7/25/2024
Portal Version 3.0.1

NOAA Deep-Sea Corals and Sponges Map Portal User Guide

About the NOAA Deep-Sea Corals and Sponges Map Portal

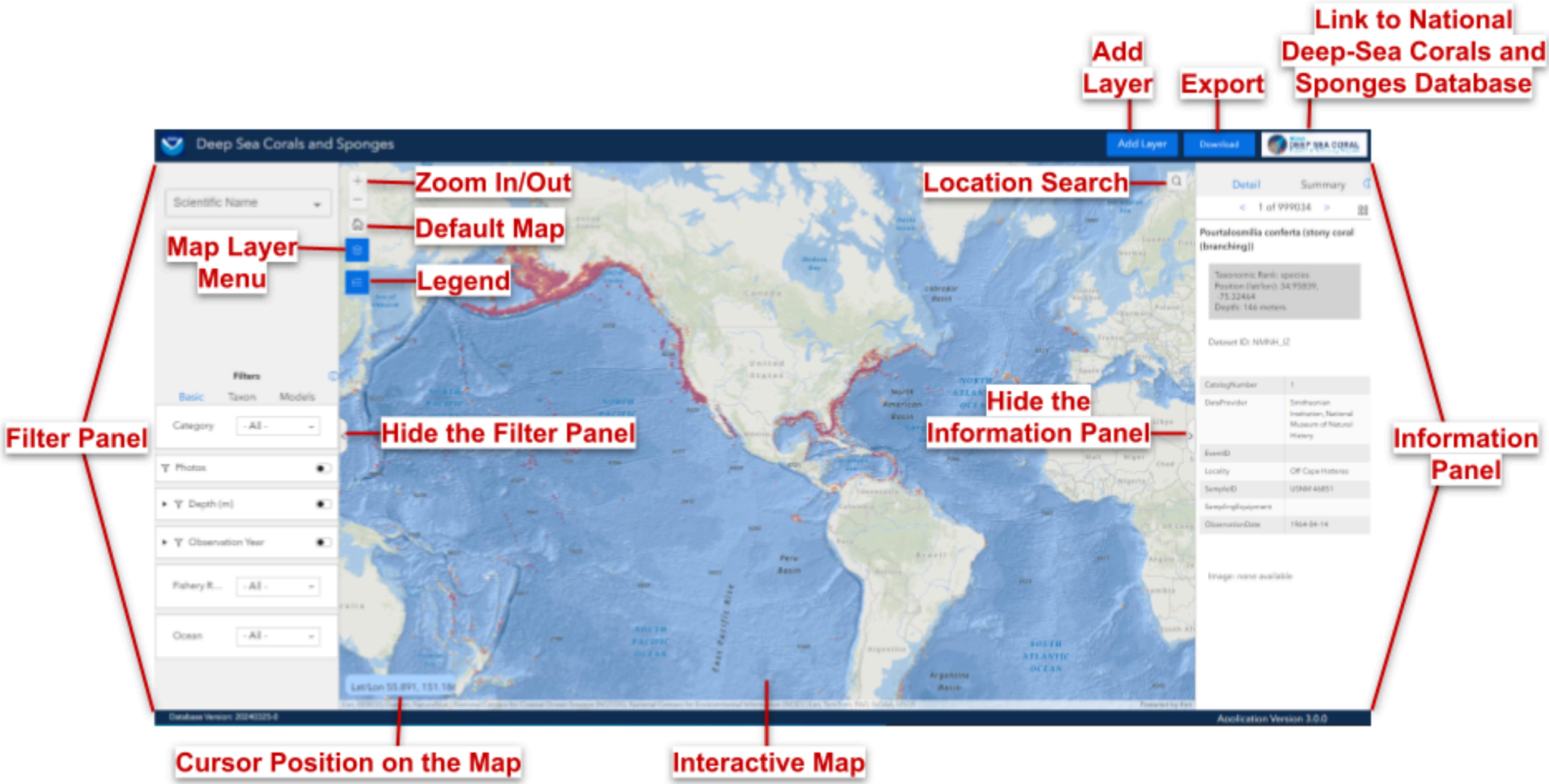
The purpose of the NOAA Deep-Sea Corals and Sponges Map Portal is to allow for the search, discovery, and download of the National Deep-Sea Corals and Sponges Database. The NOAA Deep-Sea Coral Research and Technology Program manages the National Deep-Sea Corals and Sponges Database, which is an extensive database containing the locations of known corals. These coral locations have been documented over centuries and come from a variety of field collection methods.

This database and map portal are updated approximately every three months with new data records and are made available by the NOAA National Centers for Environmental Information to assist in marine spatial planning efforts and to aid in the overall preservation of and education about deep-sea coral resources.

In addition to an interactive map with data from the National Deep-Sea Corals and Sponges Database, the NOAA Deep-Sea Corals and Sponges Map Portal provides the ability to add map layers that give context to the data such as ecosystem boundaries. As an interactive map, all available map layers may be viewed alone or in combinations.

This User Guide is specific to the functionality of the NOAA Deep-Sea Corals and Sponges Map Portal. For additional information about the National Deep-Sea Corals and Sponges Database, please see the National Deep-Sea Corals and Sponges Database home page.

