



Draft TUTORIAL

U.S. Marine Protected Areas Mapping Tool

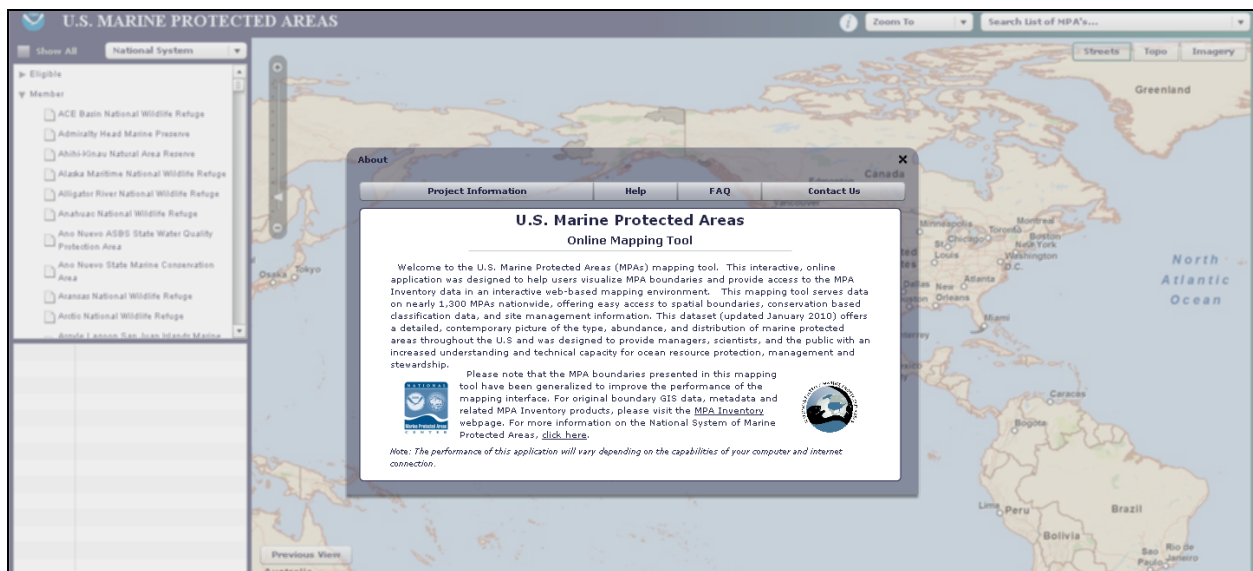
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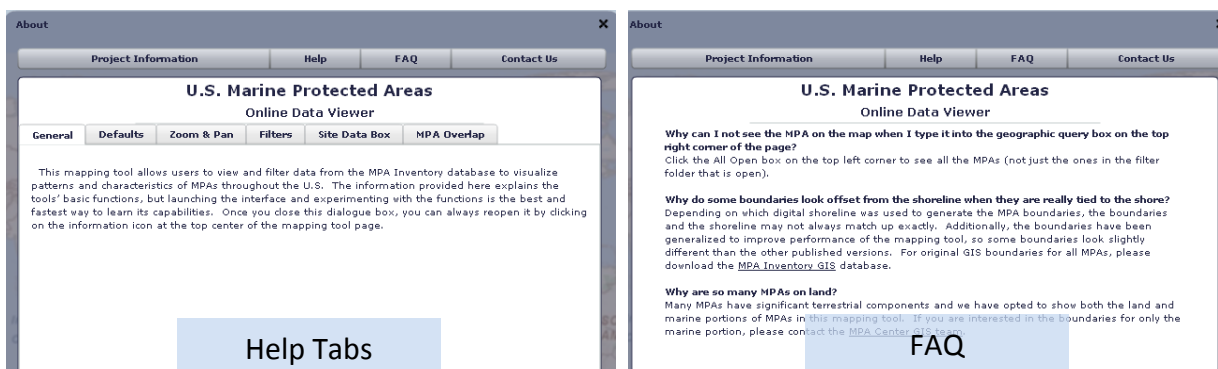
The new U.S. Marine Protected Areas mapping tool allows users to access and explore classification and spatial data on all MPAs in the U.S using an online data viewer. This document is designed to provide some basic background on the tool's utility to familiarize first-time users with its layout and functionality.

