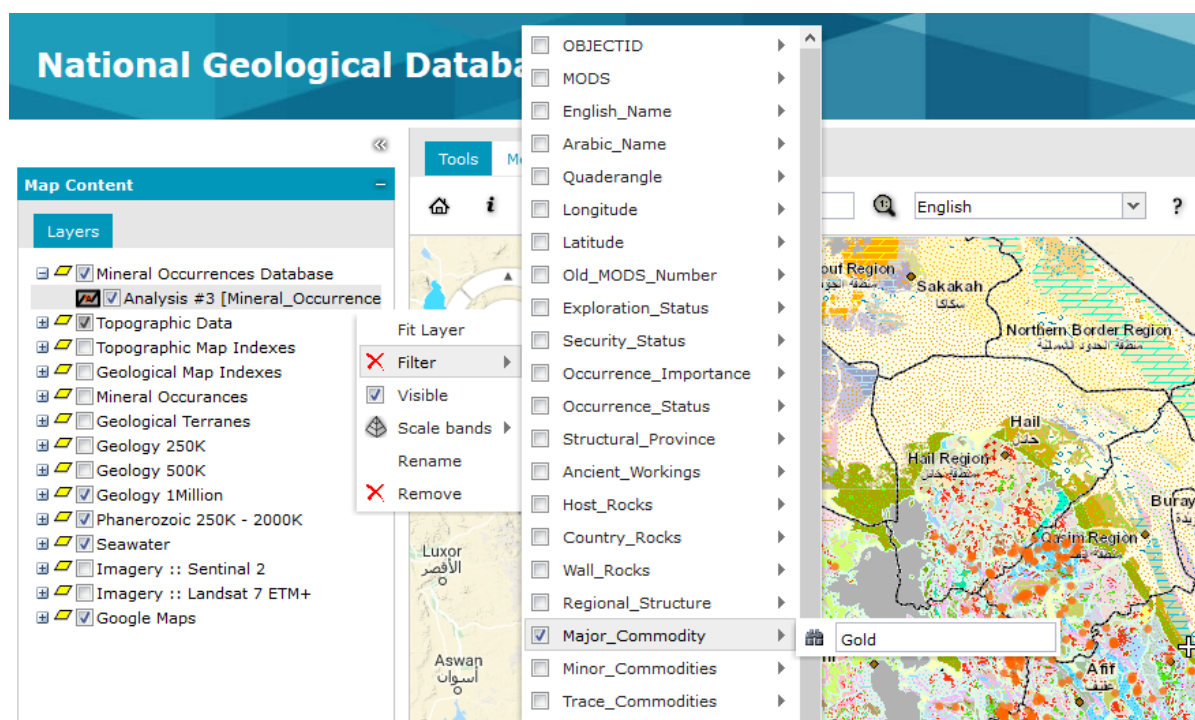
Layer Filtering

Vector data that comes from data sources such from Spatial Search or Minerals Search can be filtered in the map window. The filter can be set separately for every feature class layer. Objects can be filtered in the map window using the attributes available for them.

To define an attribute filter for a displayed layer:

1. Open the drop-down menu for the selected layer, and then select **Filter** to display a list of attributes for a given feature class.

2. Select an attribute for filtering, type the appropriate attribute value in the field, and then click **Apply** to filter the map data.
3. The filtering operation is based on a simple filtering with the *equal to* attribute operator.

   Attribute operators such as *greater than* and *less than* can be available for some attributes (other than text type). Depending on the attribute type, the field for providing their values may vary. For some services, for example WFS, only one operator – *equal to* – is available regardless of the field type.

   Below is the sample of the filter field for text and integer type attributes.
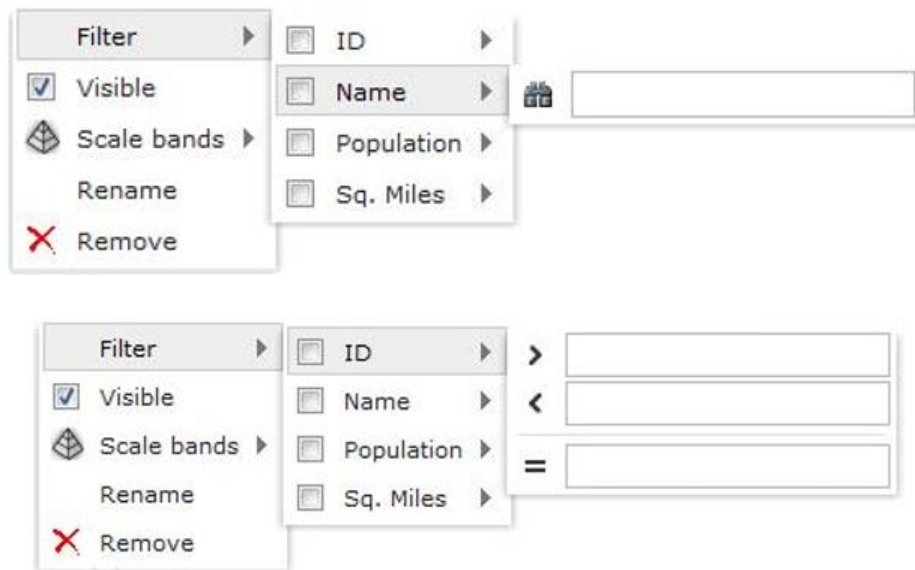
If more than one attribute is selected for filtering, the logical operator for the selected attributes is AND.

4. To cancel the filter, click the ✕ button next to the **Filter** menu.

Working with the Data Window and the Clipboard

In the data window, you can display feature classes and attribute values for selected data sources (for example: mineral Occurrences Database from Advanced Spatial Search for quick search from SEARCH MINERALS tool).

1. To open the data window, click **Data window** on the **Tools** tab.

2. To display data in the data window, from the **Classes and queries** list, select the items to be added to the data window and click **Add**.

   Data in the data window is presented in tabular form. One window of data can contain many tabs with displayed data. Data for one class is presented on a single tab.

   Each data view lets you:

   - Sort data by selected attribute (column)
   - Hide and un-hide selected columns
   - Change the column size
   - Change the column order
   - Select a number of rows (data records)

   Use commands from the context menu for each column to sort the data and to select columns to be displayed.

Selecting records in the data window will automatically highlight the corresponding objects on the map, on condition that they have been previously displayed in the map window. Depending on the option you select in the **Settings tab > For items in select set** group, you can do the following:
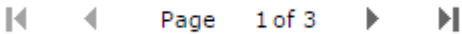
- View objects at the current scale
- View objects in the center of the map window at the current scale
- Match a view to the selected object and zoom in by a specified value

In a data window you can also:

- Add selected features to clipboard
- Export all features to a CSV file
- Export the selected features to a CSV file
- Show the properties form for the selected feature

(Some of the tools are currently restricted in the Public Version of NGD v1. They may be provided in the future versions.)

