

*Environmental Response  
Management Application (ERMA)*

# **Basic User's Guide**

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# INTRODUCTION

## What Is ERMA?

The Environmental Response Management Application (ERMA®) is a web-based geographic information system (GIS) tool that helps emergency responders and environmental resource managers deal with incidents that may adversely impact the environment. ERMA combines real-time and static data to display a single interactive map that makes it easy for users to visualize a situation.

Because ERMA is web-based, users do not have to download any proprietary software onto their computers. It also offers the following advantages:

- It facilitates the integration and synthesis of various types of information.
- It provides a common operational picture to all individuals involved in a response.
- It improves communication and coordination among responders and stakeholders.

ERMA gives resource managers the information they need to make informed decisions when dealing with an incident. The maps it generates are worth the proverbial “thousand words” when communicating the status of response activities.

## What You'll Find in This User Guide

This guide gives an overview of how ERMA works, and then describes how to use the various parts of ERMA's user interface. Some of the functions described are available only to ERMA users with accounts or are restricted to users who have certain privilege levels.

The guide contains these sections:

- [“ERMA Basics”](#) gives an overview of ERMA, including a brief history of the system's origins and a discussion of ERMA's software architecture.
- [“Getting Started”](#) tells how to get an ERMA account, how to log in to ERMA, and describes how to use the different parts of the ERMA window.
- [“Layers Tab: Working with Bookmark Views”](#) gives an overview of how Bookmark Views work, and provides procedures for creating, saving, loading, editing, and deleting them. It also describes how to create playlists that display Bookmark Views in a specified order.
- [“Legend Tab”](#) explains how to interpret the symbols displayed on the ERMA window.
- [“Query Tools Tab”](#) describes how to create and edit polygons that you can use to analyze the data available for an area. It also explains how to access data in the NOAA Environmental Sensitivity Index (ESI) maps and in the U.S. Fish and Wildlife Service Information, Planning, and Conservation Tool (IPaC).

- ["AOI Tab"](#) explains how to draw points, lines, and polygons on the map to create Areas of Interest (AOI) that you can share with other ERMA users.
- ["Labels Tab"](#) describes how you can add labels that point to specific locations to the ERMA map.
- ["Zoom Tab"](#) describes the tools you can use to zoom in on specific map locations.
- ["Download Tab"](#) explains how to save ERMA data to your computer.
- ["Print Tab"](#) describes how to print maps displayed by ERMA.

# ERMA BASICS

ERMA is an online mapping tool offering comprehensive access to localized environmental response information. ERMA integrates both static and real-time data, such as Environmental Sensitivity Index (ESI) maps, ship locations, weather, and ocean currents, in a centralized format. It provides environmental responders and decision-makers with access to data for environmental planning, response, assessment, restoration, and incident drills, as well as for other incidents and natural disasters. The system incorporates data into a fast, user-friendly geographic information system (GIS) that can be accessed by command post staff, by active field and remote support teams, and by decision makers and other incident and restoration staff at a variety of locations.

ERMA was developed by the National Oceanic and Atmospheric Administration (NOAA) and the University of New Hampshire with the Environmental Protection Agency, U.S. Coast Guard, and the Department of the Interior in a cross-agency effort.

## ERMA's Origin: A Regional Focus

ERMA projects are focused on specific regions. Currently, ERMA projects exist or are in development for the Gulf of Mexico, the Atlantic, New England, the Pacific Islands, the Pacific Northwest, the Southwest, the Arctic, the Caribbean, and the Great Lakes.