Getting Started

When the application is first initiated, the mapping tool automatically launches an information window that presents some basic project information (see below) on the MPA Inventory data and the intended uses of the mapping application. Links to NOAA's MPA Center website and to more information on associated data and products are provided, along with a few key disclaimers about the source data.



Along the top of the information window, are links to other resources for users to familiarize themselves with the MPA mapping tool. The Help section provides simple descriptions of the tools functions (click tabs for more details on each Help topic), the FAQ tab presents some common questions and answers about the use of the tool, and the Contact Us offers names and contact information for key MPA staff.



Help Tabs

FAQ

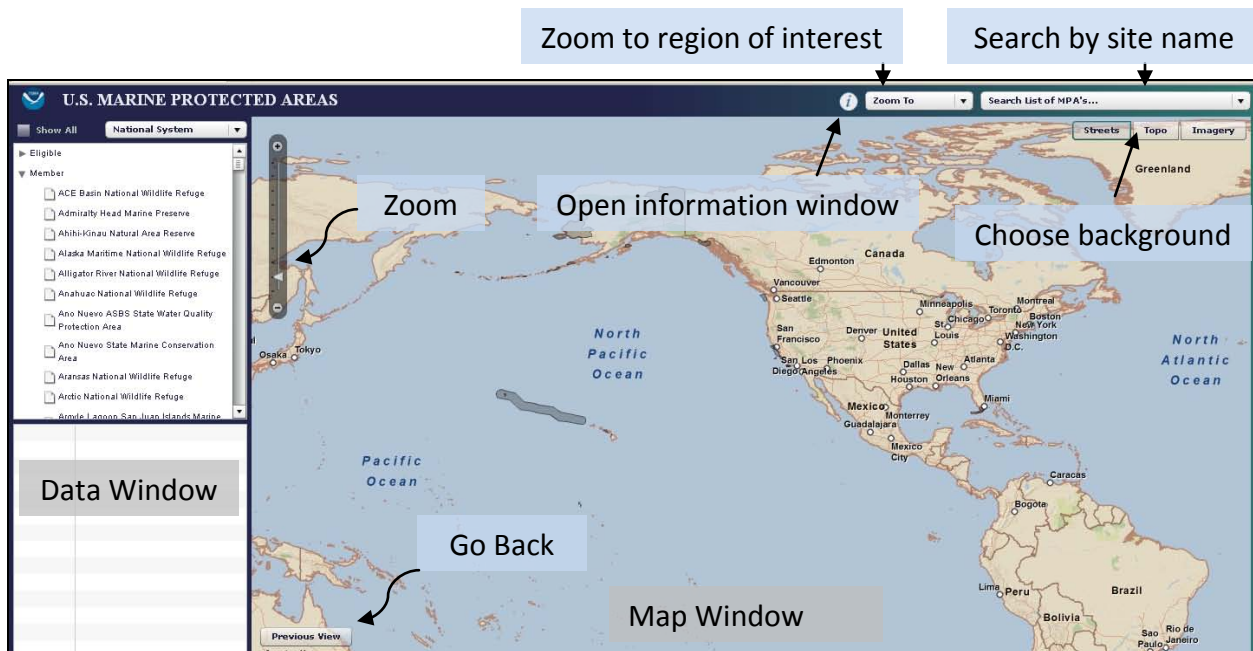
Close the introduction window by clicking on the X in the top right corner of the window. It will not automatically open the next time the application is launched, but it can be accessed anytime by clicking on the information icon on the top right center of the mapping tool window.