Overview of Map Portal Screen

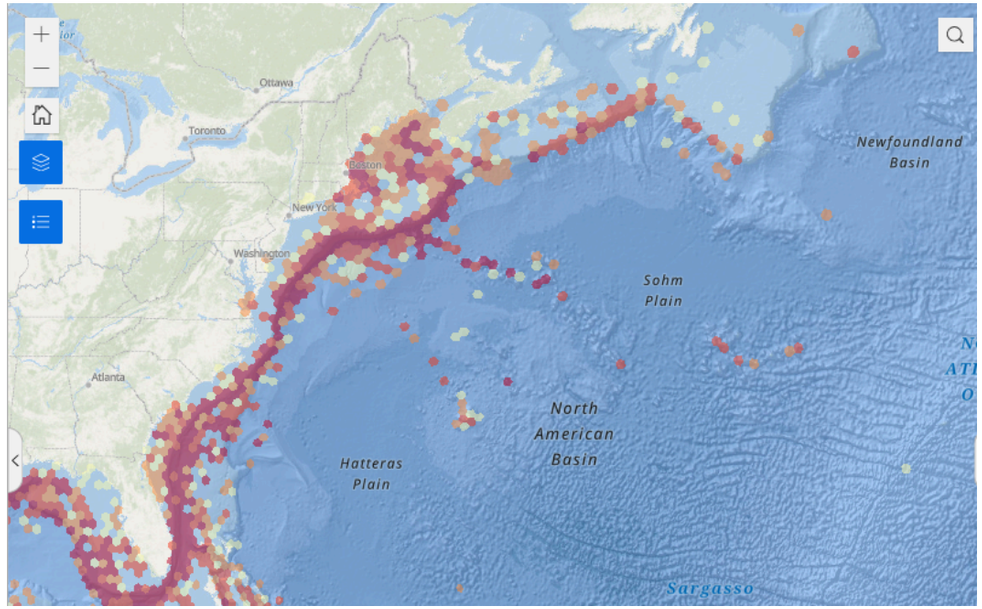


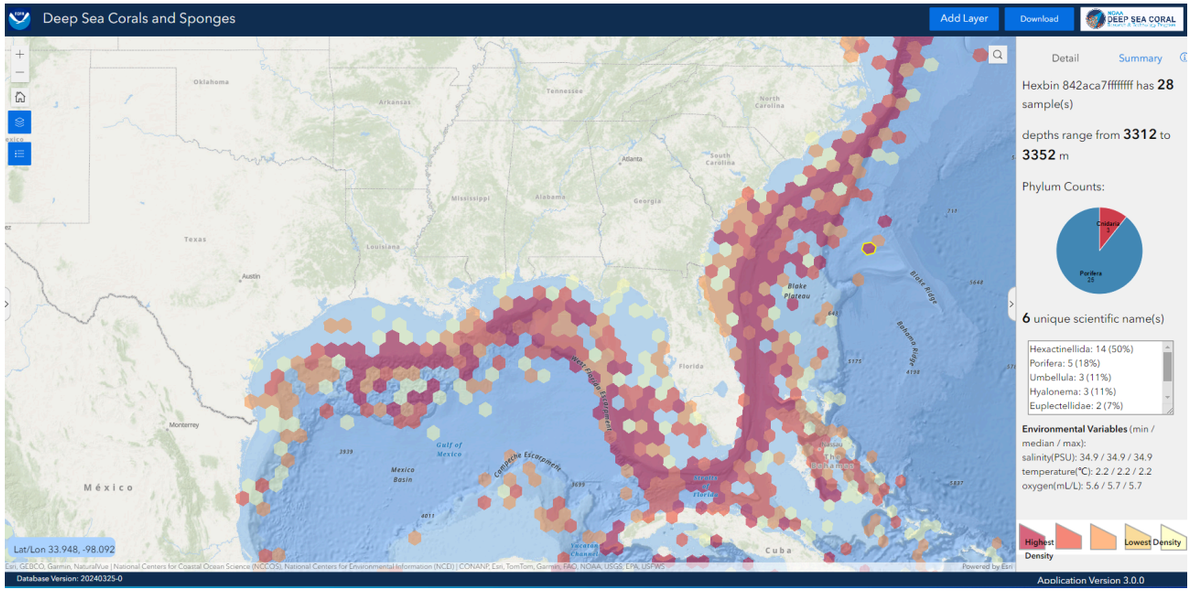
Functionality Overview

When the NOAA Deep-Sea Corals and Sponges Map Portal is opened initially and no filters are applied, the interactive map displays hexagonal clusters, called hexbins, representing all records in the current National Deep-Sea Corals and Sponges Database. These hexbins draw faster at global scales than the individual database points.

Each hexbin on the interactive map indicates a location where there is at least one record of Deep-Sea corals found. A record contains the count of Deep-Sea corals present at the time of the observation. A single location may have multiple records.

The color of each hexbin on the interactive map indicates the density of the Deep-Sea corals present at a location. Lower density areas are white to light yellow, and higher density areas are orange to red. See how to find the Legend.





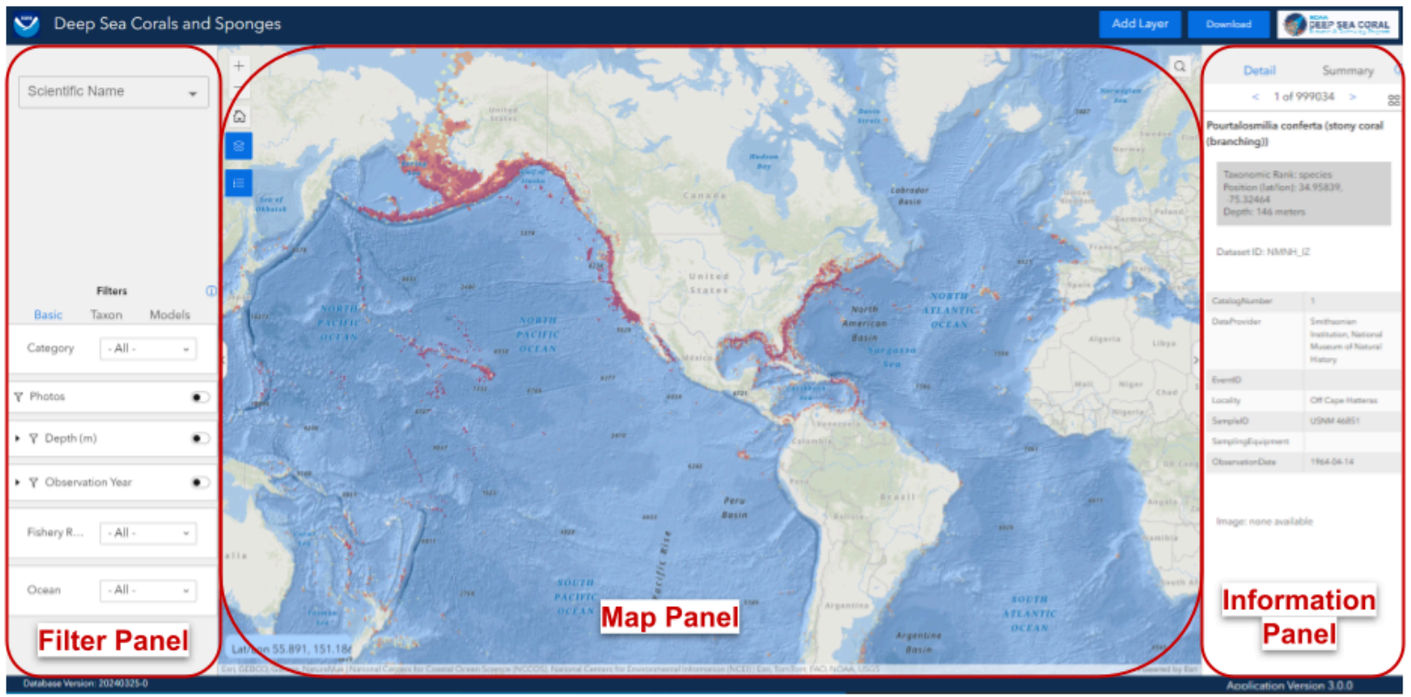
The individual points for the observations are by default set to display, but will not actually appear until the map is zoomed in. The records displayed in the interactive map can be filtered by specific criteria to limit the number of points appearing on the map.

The NOAA Deep-Sea Corals and Sponges Map Portal offers additional map layers that provide context to the data such as ecosystem boundaries that can be added by users. All available map layers and filters may be viewed alone or in combinations on the interactive map.

Finally, the data from the National Deep-Sea Corals and Sponges Database can be exported. See Data Export for more information.

The tools are found on the Filter Panel, the Information Panel, and the Map Panel. In general:

1. Use the tools from the Filter Panel to filter the records by chosen criteria and to view model data.
2. Use the Information Panel to view attributes for the observation points and hexbin information.
3. Use the Map Panel tools to view the legend, select map layers, and get information about the layers.

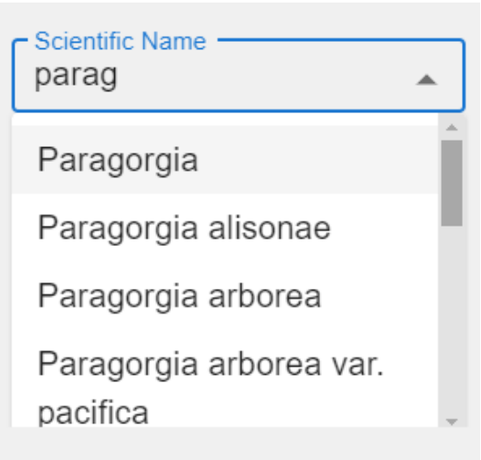


Using the Filter Panel

The Filter Panel is located on the left side of the portal. The purpose of the panel is to provide tools to filter the records in the National Deep-Sea Corals and Sponges Database shown on the interactive map and to provide access to model data layers. The panel can be closed and reopened with the arrow tab on the right side of the panel.

Using the Scientific Name Filter

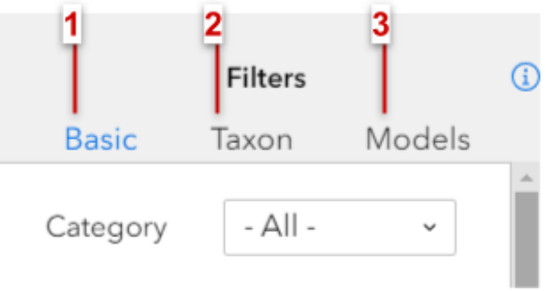
The Scientific Name filter provides a list to refine a search of the records in the National Deep-Sea Corals and Sponges Database by scientific name. As a Scientific Name is typed into the field, possible matches will appear in the drop-down list below the text entry box, significantly reducing the number of names in the list to choose from. This filter can be used by itself or with the other filters described below. Filtering the records will cause the Deep-Sea Corals and Sponge Observations layer to refresh on the interactive map and may take a few moments. Red text in the upper part of the Filter Panel will alert users that the map is updating. The layer refresh time is less when the map is zoomed in.