The following functions are grouped at the bottom of data window:

- Navigate between pages of the data window. Click the arrows or type the required page number in the box |◄ ◄ Page 1 of 3 ► ►| .
- Move selected features to the clipboard. To move the selected feature to the clipboard, select records in the data window, and click **Add to clipboard** . To refresh the data window, click **Refresh** .
- Export data from a data window to a CSV file. To export, click **Export all features to a file** or **Export selected features to a file** .

  (Export Tools is currently restricted in the Public Version of NGD v1. They may be provided in the future versions.)

For each tab of the data window, buttons to perform the following actions are located in the **Action** column:

- **Properties** - Click to view the feature **Properties** window.

- o **Add to clipboard** 🖼 - Click to add single features to the clipboard.
- o **Zoom** 🔍 - Click to zoom to the selected feature on the map.
- o **Remove** ✕ - Click to remove a selected feature from the database of connected service (This functionality does not work as data sources are secured read only)
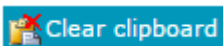
For some sources (for example, Spatial Searches), you can move features and query results to the clipboard. Features from the data window can be moved to the clipboard individually or in bulk. Data in the clipboard is presented on the **Clipboard** tab. Records in the **Clipboard** are grouped in tables. All records from one feature class are presented in one table.

The following operations are possible for data in each table:

(Some of the tools are currently restricted in the Public Version of NGD v1. They may be provided in the future versions.)

- o Remove all objects from the clipboard
- o Remove selected objects from the clipboard
- o Export selected objects to a CSV file
- o Export all objects to a CSV file

Removing objects:

- To remove all objects from tables in the clipboard, click **Remove all features from clipboard** 🖼. Buttons used for removing objects are available for each table and can be applied only for data from the common table.
- To remove data from all tables in the clipboard, click **Clear clipboard** 🖼 Clear clipboard.
- To remove single records from a table in the clipboard, click **Remove from the clipboard** ✕ in the **Action** column.

Showing Client Location

Click **Where am I?** to show your location on the map. This option is available on the **Tools** tab.

 This feature uses the location mechanism of the Web browser in which the Portal is run. Location method depends on the algorithms used by the particular Web browser and applied device settings, particularly on mobile devices the location can be based on GPS and/or Wi-Fi & mobile network.

 Where Am I? feature in Portal running on the Chrome, Firefox, Opera and iOS Safari Web browser works only with secured connections (HTTPS). This restriction applies only to the Chrome Web browser starting with version 50, Firefox Web browser starting with version 55, Opera starting with version 39 and iOS Safari starting with version 10.2 as the geolocation is no longer supported on non-secured connections.

Sharing a Map

The **Show a link to the map** command provides a link that is a reference to the current view of the presented map. To get a link to the map, on the **Tools** tab, click .

 Portal window adapts to the screen resolution/ browser / tiled services composed in the map, so the exact map range may not be available while sharing link to the map. It is still possible to use the **Link** command from **User Maps** feature (see Creating and Saving User Maps and Workspaces).

Using Advanced Features

Performing Analyses on Vector / Feature Data

The **Analyses** panel called **Advanced Spatial Search** on the sidebar lets you perform a series of attribute or spatial queries on vector data from the selected / configured data sources.

💡 *Currently **Mineral Occurrences Database** has been deployed to NGD Portal for Advanced Spatial Search / Analysis, in later subsequent version more Databases will be available overtime.*

A. Defining and Executing Analyses

To perform a new analysis from **Advanced Spatial Search** Panel

1. From the first top drop-down list, select **Create new** option.

   💡 **Create new** is a default option. If no queries were performed, only the **Create new** value is available.

2. From the **Select features in** drop-down list, select the feature class for which to perform analysis.
3. Set the analysis parameters:
   1. Check **Where filter is** to perform an attribute query and to set the required parameters.
   2. Check **Spatial filter** to perform a spatial query and to set all the required parameters.

   💡 Available spatial and attribute parameters and operators may vary depending on the data source type. The features can be filtered spatially with current map window, drawn geometry and selected features using available operators (for example intersects, overlaps, touches, contains, disjoint, crosses etc.).

4. Type a name for the analysis layer, and set the style in which the results should be presented on the map.
5. In the **Display** field, specify the query name. This name is visible in the **Map Content** tab.
6. To change the style in which the analysis results are displayed on the map, check **With style** and click 🖼. If the style is not defined, the data is presented with a default style.
7. Click **Execute** to perform an analysis.

   Data appears in the map window and in the **Map Content** tab. Response time depends on the quantity of data that is loaded.
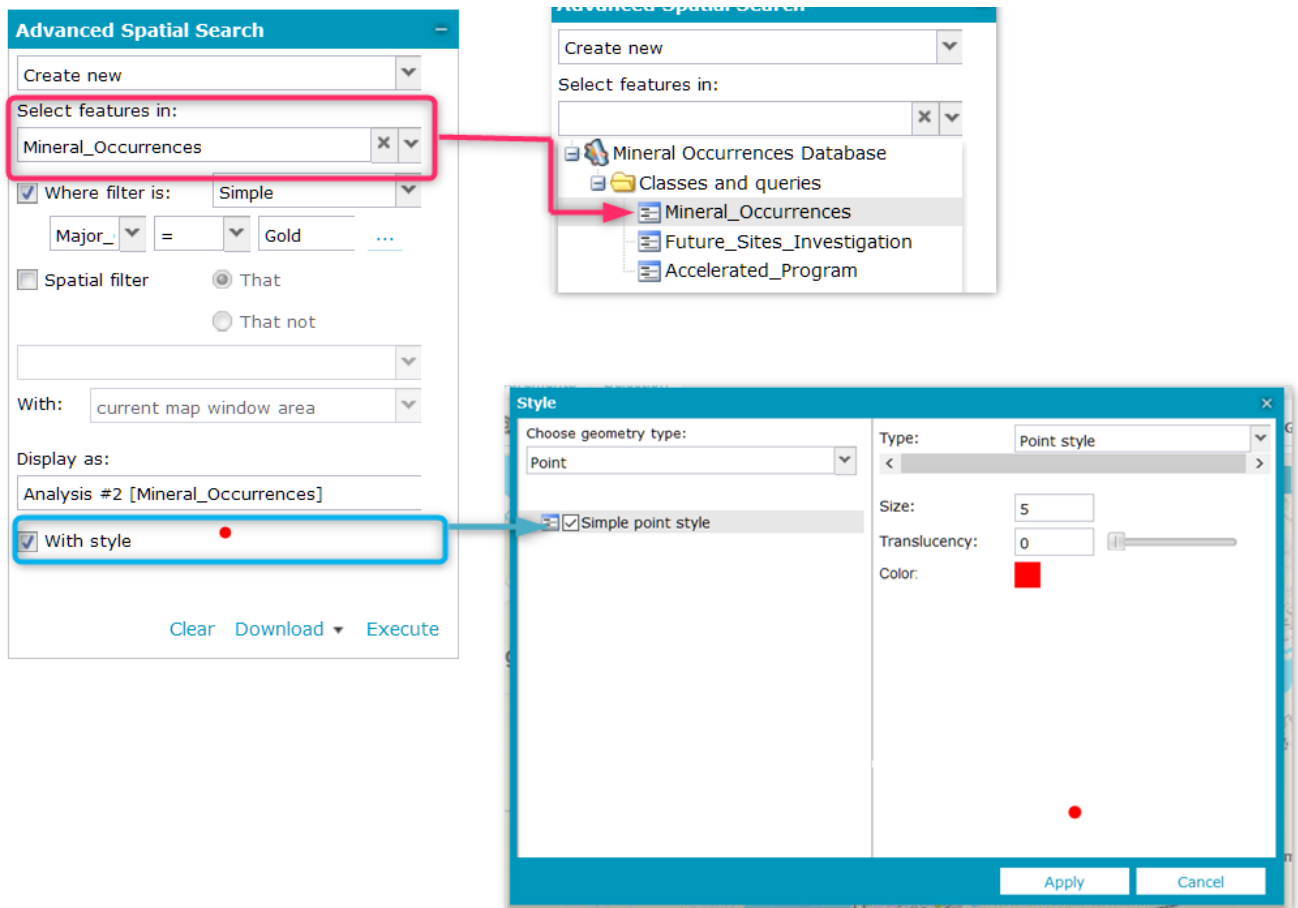
- When performing attribute queries on data coming from WFS service, an additional IN and NOT IN operators are now available in User Interface.
- IN and NOT IN operators are not a part of neither OGC WFS nor OGC Filter Encoding specification. They were introduced in the User Interface for practical reasons and in case of WFS they are implemented as multi-level OR queries. Values should be comma separated in the input field.