Page Layout

The mapping tool page is split into two linked parts (see image below); the map window on the right side, and the data window on the left. The data window displays site classification data from the MPA Inventory, listing database information on MPAs based on the selected filter and the current map extent. As you zoom in and out of the map window, the sites shown in the data window will continually change to include only those that exist within the map window.

Map Tools

The map window provides various functions to assist in exploring the MPA Inventory data.



- The Zoom To box (top right of center) provides a selection of predefined geographic extents for centering the map over specific geographic regions.
- The Search MPAs query box (top right) can be used to locate a specific site by name.
- The Street, Topo, and Imagery buttons can be selected to switch between background layers to create spatial context and enhance the visualization of site boundaries.
- The Information icon opens up the introduction and help dialogue box that is shown when the application is initially launched.
- The vertical Zoom bar sets the scale of the map. Move the arrow up and down, or click on the + and - to zoom in and out.
- The Previous View button on the bottom left of the mapping window will return the map to the previous map extent.
- The mouse can be used to direct the hand cursor and pan the map in any direction.

Data Tools

The data window provides options to filter or sort the MPA Inventory based on a selected database field chosen from the Filter Menu. When a filter is selected, the Filter Folders will list the results in a series of classification folders. The number of folders depends on which database field is chosen and the classification of the sites that are within the map extent. Each filter folder lists the sites within the map window that share a common classification (name of the folder). Each folder and can be clicked on to open or close the list and turn on or off the display of these sites in the map window.

The screenshot shows the U.S. Marine Protected Areas web application. The interface includes a 'Show All' button at the top left, a 'Filter Menu' dropdown, and a 'List of Sites' panel on the left. The map shows a coastal area with several purple-shaded sites. A 'Selected Site' label points to one of the sites on the map. The 'Site Data Box' at the bottom left displays details for the selected site, including its name, government level, status, protection level, management plan, agency, fishing restrictions, conservation focus, and establishment date.

Field	Value
Site Name	Gulf of the Farallones National Marine Sanctu
Gov. Level	Federal
N. S. Status	Member
Prot. Level	Zoned Multiple Use
Mgmt. Plan	Non-MPA Programmatic Habitat Management
Mgmt. Agency	National Marine Sanctuaries
Fishing Restr.	No Site Restrictions
Cons. Focus	Natural Heritage
Prot. Perm.	
Constancy	Year-round
Established	1981
Website	http://farallones.noaa.gov/
Sq. Km	

For example, in the image above, the Member folder is open, listing and displaying all the sites in the map extent that are members of the National System of MPAs. By clicking open any of the filter folders, the sites within it that meet that classification will be drawn on the map. Remember, to see all the MPAs that exist in a given area, check the Show All box to display all MPAs regardless of classification.

The map window displays the site boundaries for sites that are turned on (folder open – arrow pointing down) in the Filter Folders. If there are no sites shown in the mapping window, click open any of the filter folders to see sites in the map extent that meet that filter classification (folder name). As the map extent changes by zooming or panning in the map, the lists of sites in the Filter Folders will update to only include sites shown on the map.

The Show All button provides a way to show all MPAs in the map extent by opening all the folders in the Filter Folders. While this does display all the MPAs that exist in the geographic extent on the map, users may need to scroll down (see image above) in the Filter Folders to see all the classification folders and review the sites within them. A Hide All button has also been added to close all the filter folders and remove all the boundaries from the map.