Using the Filter Tabs

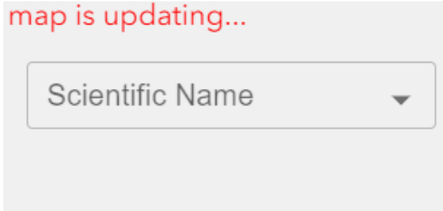
There are three options in the NOAA Deep-Sea Corals and Sponges map portal Filter Tabs section.

1. Basic
2. Taxon
3. Models



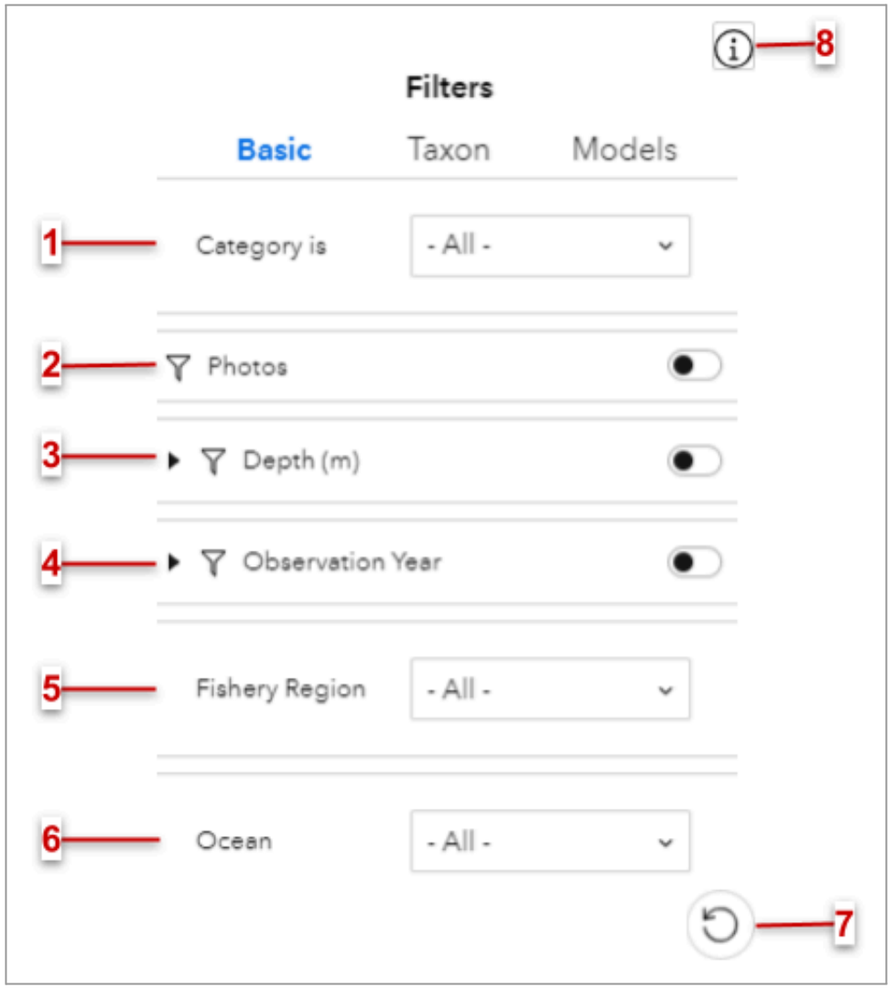
Using the Basic Filter Tab Tools

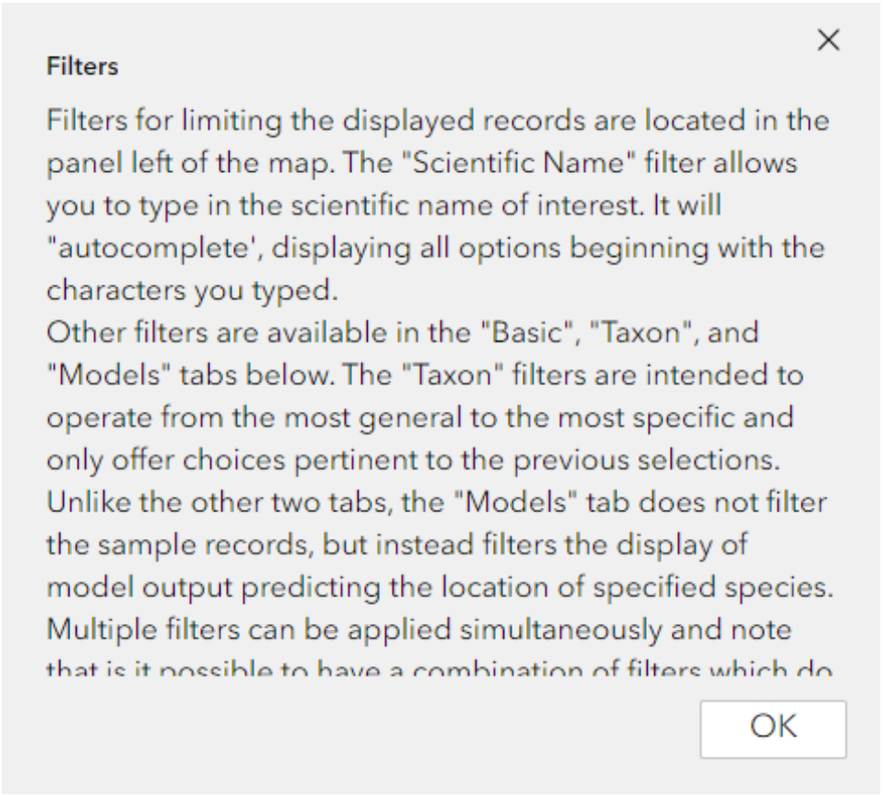
The Basic Filter Tab provides tools to refine a search of the records in the National Deep-Sea Corals and Sponges Database by specific criteria. Each criterion can be used by itself or with the other criteria on the same panel or on other panels. Filtering the records will cause the Deep-Sea Corals and Sponge Observations layer to refresh on the interactive map and may take a few moments. Red text in the upper part of the Filter Panel will alert users that the map is updating. The layer refresh time is less when the map is zoomed in.



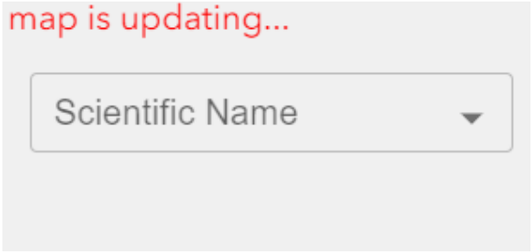
Note that all filter toggle switches  are off by default when the interactive map is opened.

1. **Category is** — Click the down arrow to choose a specific Vernacular Name (common name) Category from the list provided to limit results to records from only that category.
2. **Photos** — When toggled on, results will be filtered to show the only records that include photos.
3. **Depth (m)** — When toggled on, results will be filtered to show only records collected within specified depths. Click the down arrow to expand the box to enter the minimum and maximum depths in meters. If the toggle is set to the on position, the filtering process will begin after the user clicks out of a data entry box or presses the Enter key.
4. **Observation Year** — When toggled on, results will be filtered to show only records collected in the specified range of years. Click the down arrow to expand the box to enter starting year and ending year. If the toggle is set to the on position, the filtering process will begin after the user clicks out of a data entry box or presses the Enter key.
5. **Fishery Region** — Click the down arrow to choose a specific Fishery Region from the list provided to limit results to records collected in that region.
6. **Ocean** — Click the down arrow to choose a specific Ocean from the list provided to limit results to records collected in that ocean.
7. **Reset** —Click to reset all filters.
8. **Help** — Click to show help information.