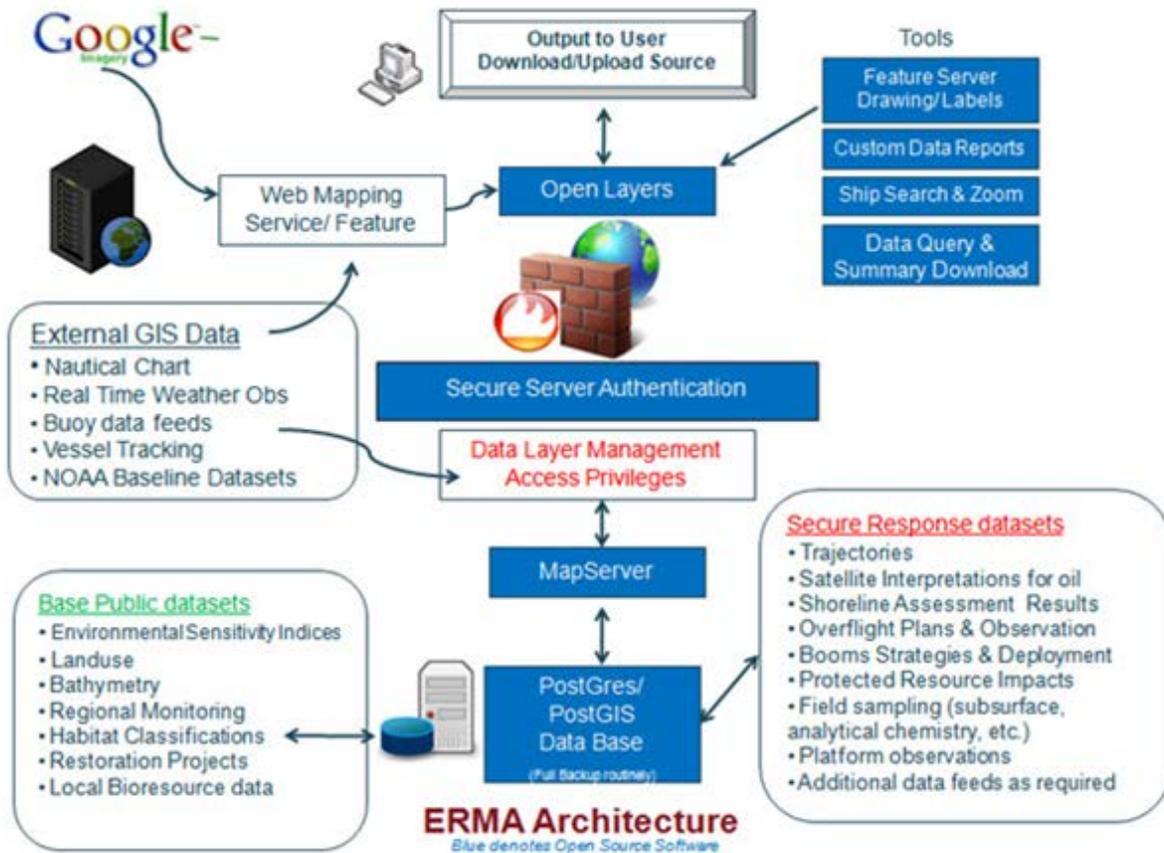
The ERMA pilot was developed for Portsmouth Harbor, New Hampshire. This area was chosen for its proximity to the University of New Hampshire and because of its diverse shoreline development, which includes industrial and residential areas, protected habitats, and tourist/recreational use. Another important reason for selecting Portsmouth Harbor was the active partnership between response agencies, industry, and nongovernmental organizations in New Hampshire and Maine. As a result of these partnerships, existing spatial information (including environmental datasets, habitat classifications and species distributions, navigational charts, high resolution bathymetry, meteorological observations, and trajectory and forecast models) was leveraged to create a response-driven, web-based GIS data management and analysis tool—ERMA. The pilot was tested during area response drills, where it proved effective at providing data transparency while maintaining ease of operation by multiple users.

## Making ERMA Go: The Technology that Powers ERMA

ERMA is an integrated data management system that incorporates static base layers along with real-time streams of data (such as weather, tides, and ship tracking data) into a fast, user-friendly Geographic Information System (GIS) that is accessible to the command post as well as people in the field and other locations. ERMA enables a user to quickly and securely upload, manipulate, export, and display spatially referenced datasets, producing a high-impact and fine-resolution visualization of integrated data that can be used to solve complex environmental response and resource issues.