Using the MPA Mapping Tool

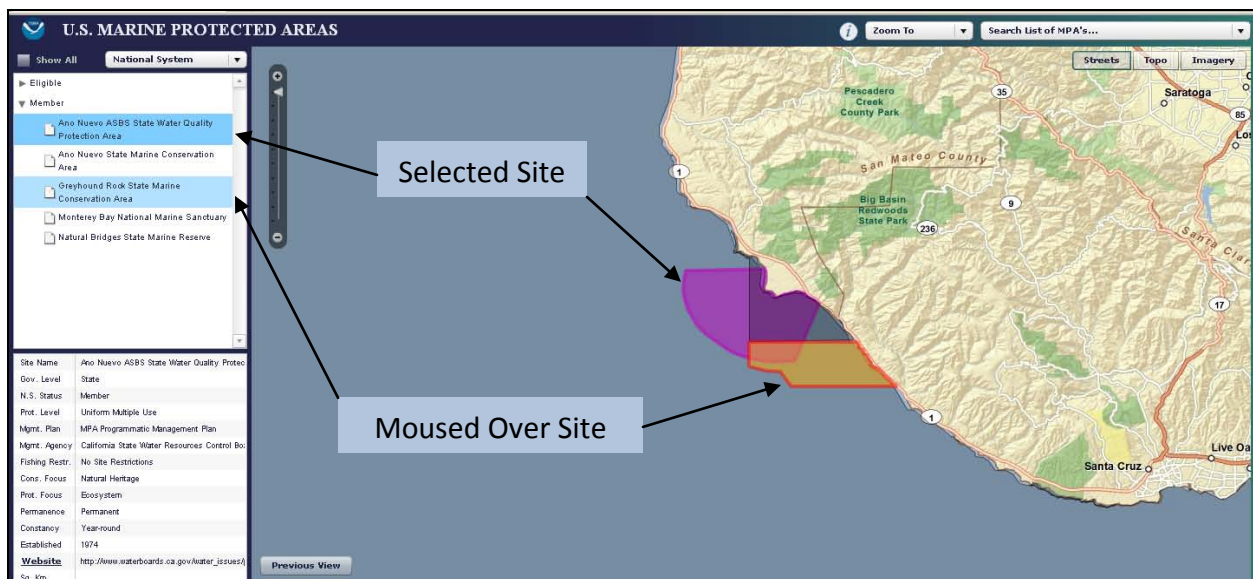
The MPA Mapping Tool provides a simple interface to view and explore MPA information stored in the MPA Inventory database. To explore the MPA data, you can:

- Use the “Search MPAs” box to type in the name of a specific site, zoom to it on the map, and review its boundaries, location and classification attributes, as well as explore other nearby MPAs.
- Use the “Zoom To” regional query box to focus the map on a selected region.
- Use the Filter Menu to group and view MPAs by a selected filter (e.g. Level of Protection).
- Use pan and zoom tools to navigate around the map and use the mouse to click on MPA shapes to explore their site information in the Site Data box.
- Use the mouse to explore overlapping MPAs (see details below).
- Open and close filter folders to show only sites with certain classification attributes
- Click on specific sites within the classification folders to zoom to the site on the map and show site information in the Site Data box.
- Display National System sites and follow their URL to link to their site webpage.
- Click the Show All button and see all MPAs in the map extent (this is basically the same as opening all the classification folders) or the Hide All button to close folders and clear the map.

To get more familiar with the mapping tool, start by experimenting with each of these tools and simply zooming around the map. Some other helpful hints about using the mapping tool are provided below.