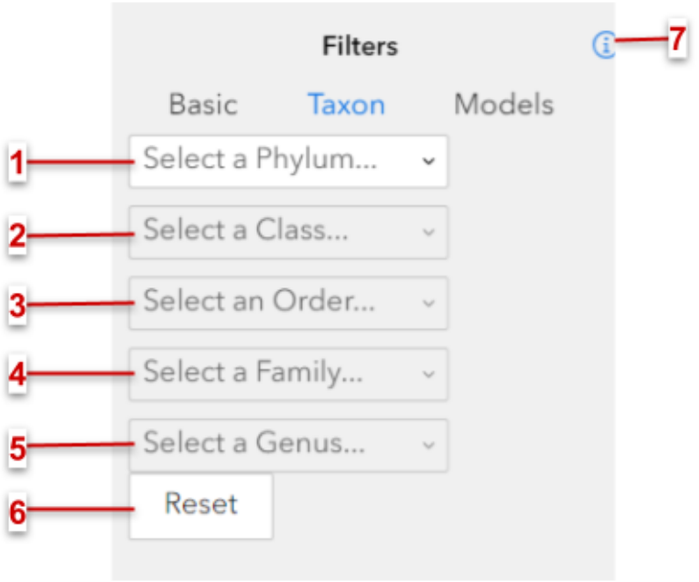


Reminder: The filtered records number will update automatically as each type of filter is selected to show the number of records available that meet the criteria selected. The map layer will also update automatically and it is recommended that the user allow the layer to draw completely before selecting another filter. Text in red in the upper part of the Filter Panel will alert users that the map is updating. The layer refresh time is less when the map is zoomed in.



Using the Taxon Filter Tab Tools

The Taxon Filter Tab provides tools to filter the records in the National Deep-Sea Corals and Sponges Database by taxonomic group. Each taxon criterion can be used by itself or with the other criteria on the same panel or on other panels.

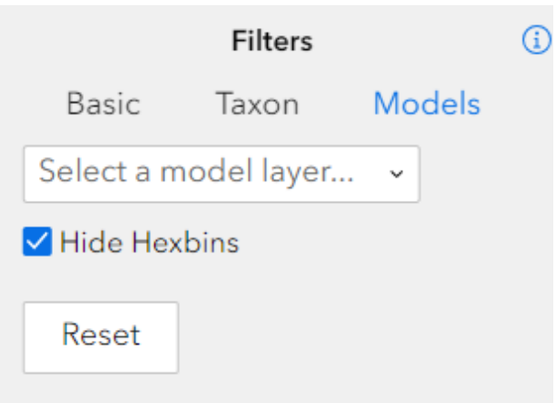


1. **Select a Phylum** — Click down arrow to choose a specific Phylum from list provided to limit results to that phylum.
2. **Select a Class** — Click down arrow to choose a specific Class from the list provided to limit results to that class.
3. **Select a Order** — Click down arrow to choose a specific Order from the list provided to limit results to that order.
4. **Select a Family** — Click down arrow to choose a specific Family from the list provided to limit results to that family.
5. **Select a Genus** — Click down arrow to choose a specific Genus from the list provided to limit results to that Genus.
6. **Reset** — Click the Reset button to clear all Phylum/Class/Order/Family/Genus selections.
7. **Help** — Click to show help information.

Reminder: The filtered records number will update automatically as each type of filter is selected to show the number of records available that meet the criteria selected. The map layer will also update automatically and it is recommended that the user allow the layer to draw completely before selecting another filter. Text in red in the upper part of the Filter Panel will alert users that the map layer is updating. The layer refresh time is less when the map is zoomed in.

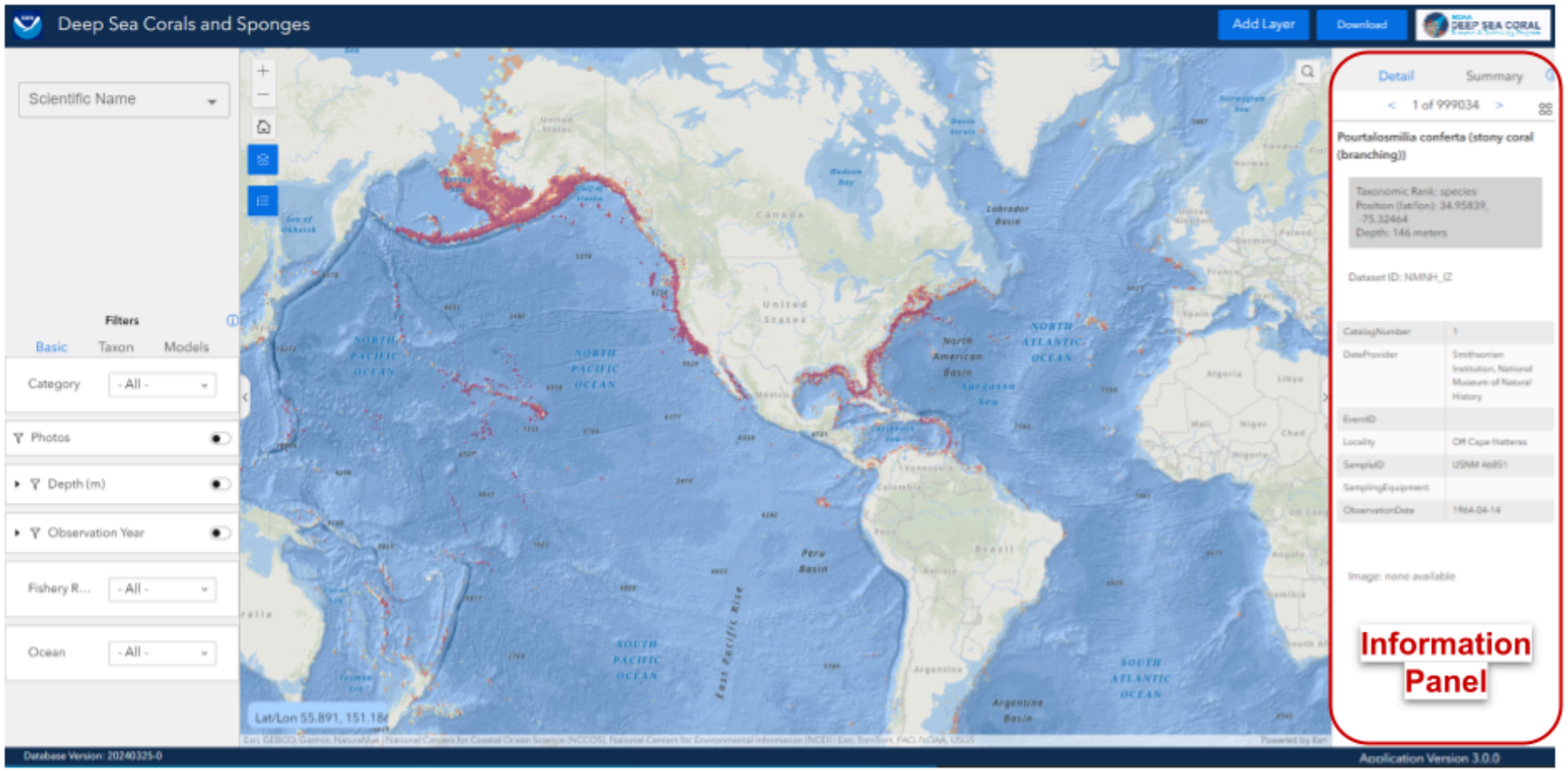
Using the Models Tab Tools

The Models Tab does not filter the National Deep-Sea Corals and Sponges Database observations but is used to access predicted habitat suitability models for Deep-Sea Corals in the U.S. Gulf of Mexico, Southeast Atlantic, Northeast Atlantic, Mid-Atlantic, Hawaii, and Alaska regions. The tab lists the model layers in a drop-down menu with the option to turn hexbins on or off. These model layers are also available in the Map Layers Menu as a list and it is necessary to turn regions on there before using the Models Tab to switch between the models.