ERMA is designed to store, query, and display spatially referenced data for solving complex questions. The application is based on open source software (PostgreSQL/PostGIS, MapServer, and OpenLayers), which ensures compatibility with other commercial and open source GIS applications. By overlaying diverse spatial datasets, the user can see the full spectrum of an incident including potential interactions (oil trajectory and resources at risk, for example).

The illustration below shows ERMA's basic software architecture and data flows.



# GETTING STARTED

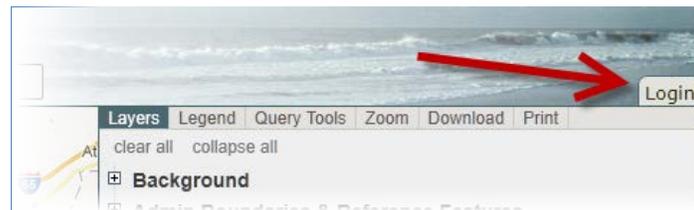
## Getting an ERMA Account

ERMA can be used by all to view publically-accessible data. To access non-public data, ERMA users are required to have an ERMA account.

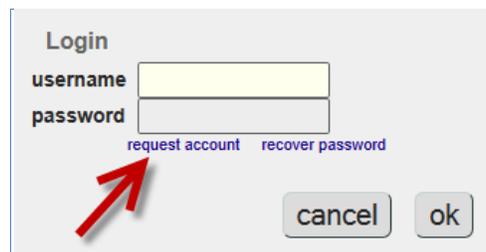
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### To get a new ERMA account:

1. On the ERMA home page, click the **Login** command in the upper-right corner of the screen.



2. When the Login window appears, click **Request Account**. A new browser window opens.



3. Enter the requested information. While the information you need to provide for many of the fields are self-explanatory, you'll find more details about some of fields below the illustration.

**IMPORTANT:** *You must provide information for all fields that are marked 'Required.'*

### Request an ERMA Account

**First Name**  required

**Middle Name**

**Last Name**  required

**Password**  required

**Phone**  required

**Email Address**  required Work email address required (not personal)

**Affiliation**  required

**Agency Represented**  required Major government agency or company represented.

**contractor information**

**Contractor**  Yes  No required

**Company (if yes above)**

**NOAA OR&R Sponsor\***  required

**Incident Command Post (if applicable)**

**Office Location (City, State)**  required

\* NOAA Office of Response & Restoration representative that suggested access to the site.

- **Password:** Your password is an important part of keeping ERMA secure. If you have a weak password, it's far more likely that a hacker or other unauthorized user will be able to guess your password or crack it using brute-force computing. These guidelines will help you create a strong password:
  - It should contain at least twelve characters, and a mix of uppercase letters, lowercase letters, numbers, and special characters (such as !\*@&#%\$%^).
  - Do not use repeated characters, such as AAAA1111 or xxxxxxxx—this repetition makes it easier for someone to guess your password.
  - Do not use an easily guessed sequence of digits, such as 1234 or 4321.
  - Do not use the word *password* as your password. (Don't laugh—people do this more often than you'd think.) Similarly, don't use any part of your own name.
  - Do not use a name or any word in the dictionary.
  - Do not use any part of your name or your e-mail address.
  - You should be able to type your password quickly. This makes it hard for an onlooker to see what you've typed.
  - Change your password periodically—every 90 days is a good frequency.

- **Email Address:** Enter a work email address that includes a domain name (the part that comes after the @ symbol. Personal email accounts (such as a Google Mail or Hotmail account) are not acceptable.
  - **Affiliation:** Open the drop-down list and select the type of organization that you are affiliated with. If none of the listed categories fit your organization, select **Other**.
  - **Agency Represented:** Enter the name of your organization.
  - **Contractor:** If you work for your organization on a contract basis, select **Yes**. Otherwise, select **No**.
  - **Company:** If you are a contractor, enter the name of the contracting company that you work for.
  - **NOAA OR&R Sponsor:** Enter the name of the NOAA Office of Response & Restoration representative who suggested that you use ERMA.
  - **Incident Command Post:** If you are part of an active response, enter the name of your incident command post.
  - **Office Location:** Enter the location of your incident command post or, if you are not part of an active response, the home city of your organization.
4. Click **Submit**. Once your request has been processed, you will receive an email message containing your ERMA user name and brief instructions for using ERMA. (The message normally arrives within one business day.)