B. Updating Analyses

Once executed, analysis can be altered and updated according to your needs. You can freely change the parameters set for the analysis and can immediately see the updated results on the map and/or data window.

To update an analysis:

1.   Go to the **Analyses** tab.

2.   From the first drop-down list, select an analysis to update. This list is populated with all executed analyses. (In case no analyses have been performed so far, only the **Create new** option will be available.)
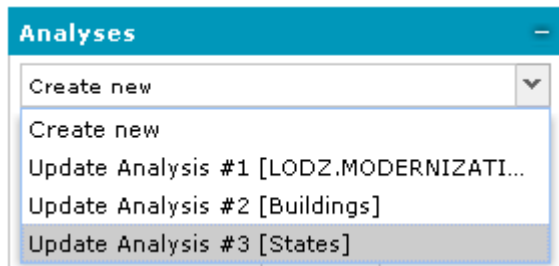
All fields for the **Analyses** dialog box are populated with values used for earlier performed and selected analyses.

3.   Alter the required parameter values for the selected analysis. You can also change the parameter used for a given analysis and change the display style and name if needed. To clear all fields, click **Clear**.

4.   Having provided all changes to the analysis definition, click **Update**. Results of the analysis will be updated according to the set parameters and their values. In **Map Content**, the entry for an altered analysis will remain unchanged (except for the pictogram and the layer name provided that modified).

The button **Update** changes to **Execute** when the **Create new** option is selected.

It is also possible to select an analysis to update directly from the **Map Content** tab. For a selected analysis layer from the context menu, select the **Update analysis** option. The **Analyses** tab will be automatically opened with all fields filled in for the selected query.
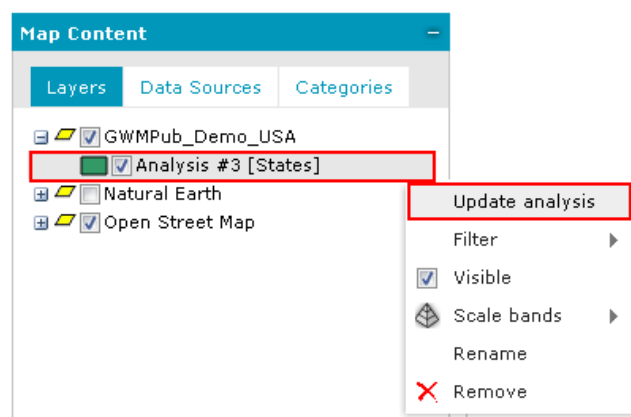
Deleting an Analyses:

All executed analyses are kept in Portal (unless you refresh the application) and can be modified and/or displayed later, even if they were earlier removed from the **Map Content** and/or **Data Window**.

Analyses that are no longer needed can be deleted permanently. In order to do this, select the analysis to be removed, and click **Delete** on the bottom of the dialog box.

The **Delete** button is available on the form only if an analysis is selected from the list.

In order to create a new analysis based on an existing one:

1.   From the top pull-down list, select the analysis to be the base for a new one. All fields in the dialog box will be filled in with values proper for the selected analysis.

2.   Modify any required parameters if needed.

3.   From the top pull-down list, select **Create new**. The button **Update** changes to **Execute**.

4.   Click **Execute** to create a new analysis.

Creating and Saving User Maps and Workspaces

Registered and logged in users can save their own map compositions and workspaces. Workspaces and maps are stored in a user profile and are immediately available after user log on, but they also can be saved to a file. The user profile data are stored on the server where Portal is installed and instantiated. A map is a single composition of several layers that may come from different data sources; a workspace can be understood as a container for several maps. The **User Maps** feature is used to save maps and workspaces within a configuration.

To add a Workspace or Map:

1.   Click **User Maps** 🖫 on the **Tools** tab. The **User maps** window opens.

2.   In the **User Map** window, you can add and manage single maps and workspaces (a collection of maps).

You can add maps and workspaces as follows:

a. **Add from the map window**:

To add a map or workspace from a map window: From the **User maps** dialog box, **Maps/Workspaces** menu, select **Add > From map**. This method lets you save the state of all displayed layers and the extents for all map variants.

Save credentials of connected data sources option - If enabled, saves all credentials for authorized services used in a created map or workspace. If the option **Save credentials of connected data sources** was enabled while creating the workspace or map, Portal will try to load and initialize all services with the credentials saved and used earlier. If the provided credentials fail, an attempt to initialize services as an anonymous user will be made.

💡   When another map is added to the existing workspace with the **Save credentials of connected data sources** option, the credentials will be saved for the whole workspace (even if previous maps have been added to the workspace without credentials).

b. **Add from an exported file**:

To add from an earlier exported file: From the **User maps** dialog box, **Maps/Workspaces** menu, select **Add > From gpm/gpw file**.

A map file has the *.gpm* extension, and a workspace has the *.gpw* extension.

The **Add** command is not available in the context menu for single maps within a created workspace or for single maps in the **Maps** group.