Using the Information Panel

The Information Panel is located on the right side of the portal. The purpose of the panel is to provide information about the records in the National Deep-Sea Corals and Sponges Database shown on the interactive map. The Detail Tab shows the attribute table for observation records displayed on the interactive map based on filters selected by the user, if any, and the area covered in the map. The Summary Tab shows information about the hexbins. The panel can be closed and reopened with the arrow tab on the left side of the panel. Help content can be accessed using the Information icon in the top right corner of the panel.

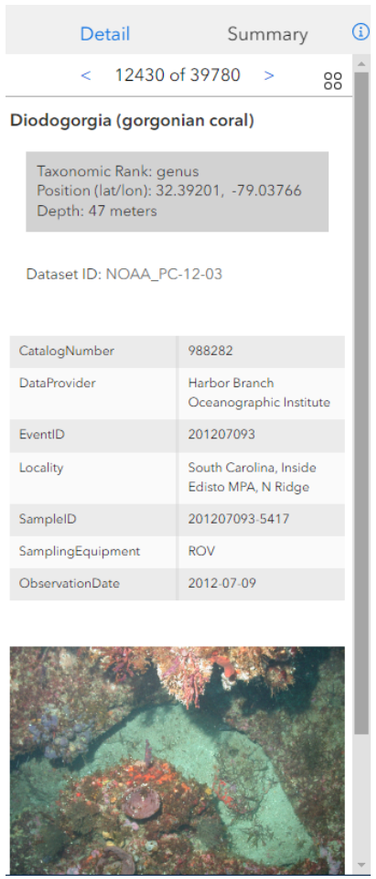


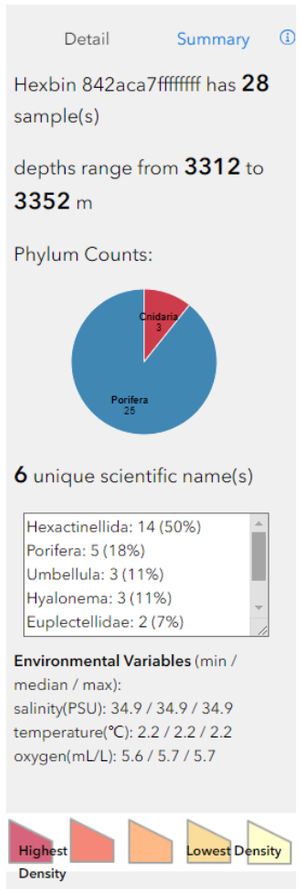
Using the Detail Tab

The Detail Tab shows the attribute table records for the observations displayed on the interactive map based on filters selected by the user, if any, and the area covered in the map. When photographs associated with the record are available, they will display at the bottom of the tab. Arrows to the left and right of the record count (# of ###) can be used to advance forward or backward through the records. The icon showing four circles to the right of the record count can be selected for Actions available on the map for that record: Zoom to record, Pan to record, or Show record on map.

Using the Summary Tab

The Summary Tab shows information and statistics about the hexbins such as the number of samples represented or percentages of scientific names found within the hexbin. The hexbin layer must be visible and a hexbin must be selected from the map for summary information to be shown. The summary tab will update as different hexbins are selected.

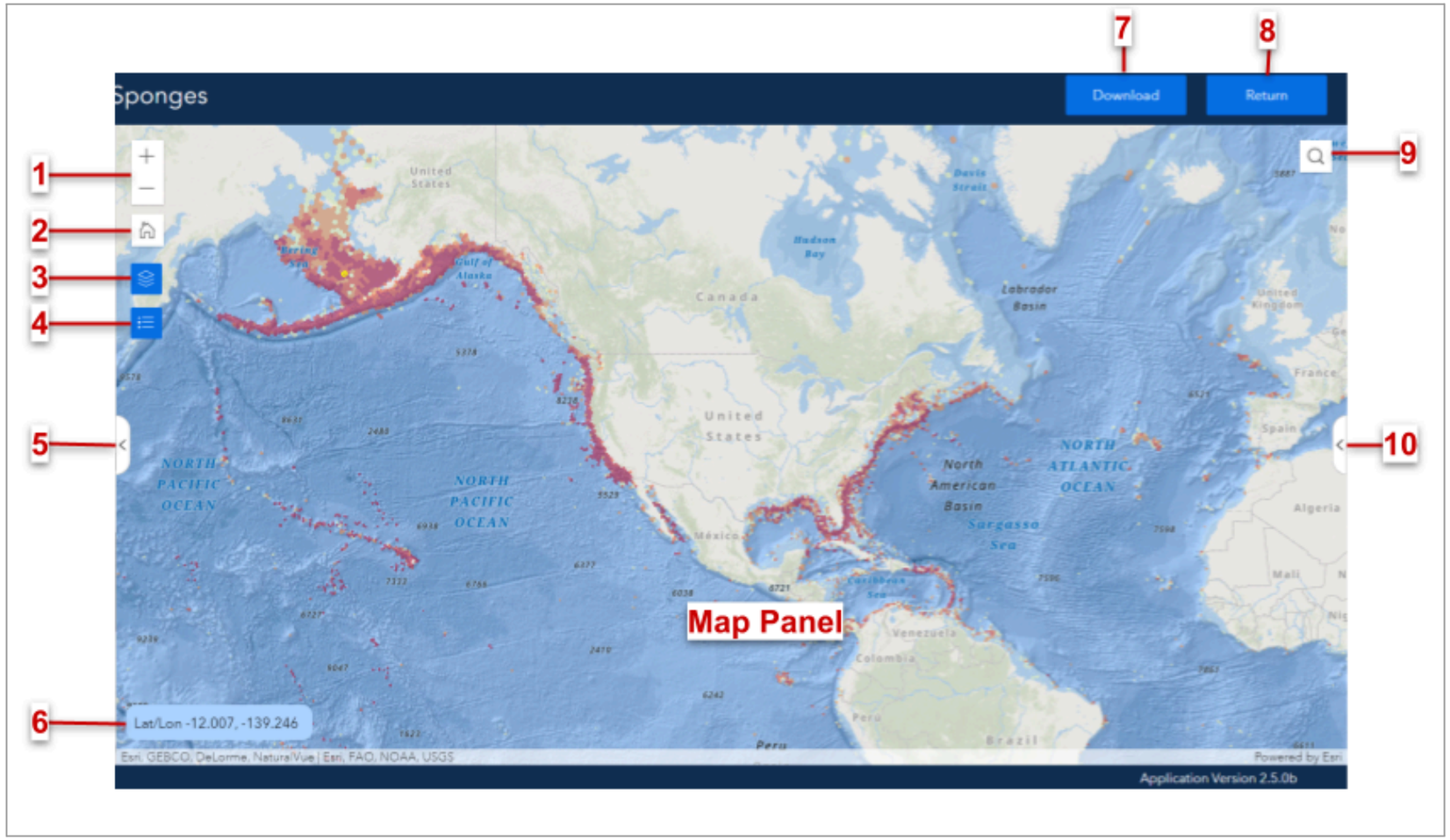




Using the Map Panel

The Map Panel is located in the middle of the portal and is inclusive of the interactive map itself. The purpose of the panel is to provide tools to select and manipulate map layers as well as information about the map layers.

1. **Zoom in/out** — Click on the plus or minus buttons to zoom in or out on the interactive map.
2. **Default map** — Click on the home button to return to the default map.
3. **Map layer menu** — Click to view the Map Layer menu.
4. **Legend** — Click to view the map Legend(s).
5. **Hide Filter Panel** — Click on the arrow to hide or open the Filter Panel.
6. **Current cursor position** — Information in the box shows the current cursor position (in Latitude and Longitude) on the interactive map
7. **Download** — Click to open the interface to export data.
8. **Link to Database Home Page** — Click to go to the National Deep-Sea Corals and Sponges Database home page.
9. **Search** - Enter a place name or address to search for and zoom to that location on the map. (Example: Hawaii or Gulf of Maine)
10. **Hide Information Panel** — Click on the arrow to hide or open the Information Panel.