Selecting sites and viewing site data

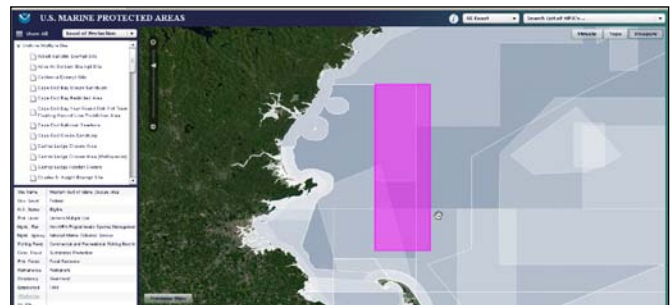
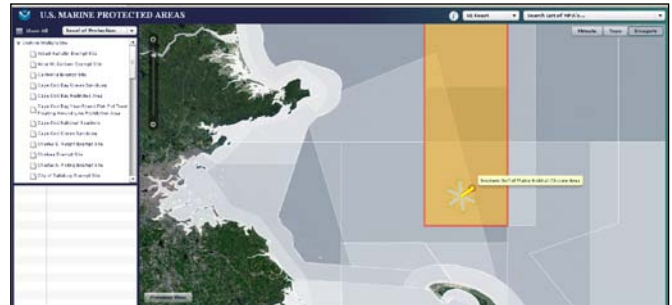
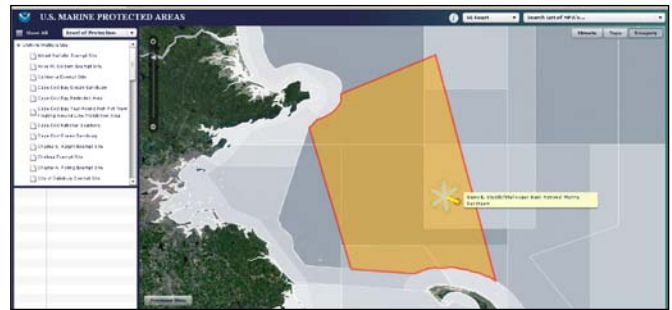
Sites that are selected (clicked on and highlighted dark blue) in the Filter Folders window will be selected and highlighted (dark pink) on the map. As you mouse over other site names that are listed within the Filter Folders, their name in the site list will be highlighted (light blue) and their site boundaries will be highlighted and outlined in red on the map, but their site data will not be listed in the site data box. To select a site, you must click on the new site name in the site list, which will then update the site data box with information on that site and the map will zoom to its boundaries. This is designed to allow users to visualize the sites in a given area while focusing on a particular site of interest.



Overlapping MPAs

In certain areas, there are a number of MPAs that share common marine area. In these areas, sites can be difficult to visualize with many boundaries overlapping in the same space. When clicking on the map in areas where there are multiple overlapping MPAs (see right), a special wheel tool will launch, with the number of spokes on the wheel representing each of the sites that fall in the clicked area. Mousing over or using the cursor to point to the spokes of the wheel will highlight and outline (in red) each site on the map and list its name, but will not display the site information in the site data box unless the site is selected by clicking on the spoke. This is designed to allow you to review all the overlapping sites and their boundaries before selecting the site of interest.

Clicking on the spoke will select the site, zoom the map to its boundaries and load the attributes for that site in the Site Data Box. Once selected, the site will now be highlighted dark pink. Remember, to open all filter folders or check the Show All button (top left) to see all the MPAs in the map extent, as sites within a closed folder are not displayed on the map.



Tips & Suggestions

- ✓ If you are looking for an MPA but it is not shown on the map, be sure click the Show All button to open all the filter folders and show all MPAs in the map extent.
- ✓ If a site will not select in the filter folder window, move the mouse into the map window and back again to reset the selection.
- ✓ The mapping tool is drawing background layers from an online data server, so if the application freezes or is extremely sluggish, try refreshing the browser and starting again.

Disclaimers

- This tool shows boundary and database information for ~1,450 sites in the MPA Inventory. There are ~ 170 sites in the Inventory for which GIS data are not currently available. For a listing of all U.S. MPAs, please download the tabular data from the [MPA Inventory](#) webpage.
- The speed and efficiency of the mapping tool will vary depending on the capabilities of the computer and internet connection being used to access the application.
- The zoom capabilities are limited to prevent the application from zooming in so far that the spatial context is lost (e.g. no visible land or geographic landmarks).
- The entire legal boundary of the protected area is shown however terrestrial areas (above mean high tide) are not defined as part of the MPA. For original boundary GIS data, metadata and related MPA Inventory products, please visit the [MPA Inventory](#) webpage.