3. The workspace within a map(s) or a single map is saved and kept in the logged Portal user profile on the *local machine cache only in this version 1.*

Since current Version of NGD portal does not have user registration process and is open public data visualization, hence the save of workspaces and maps is supported for local machine / browser only. If the cache is cleared the saved maps are cleared as well.

User Maps and Workspace Functions and Commands:

Maps and workspaces have a menu with the following functions and commands:

▪ **Display** – Displays selected maps or workspaces.

When displaying the workspace, the default (first) map will be shown in the map window and **Map Content**, but the map selector (drop-down list or buttons depending on the Geospatial Portal configuration) will be populated with all maps from a given workspace.

▪ **Public** – Activates the **Link** function and makes the map public so that it is possible to share it among other portal users.

Always make your workspace or map public if you intend to use them in the starting configuration.

▪ **Link** – Gives you a direct link to a map that can be forwarded to another user. Also returns the workspace or map ID that can be used in the **Administration Console** while preparing the starting configuration for Geospatial Portal.

▪ **Download** - Saves the workspace or map to a file.

▪ **Rename** – Changes the name of a map or workspace.

▪ **Remove** – Removes a map or workspace.

▪ **Properties** – Sets such properties as **Map ranges**, **Predefined scales**, **Scale bands,** and **Scale ranges**

▪ **Map ranges** – Map ranges (bounding box) for common coordinate systems are used by the **Fit all** function. When you display the map and click **Fit all,** the map area is adjusted to the extent specified in the fields [**X min**], [**Y min**], [**X max**], and [**Y max**].

▪ **Predefined scales** – Lets you add predefined scales for saved maps. When you display a map with predefined scales, a predefined list appears in the field for changing the scale. You can also give any value of the denominator of the scale in the box.

To add predefined scales, select **Properties** for the map. On the **Predefined scales** tab, click **Add** and type a scale denominator. Click **Save**. Next display the map (by selecting the **Display** command). A drop-down list with predefined scale options is provided.
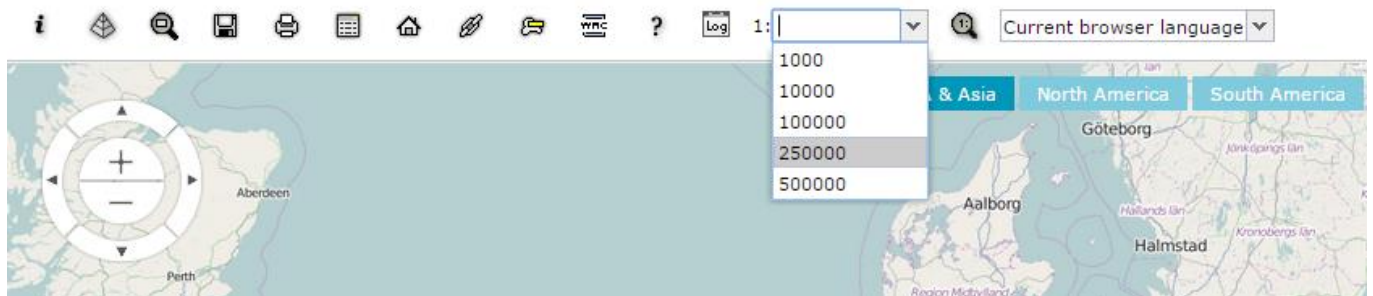
- **Scale bands** – Lets you specify the scale in which different layers of the map will be displayed. To add a scale band, click **Add** and provide a name for the scale band and scale denominator. You can decide which layers should be displayed in which scale bands. To do this, run the tool for the scale band settings in the **Tools** toolbar.

- **Scale range** – Lets you specify a range of scales in which the entire displayed map is available, regardless of scale band settings for single layers. Data can only be shown on scales containing values between the minimum and maximum scale that you specify.

For a workspace, the **Properties** command allows you to add/remove the Coordinate Reference System and to define such parameters as axes direction and whether the given CRS is geographic or not.

The CRS list in the **Coordinate reference system** tab corresponds to the coordinate system list on the **Settings** tab. You can add a CRS or remove a CRS from the **Coordinate reference system** list by using the **Add** and **Remove** buttons. The **Add** button opens a **Spatial Reference System** where you can find and add coordinate systems to the list.

Once the CRS is added for the workspace, the appropriate entries (CRS) appear in the properties for all child maps for the given workspace in the **Map ranges** tab. Displaying the workspace using the **Display** command automatically adds the CRS, defined for this workspace, to the **Coordinate System** list visible on the **Settings** tab in the **Sidebar**.

Current version of NGD Portal does not have Settings sidebar available to change coordinate system. All the data layers are visualized in Transverse Web Mercator Project (EPSG:3857).

Printing Maps in Geospatial Portal

Printing a map in Portal can be performed with any of the connected print services.

The Portal does not provide a mechanism for printing a hard copy but printing to a file can be done. Printing to a file is similar to printing a hard copy, except that it generates a printer file instead of routing the document directly to a printer. This provides a method for generating soft-copy files that can be stored on disk and printed or plotted as necessary without having to be in the application to resubmit the plots.

In order to open Print Map dialog:

1. On the **Tools** tab from the toolbar, click **Print Map** 🖶 .
2. The **Print Map** dialog box is displayed, and a red semi-translucent rectangle appears on the map. The rectangle shows the area to be printed.
3. In the **Print Map** dialog box, select the following:
    - **Common Option** tab:
        - **Print service** – Local for the Geospatial Portal internal printing.
        - **Format** – Graphic file type into which the map you are printing will be saved.
        - **Template** – Print template. Predefined templates are available.
        - **Page size** – Select the page size from available sizes in the pull-down list.
        - **Orientation** – Options include Landscape or Portrait.
        - **Scale** – Provide the scale for the printed map.
    - **Template Options** tab:

        Data provided for the attributes listed below will appear on the print.

        Options offered by the selected template:

        - Display Legend (Checkbox)
        - Map Title
        - Produced By
4. **Legend** tab

    The **Legend** tab is used to select the layers that appear in the printed legend provided that selected elements appear on the map. In case some elements are selected on the **Legend** tab but corresponding layers are not displayed on the map (turned off in the **Map Content**), these elements will not appear on the print in the **Legend** section.