Interactive Map Overview

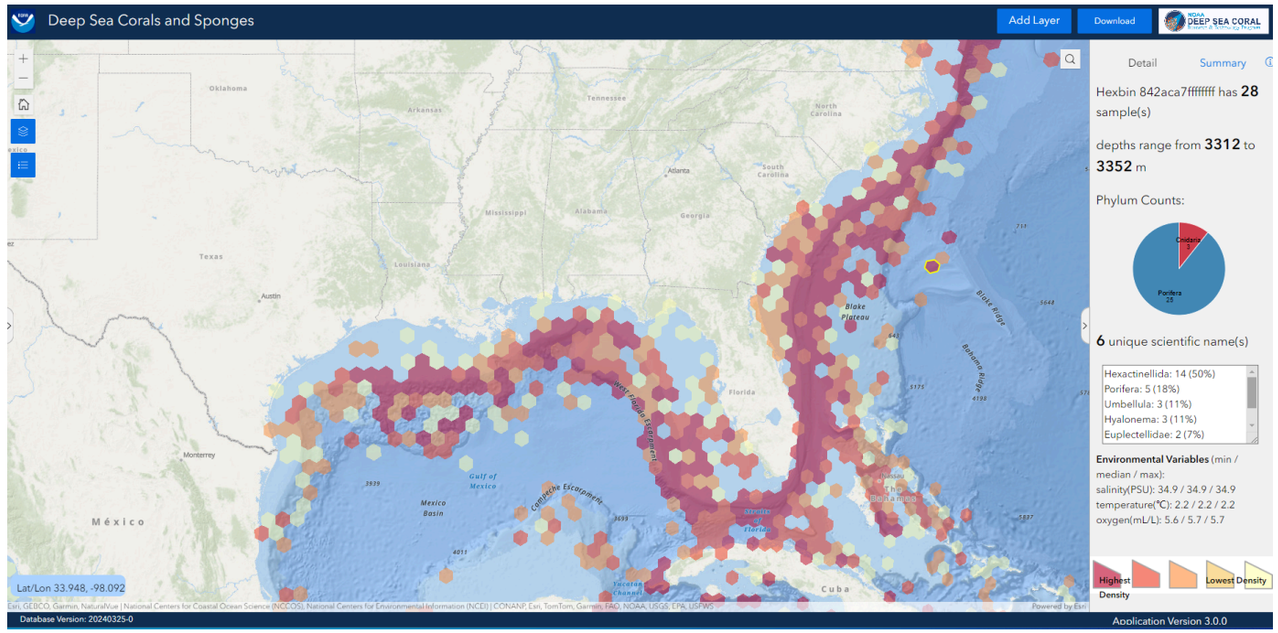
Each point on the map indicates a location where there is at least one record of Deep-Sea corals being present. A record contains the count of Deep-Sea corals present at the time of the observation. A location may have multiple records.

The color of the point on the map indicates the density of the Deep-Sea corals present at a location. See information about the Legend.

The records displayed in the interactive map can be filtered by specific criteria to limit the number of points appearing on the map. Also, additional map layers that provide context to the data such as ecosystem boundaries can be added by users. As an interactive map, all available map layers and filters may be viewed alone or in combinations.

The box in the lower left corner of the interactive map indicates the latitude and longitude of the cursor position on the map.

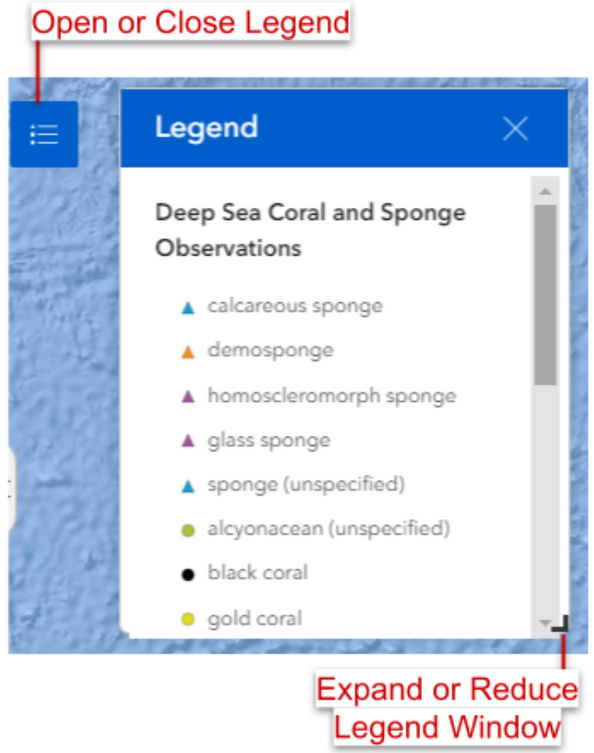
Use the plus sign button at the top left of the interactive map to zoom in to the map. Use the minus sign button to zoom out. Use the home button to reset the map to its default map view. Note that the home button will not reset filters, it will only reset the zoom level.



The icon in the top right corner of the map showing a magnifying glass opens a location search tool. A place name or address can be entered and if a valid entry is found, the map can be zoomed to that location.

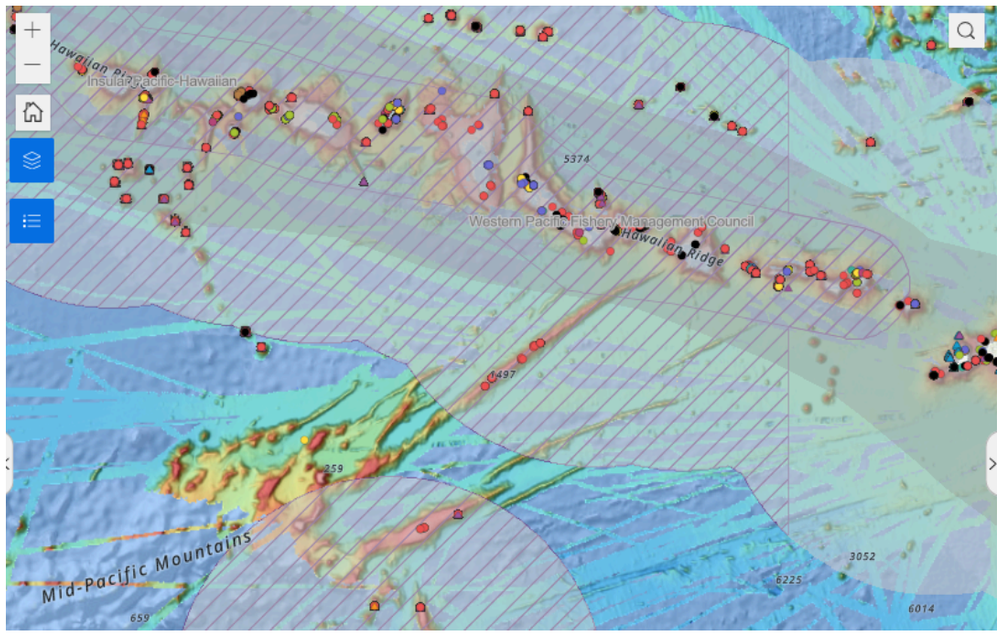
Legends

Legends for layers shown on the interactive map can be opened from the icon in the upper left section of the map. For example, the legend for the Deep Sea Coral and Sponge Observations layer is shown here.



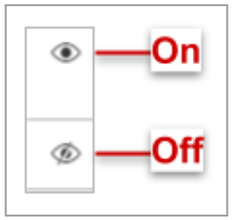
Map Layers Overview

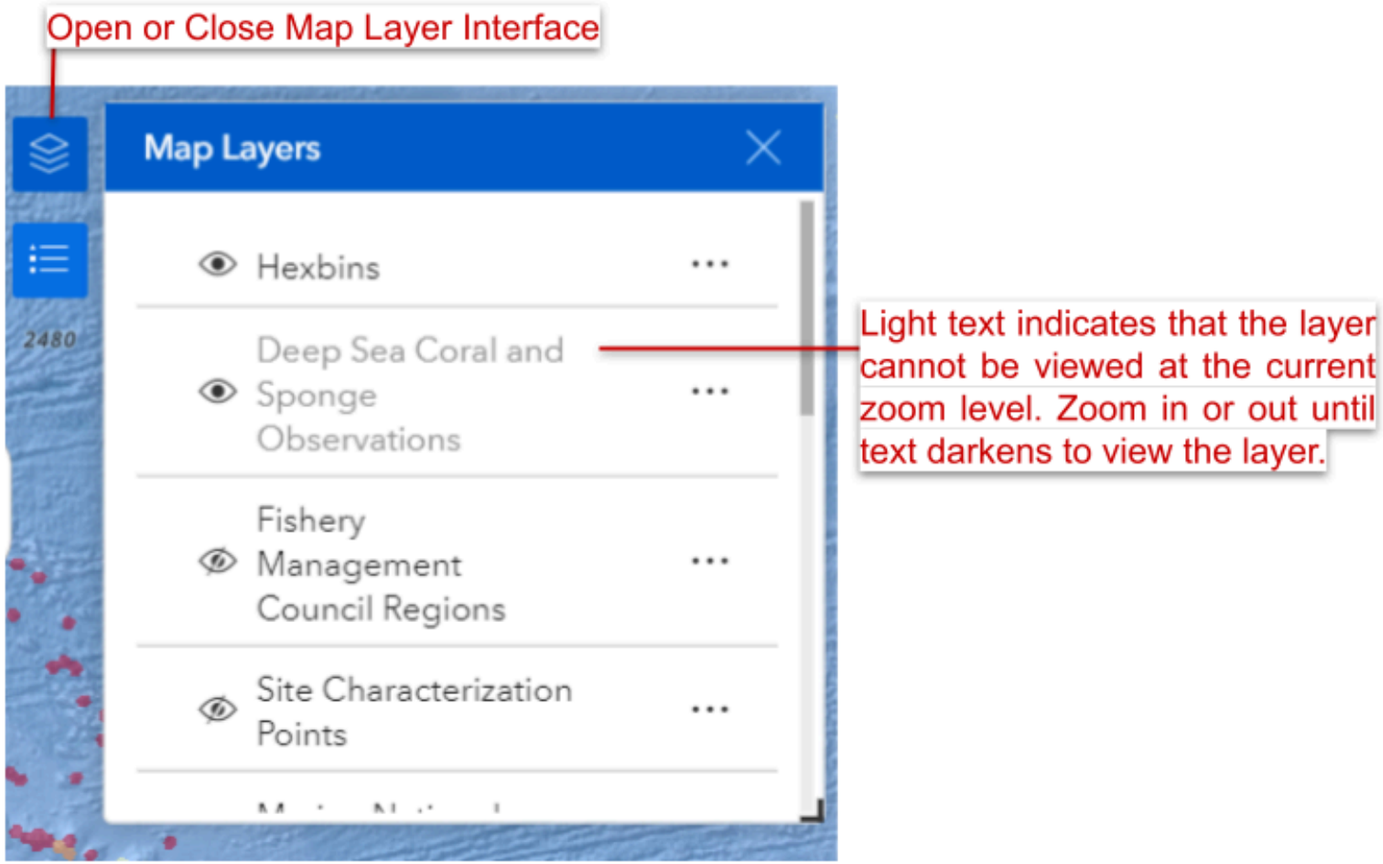
Use the Map Layers menu to display new geographic features on the interactive map. The Map Layers menu is located in the upper left section of the map.

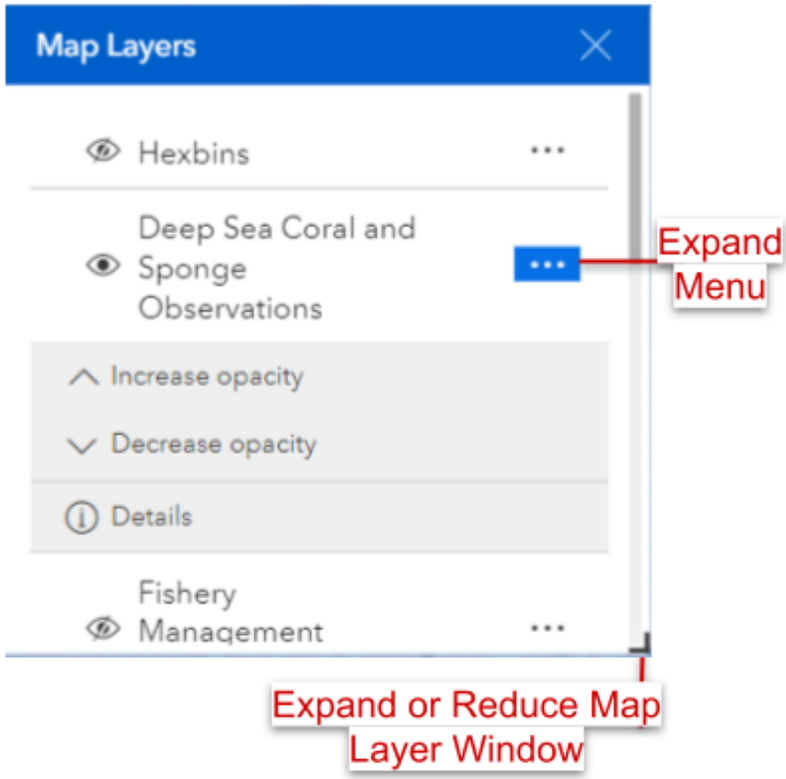


Click on the title of a specific map layer to turn it on or off. The eye icon will show whether or not the layer is on. If a map layer name displays in light colored text, that indicates that it is not available at the current zoom level. Try zooming the map in or out until the text is darker to view the layer.

Click on the ellipses to expand the dropdown menu for access to increase or decrease opacity for that layer on the interactive map. Changing the opacity, or the transparency, of a layer in a map allows you to see more, or less, of the underlying layers. Selecting Details will open a new browser tab or window to a website with more information about the layer.







Information About the Map Layers

Hexbins

These hexagonal clusters represent records in the current National Deep-Sea Corals and Sponges Database grouped by density. These hexbins draw faster at global scales than the individual database points.

Deep-Sea Coral and Sponge Observations

These point locations represent records in the current National Deep-Sea Corals and Sponges Database. There may be many records which overlap because they are located at the same point on the map.

Fishery Management Council Regions

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) establishes a 200-mile Exclusive Economic Zone (EEZ) and creates eight regional fishery management councils to manage U.S. marine fishery resources. Learn more about Fisheries Councils.

Site Characterization Points

One of the efforts of DSCRTP and its partners is site characterization, which describes the biodiversity, habitats, populations, communities, and ecological processes of a particular area. Using diving robots, camera systems, and seafloor mapping sonar, scientists explore, study, and compile a summary of each site. Learn more about Site Characterization.

Marine National Monuments

The NOAA MPA Inventory is a comprehensive catalog that provides detailed information for existing marine protected areas in the United States. Marine National Monuments were created to protect the abundant and diverse coral, fish, and seabird populations; facilitate exploration and scientific research; and promote public education regarding the value of these national treasures. Learn more about Marine National Monuments.

National Marine Sanctuaries

The NOAA MPA Inventory is a comprehensive catalog that provides detailed information for existing marine protected areas in the United States. A U.S. National Marine Sanctuary is a zone within United States waters where the marine environment enjoys special protection. Learn more about National Marine Sanctuaries.

Marine Ecoregions of the World (MEOW)

Marine Ecoregions of the World (MEOW) is a biogeographic classification of the world's coasts and shelves. MEOW represents broad-scale patterns of species and communities in the ocean, and was designed as a tool for planning conservation across a range of scales and assessing conservation efforts and gaps worldwide. Learn more about MEOW.

Large Marine Ecosystems

Large marine ecosystems are expansive ocean areas and encircle nearly every continent and some large islands and island chains. Each LME has distinct bathymetry, hydrography, and biological productivity whose plant and animal populations are inextricably linked to one another in the food chain. Learn more about LME.