💡 The rectangle (printed area) size changes when you change the page size, orientation, or scale.
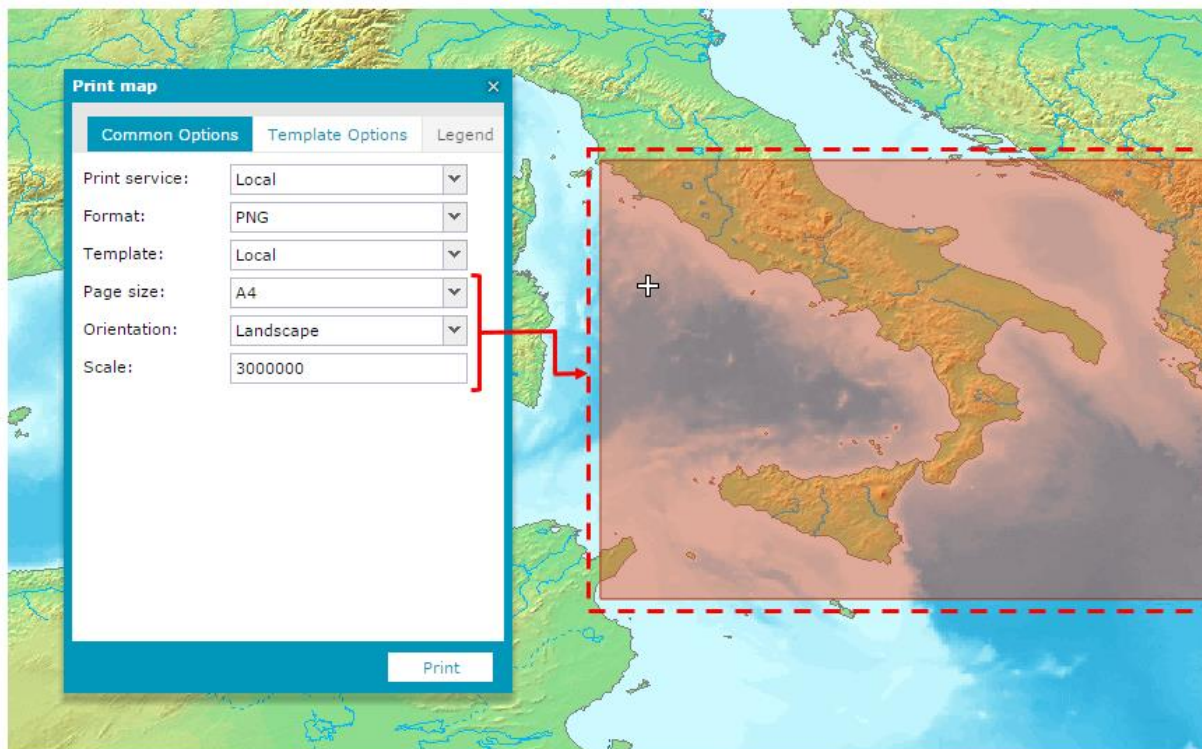
5. Move the rectangle to precisely select the map area you want to print.
6. Click **Print** to create the graphic file to be printed.

Common Options	
Format	PNG; XPS; GIF; JPEG; TIFF; BMP
Template	Sample landscape template with all data filled; Sample portrait template with all data filled;
Page size	A0; A1; A3; A4; A5
Orientation	Depends on selected template (Landscape or Portrait)
Scale	Predefined scale selectable from the pull-down list
Legend (user can decide which map layers appear in the legend)	Yes

## Displaying Vector Data on the Map Dynamically

The **Dynamic Object View** function is used for dynamically viewing spatial data served by services such as Vector Feature Data Layers, like Mineral Occurrences Database Features

To display spatial data using Dynamic Object View:

1. On the **Tools** tab, click **Dynamic object view**.
2. In the **Dynamic object view** window, from the **Feature class** drop-down list, select a feature class which should be displayed.
3. In a **Tooltip** field, select an attribute which will be visible as a tooltip for the displayed object.
4. Define a style for the displayed objects on the map using the control for changing the style available in the **Dynamic Object View** window.
5. To display a region with a cable, click an object on the map.

   To determine how objects are loaded, select one of the following options:

   o **Display only features under the mouse cursor** – Every time you move the cursor on the map, the features are loaded and displayed.
   o **Display all features** – Loads all available features to memory; then the objects are displayed in the chosen location.
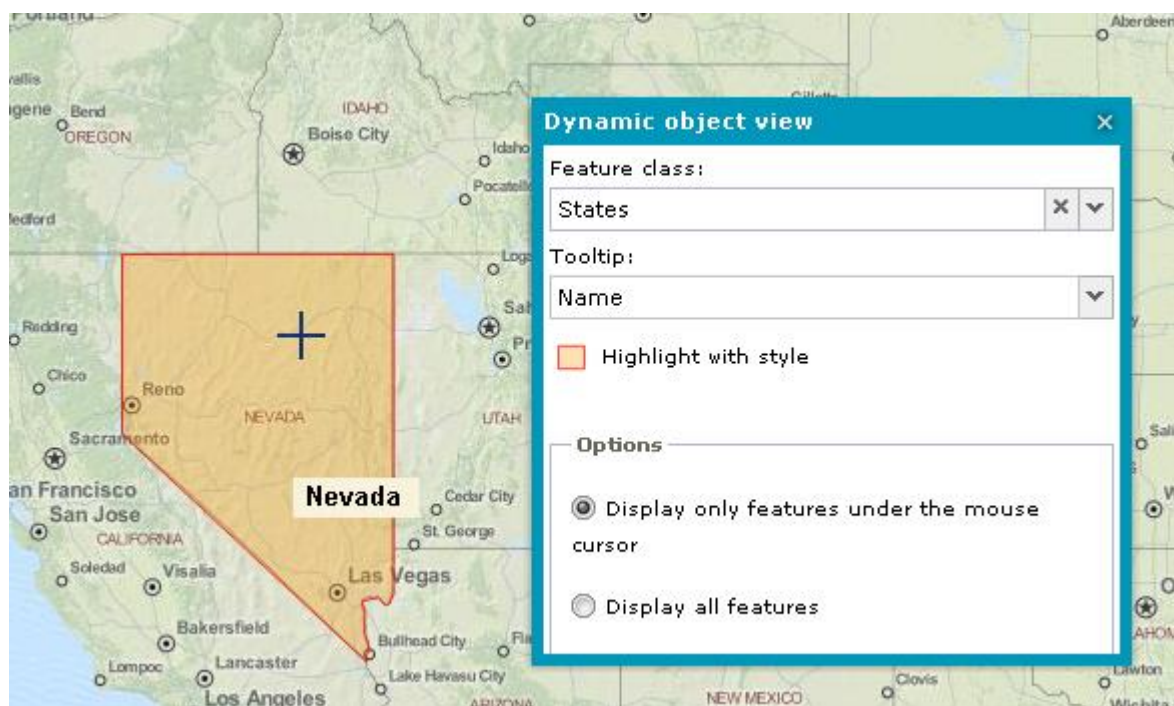
Browsing NGD Datasets | EXPLORE Data Catalog

On the **EXPLORE Data Catalog** panel, you can browse for all the data that you are able to access through the Web Client.

In the **EXPLORE Data Catalog** tree, the following elements may be listed depending on conditions that exist in the catalog:

- **Services**

The **Services** node shows all of the service providers that you can access through the Web client. These service providers are categorized by the type of protocol used.

- **Vectors (WFS) -** Web feature service providers. The name of the top-level node for each WFS is set to the title property of the WFS. As the WFS specification provided by the OGC does not support nesting of feature types, child nodes corresponding to layers and are organized in a flat format.
- **Maps (WMS) -** Web map service providers. This node includes all WMS providers that have been added as well as the base map that is being used in the maps panel. The name of the top-level node for each WMS is set to the title property of the WMS (which is shown in the GetCapabilities document for the WMS). Child nodes correspond to layers and are organized in a hierarchical format, in accordance with OGC specifications for WMS.
- **Coverages (WCS) –** Web coverage service providers. The name of the top-level node for each WCS is set to the title property of the WCS (which is shown in the GetCapabilities document for the WCS).

- **Coverage Catalog** - Contents of the ERDAS APOLLO Server catalog that is associated with this Web client.

All of the datasets and aggregates in the catalog are shown as nodes under the ROOT aggregate for the catalog. You can open an aggregate node to see the child aggregates, if there are any. If you click on an aggregate, the **Results Panel** will display more information about the aggregate and a list of the datasets that it contains.
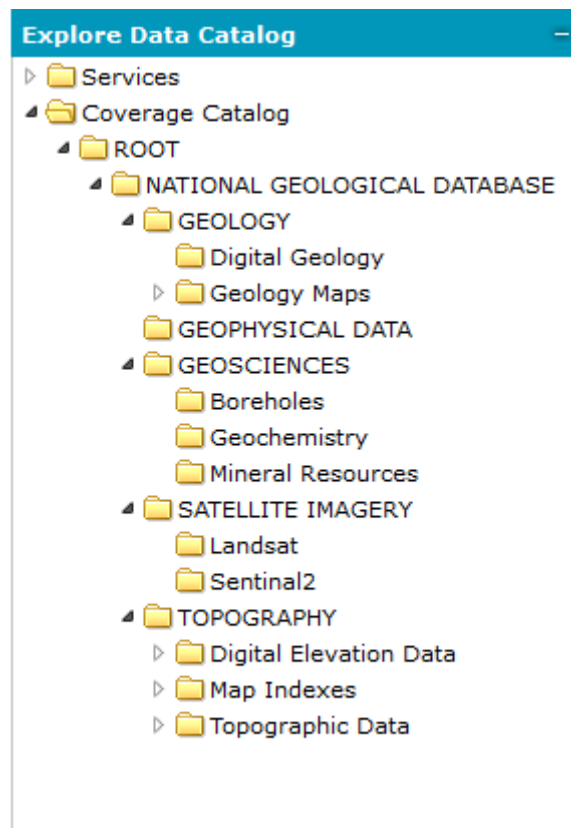
Detailed information about selected items from the catalog are displayed in the bottom **Search Result** panel, where you can perform some actions such as adding to the map, viewing metadata, displaying the spatial extent of data on the map/

To refresh the directory tree and to see the changes made in the EXPLORE Data Catalog, click **Refresh** in the lower-right corner of the tab.

Working with the Search Result Panel

The **Search Results** panel shows detailed information about the data that you can access through browsing or searching the NGD Datasets Catalog. **Search Results** also provides different buttons that allow you to perform specific tasks with the found data.

The listing for each result displays the name of the result. Each listing also displays certain metadata for each result, including the title, abstract, compatible Web services, acquisition date, SRS, and spatial extent.

To see a specific extent for the found data, click the extent hyperlink (Details View only). You could alternatively select one or more search results and choose the **Zoom** command from the toolbar to change the map range so that it fits to the extents of all selected items. To highlight the spatial extent of the result on the map, move your mouse over the listing.

For found Datasets and Business Data, an additional option, **File link:**Open, can be available in the **Search Panel**. Clicking this option for the selected item downloads the file or opens it automatically in the application associated with the file type.

Data in all tabs can be presented in two different display modes:

- Details
- Thumbnails

To change the display mode for data presented in the tab, use the **View** drop-down menu in each tab.
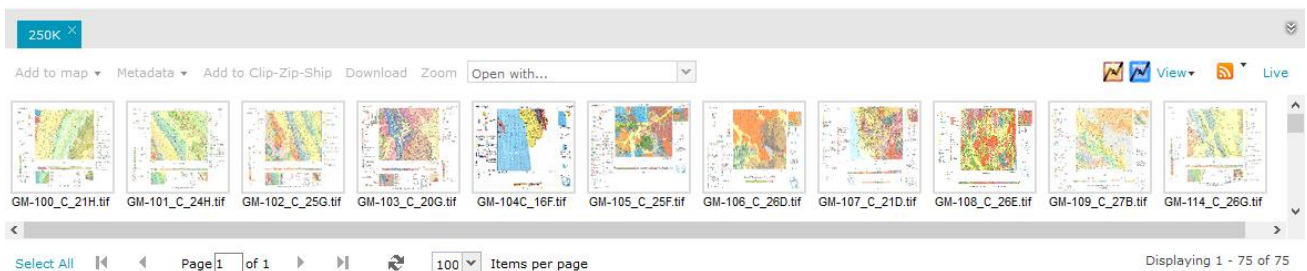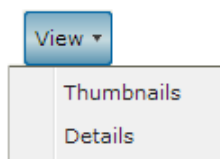
Actions Performed on the Search Result Panel

Each **Search Result** tab contains a top-action toolbar with a certain set of action controls either in the form of text buttons or combo boxes. These actions can be performed on the Catalog data, selected in the **Search Result** panel. Selected items are indicated by a red, vertical line on the left side. Default possible actions for Portal are described below.
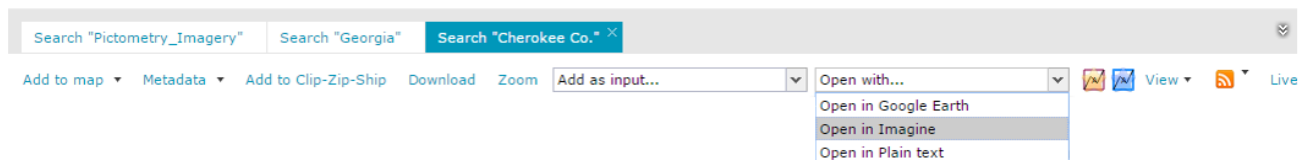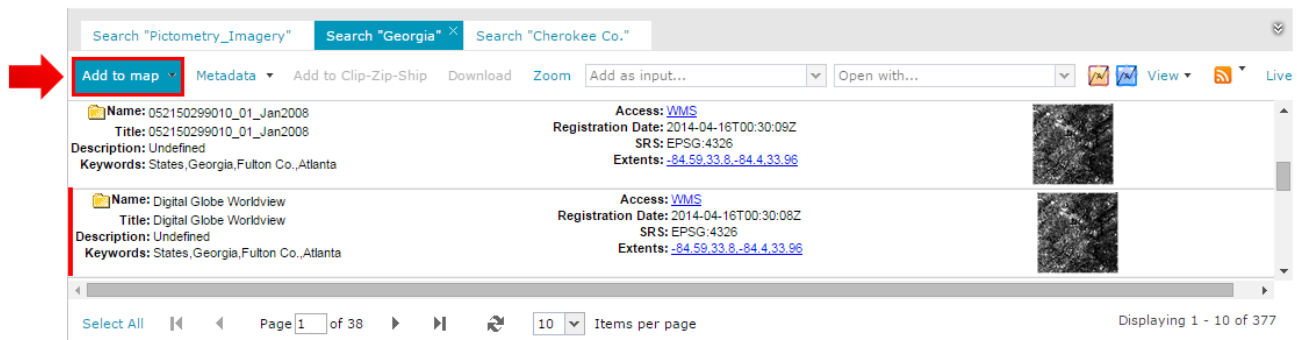

Add To Map

Adds the selected element to the **Map Content** tab and the map window. You can add more than one result to the **Map Content** tab and the map window.