Deep-Sea Corals and Sponge Models

Predicted Habitat Suitability Models for Deep-Sea Corals in the U.S. Gulf of Mexico, Southeast Atlantic, Northeast Atlantic, Mid-Atlantic, Hawaii, and Alaska regions were developed by the National Centers for Coastal Ocean Science (NCCOS), part of the NOAA National Ocean Service.

Multibeam Bathymetry Mosaic: Shaded Relief Visualization

Bathymetry is the measurement of the depth of the ocean floor. The Multibeam Bathymetry Database (MBBDB) at NCEI collects and archives multibeam data from the earliest commercial installations (circa 1980) through today's modern high-resolution collections. Data are acquired from both U.S. and international government and academic sources. The MBBDB provides data that span the globe and are discoverable and accessible via map interface or text-only search options. Learn more about MBBDB.

Okeanos Explorer Bathymetric Grids: Tiled Color Hillshade Visualization

This image service provides a seamless mosaic of gridded bathymetric products derived from multibeam data collected by the NOAA Ship Okeanos Explorer. Learn more about the Okeanos Explorer Bathymetry.

Other Features

Data Export

In addition to viewing data on the Interactive map (See Using the Map Panel), Deep-Sea Coral and Sponge Observations data can be exported. The Download button at the top right of the portal provides an interface to export records that have been customized using the Filter Tools. Alternatively, users can utilize an ERDDAP instance to customize a data export request. It is also possible to download the entire contents of the National Deep-Sea Corals and Sponges Database.

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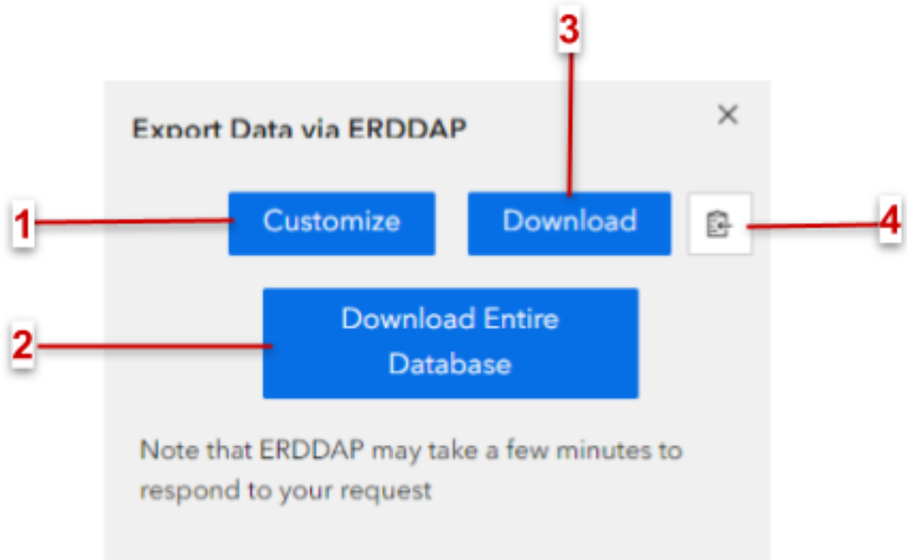
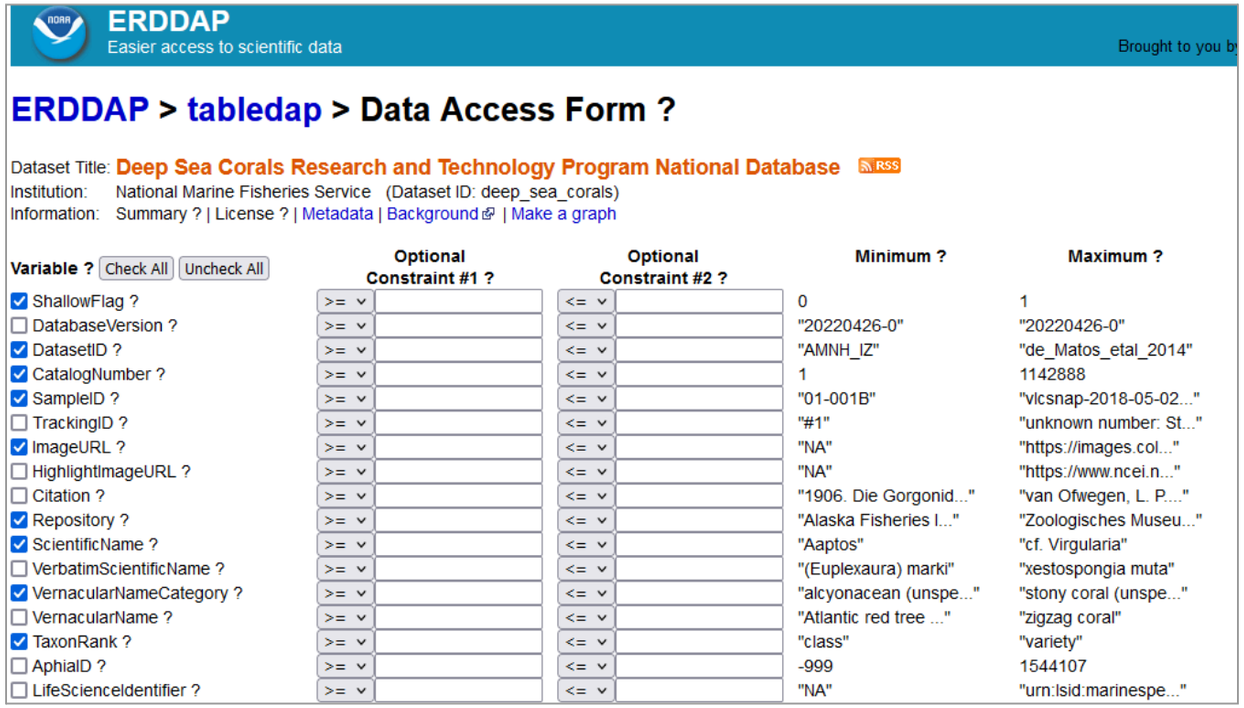


1. **Customize** — Click on the Customize button to be taken to the Deep-Sea Corals ERDDAP Data Access Form console to customize data output.
2. **Download Entire Database** — Click on the Download Entire Database button to download the entire database in a standard CSV format.
3. **Download** — Click on the Download button to download a standard CSV file of the data with current filters applied as selected in the Filter Panel.
4. **Copy URL** — Click on the clipboard button to copy the Deep-Sea Corals ERDDAP url with predefined settings to the clipboard. Open a new browser window and paste the url to open the ERDDAP Data Access Form with the predefined settings.

Using ERDDAP Data Access Form

The Deep-Sea Corals Map Portal utilizes an ERDDAP instance to customize a user's data export request. Visit https://coastwatch.pfeg.noaa.gov/erddap/index.html to learn more about ERDDAP.

The Deep-Sea Corals ERDDAP Data Access form can be accessed through the Download button either by copying the url shown in the Export Data window or by clicking on the clipboard button which will copy the Deep-Sea Corals ERDDAP url to the clipboard. Either way, paste the copied url into a new browser window to open the ERDDAP Data Access Form.



ERDDAP
Easier access to scientific data
Brought to you by

ERDDAP > tabledap > Data Access Form ?

Dataset Title: **Deep Sea Corals Research and Technology Program National Database** RSS
Institution: National Marine Fisheries Service (Dataset ID: deep_sea_corals)
Information: Summary ? | License ? | Metadata | Background | Make a graph

Variable ? Check All Uncheck All	Optional Constraint #1 ?		Optional Constraint #2 ?		Minimum ?	Maximum ?
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☐ VernacularName ?	>=		<=		"Atlantic red tree ..."	"zigzag coral"
☑ TaxonRank ?	>=		<=		"class"	"variety"
☐ AphiaID ?	>=		<=		-999	1544107
☐ LifeScienceIdentifier ?	>=		<=		"NA"	"urn:lsid:marinespe..."

Database Version Number

The Database Version number is assigned by the developer of the Deep-Sea Corals Map Portal. The version number changes when the National Deep-Sea Corals and Sponges Database is updated. Updates generally occur on a quarterly basis, but can occur more or less frequently.