Selected item or items can be added to the map using different protocols. These protocols are WMS, WMTS, and ECWP. Notice that for some data, the list of available protocols may be limited.

In order to add selected items to the map using the desired protocol, open (by clicking the down arrow) the context menu for the **Add to map** button, and select the protocol from the list. The data will be added to the map with the selected protocols.

For OGC WFS services, the option **Add as Vector** is used to add data from WFS services to the map.

You can add an item straight to the map without selecting the protocol by clicking **Add to map** (without expanding the context menu). In this case, the application determines the best protocol for the selected items.


For services such as OGC WMS or OGC WFS, the **Register in Portal**, **Display All**, and **Display Selected** commands are available under the **Add to map** button. The **Display All** command registers and adds the selected service to the **Map Content,** while **Display selected** registers the service and opens the **Add to legend** dialog box, where you can choose features to be displayed.
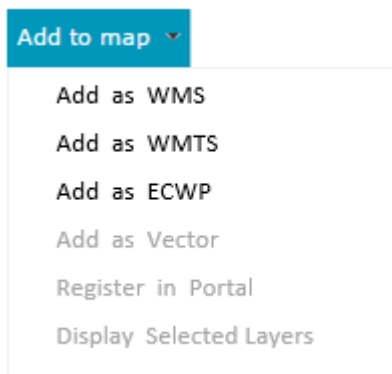
Metadata

The **Metadata** button on the search action toolbar groups all commands for displaying and downloading metadata for elements from the search panel.
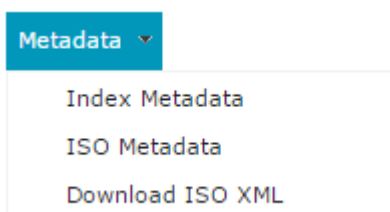
Index Metadata

Displays, in a separate window, the whole set of coverage metadata for the selected search results. Metadata for each selected element is displayed in a separate tab.

ISO Metadata

Displays a window containing the original ISO 19115 metadata using ISO 19139 XML encoding. This document can contain additional metadata. Metadata for each selected element is displayed in a separate tab.

Download ISO XML

Downloads an XML file containing **ISO Metadata.**

Add To Clip-Zip-Ship

This action adds the selected items from the **Search Result** panel to the **Clip-Zip-Ship** tab, where the Clip-Zip-Ship process can be performed. (For more information, refer to the Clip-Zip-Ship section.)

Download

*Current version of NGD Portal does not have Download Capability enabled.*

Sends a message to the provided email address with a link to download the original file. If multiple search results are selected, a separate link for each file to download will be included in the sent message. The email address must be entered into the dialog box that appears after clicking **Download**. This functionality applies only to datasets and coverages. If the file to download exceeds the size defined by the Administrator (by default it is 100 MB), the information that the file is too big to download will be displayed.

Zoom

You can select one or more search results and choose the **Zoom** command from the toolbar to change the map range so that it fits to the extents of all selected items. The range is changed to the maximum possible zoom level that maintains each selected result extents in the view. This action works for all search results that have proper extents available.

Display style & Highlight style

You can define the style in which footprints are displayed and highlighted when you move the mouse cursor over a footprint. The display and highlight style for footprints can be changed with the **Style** dialog box**,** on which you can define the appearance for a footprint boundary and fill. Footprint style can be defined by parameters such as line (border) width, line (border) color, line translucency, and fill color and translucency. Pattern fills are also applicable. In order to open the

Style dialog box for the footprint display style, click the **Display style** pictogram . To define highlight style, click the **Highlight style** pictogram.

View

This option allows you to set the thumbnail or detailed view in the **Search Result** panel.

GeoRSS

The results in the **Search Result** panel can be exported to GeoRSS. By doing so, the resulting GeoRSS resource will represent a feed that can alert you any time a new resource matching that query is registered in the catalog. By pressing the **RSS feed** icon, two actions are available:

- **Search results as GeoRSS** – Displays a browser dialog box with a link to the GeoRSS, which can be used in third-party applications and RSS readers. Depending on the Web browser and its components, the functionality, appearance, and behavior of the dialog box may vary.
- **Register as GeoRSS** – Automatically registers the GeoRSS based on the search results in Geospatial Portal. The GeoRSS is registered with the default refresh setting, and a layer is added to the **Map Content**.
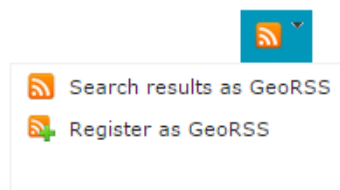
Live

This option ensures that only elements that cover the actual map range are shown in the **Search Result Panel**, and the result list is updated automatically during every map move. To protect the server from overloading, the 1,5 second delay buffer is set for all outgoing requests. Click the **Live** button to enable this functionality.

Access

For some search result types, such as Datasets, MapLayers, or Vector Layers from Catalog, the links for **Access** attribute are displayed.

The table below shows the link name depending on the link type and action performed after a click.

Search result type	Displayed link name	After click action
FeatureType	WFS	DescribeFeature
MapLayer	WMS	GetLayer
Dataset (wmsEnabled)	WMS	GetLayer
Dataset (wmtsEnabled)	WMTS	Display WMTS capabilities
Dataset (czsEnabled)	CZS	No action

Dataset (ecwpEnabled)	ECWP	Display using ecwp plugin

Navigating the Search Results Item in the Search Result Panels

If there are many results from the search, the results will be shown on different pages. Using the **Items per page** drop-down list, determine how many results you want to display on the page. The possible values are 50, 100, 150, 250 and 500.

The page numbers will be shown along the bottom of the **Search Results** panel, and you can click on the page numbers to see the results listed on that page, or you can use buttons: **Next page** ▷ , **Last page** ▷| , **First page** |◁ , **Previous page** ◁ to navigate between pages.

To refresh the **Search Results** panel, click **Refresh** ⟳ .

Use Select All to select all results in the **Search Results** panel; when all results are selected, the button changes to Deselect All .

Icons for Search Results

Below is the list of icons for specific search items to be used in the **Search Result Panel**:

| Datasets	Imagery	
	Vector	
	Document	
	Point Cloud	
Service Layer	Map (WMS)	
	Vector (WFS)	
	Coverage (WCS)	
Service	WMS	
	WFS	
	WCS	

Footprints

Footprints – outlines showing the data extent – for all search results from the current tab are automatically displayed on the map. When a mouse cursor is moved over any item in the **Search Result** panel, the corresponding footprint on the map is automatically highlighted. Whole footprints must be within view in order to be highlighted (this prevents over-flooding the map window with unwanted highlights). When clicking a footprint on the map, the results get selected in the **Search Result** panel. While selecting overlapping footprints, the context menu with footprint names will appear where you can check elements to be selected in the **Search Result** panel.
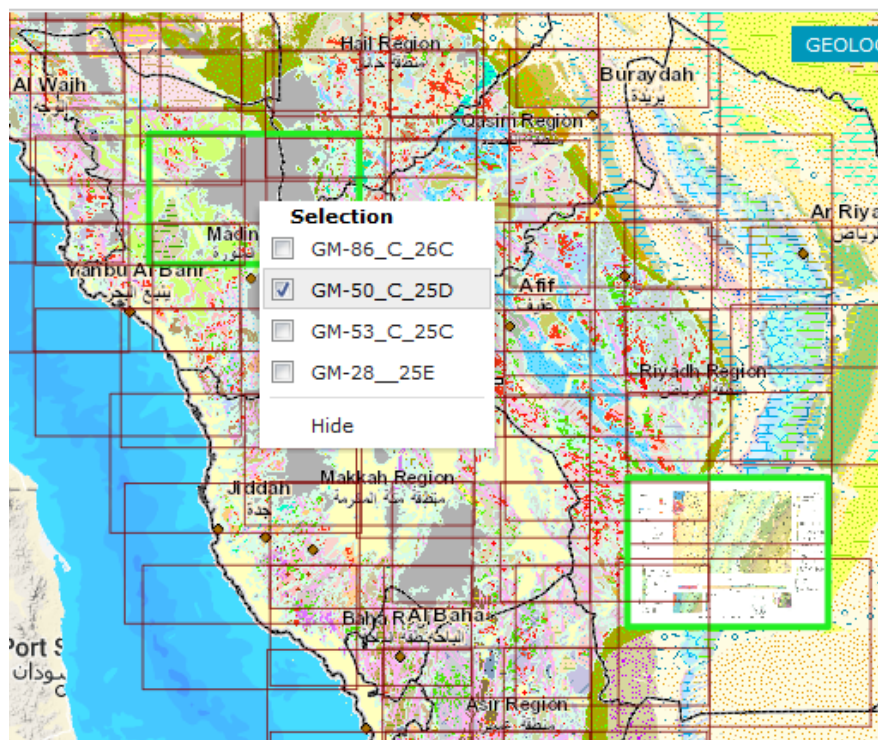
The footprints are not displayed for search result items without geometry.

You can define the style in which footprints are displayed and highlighted. The display and highlight style for footprints can be changed with the **Style** dialog box, where you can define the appearance for footprint boundary and fill. Footprint style can be defined by parameters, such as line (border) width, line (border) color, line translucency, and fill color and translucency. Pattern fills are also applicable.

In order to open the **Style** dialog box for the footprint display style, click the **Display style** pictogram on the **Action** toolbar. To define the highlight style, click the **Highlight style** pictogram. Both pictograms are located on the right side of **Action** toolbar on the **Search Result** panel.
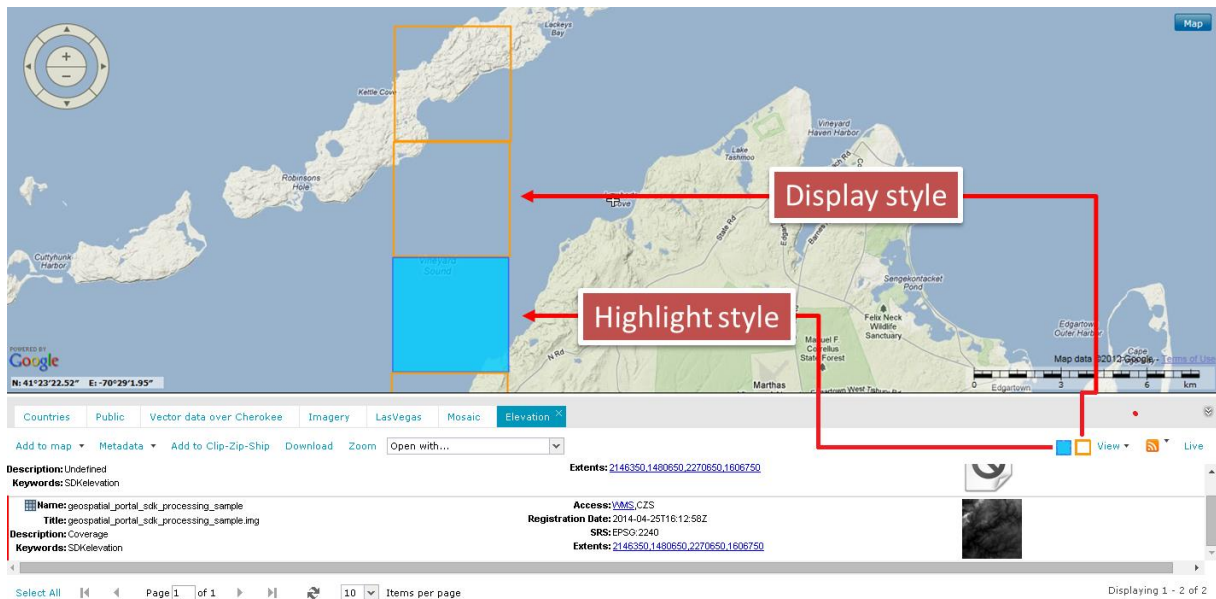
Documents Preview

All documents in the **NGD Catalog** have their spatial representation on the map and, by default, are marked by a red dot. You can change the display style of the spatial representation of documents using the **Style** dialog box for footprints display. A preview for the selected document is displayed when you click with the right mouse button on the corresponding dot on the map. The preview for the selected document is displayed in the internal Web browser window. In case there is more than one object at a given location, a menu will be displayed that allows you to select the object (document) to be viewed. This functionality works only for the objects natively supported by Web browsers such as Adobe PDF files, images, and flash. All others that are not supported by Web browser documents will be downloaded.

For some datasets and documents shown in the **Search Result Panel**, an additional option, **File link:** Open, is available. Clicking this option in the **Search Result Panel** downloads a selected file or opens it automatically in applications associated with the file type. Documents natively supported by a Web browser will be opened in a separate Web browser tab.