*Note: Requests for ERMA accounts are normally processed during regular business hours (Monday through Friday from 8 A.M. to 5 P.M. PT). Processing will be quicker during a drill or event.*

## Recovering Your Password

### To recover your password if you forget or lose it:

5. On the ERMA home page, click the **Login** command (located in the upper-right corner of the screen).
6. When the Login window appears, click **Recover Password**.

7. When the Password Recovery window appears, type your email address (the same address you used when you initially requested your account) in the field provided.

**Password Recovery**

Please enter your email address

email address  required

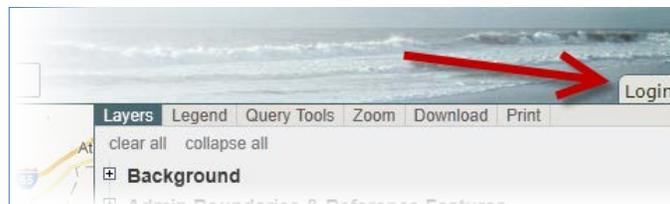
cancel submit

8. Click **Submit**. Your password will be sent to you in an email message.

## Logging In and Out

### To log in to ERMA:

1. On the ERMA home page, click **Login** in the upper-right corner of the screen.



2. When the Login window appears, enter your username and password.
3. Click **OK**. A message tells you that your login was successful. In addition, layers that are restricted to users who have ERMA accounts will appear on the Table of Contents (on the right side of the window), and additional tools and tabs will become available.

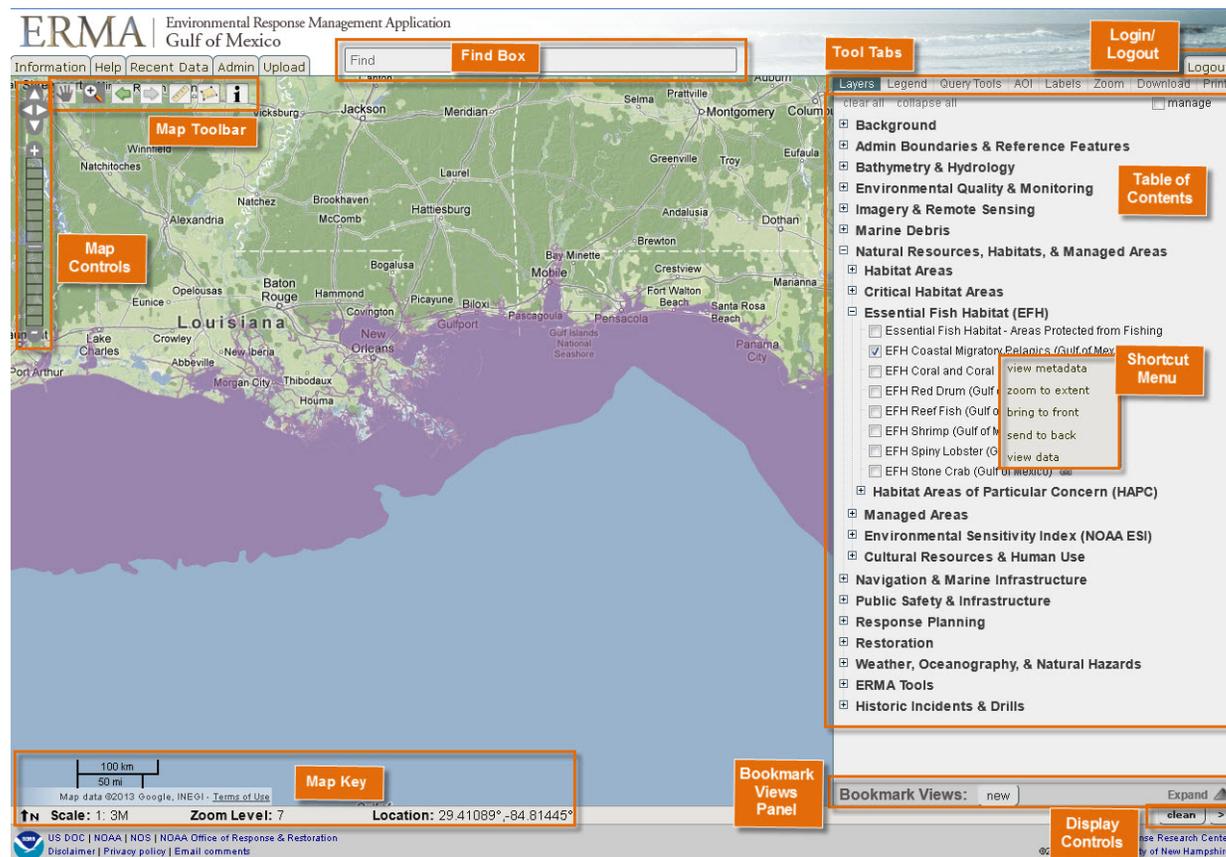
### To log out of ERMA:

Click **Logout** in the upper-right corner of the ERMA window. All restricted folders and layers disappear, and a message tells you that the logout was successful.

*Note: If your ERMA window has been inactive for 12 hours, you will be automatically logged out.*

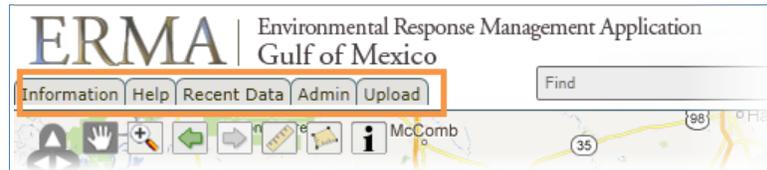
# USING THE ERMA WINDOW

ERMA data is accessed and displayed using the ERMA window. The elements of this window are shown in the illustration below.



The rest of this section describes these elements, starting with the Map Controls and working around the window clockwise. The exceptions are the Navigation Tabs (explained in separate sections below) and the **Login/Logout** button (described in the previous section).

The upper-left corner of the ERMA window contains several tabs. The particular ones that you see depend on your privileges. (The **Information** tab, **Help** tab, and **Recent Data** tab are always available.)



- The **Information** tab opens a window containing general and design information about ERMA.
- The **Help** tab opens a window containing basic information about using ERMA, including the use of the Map Toolbar and Navigation tabs.
- The **Recent Data** tab opens a window containing links to data that’s been uploaded recently. Only the layers that you have the needed privileges to view will be visible.

*Note: The number of links available and the age of data considered “recent” depend on which ERMA site you are using.*

- The **Admin** tab opens a menu of administrative commands. You’ll see this tab only if you are an administrative user with the appropriate privileges.
- The **Upload** tab opens a window that allows you to upload new shapefiles to ERMA (if you are a Data Uploader with the needed privileges).

## Map Controls

The Map Controls are located in the upper-left corner of the map. It contains the following controls.

	<p><i>Navigation Control</i></p> <p>Allows you to move the entire map north, south, east, or west.</p> <p>To move the map, click the compass point for the desired direction (north, south, east, or west). Keep clicking until the map is where you want it. You can see the latitude and longitude of the new map center in the Map Key at the bottom of the ERMA window.</p>
	<p><i>Zoom Level Control</i></p> <p>Allows you to zoom in and out of the map to increase or decrease the zoom level, showing more or less detail.</p> <p>To zoom, click the plus or minus sign on the Zoom Level Control until you’ve reached the desired zoom level. You can see the new zoom level and map scale in the Map Key at the bottom of the ERMA window.</p>

## Map Toolbar

The Map Toolbar is located just to the right of the Map Controls. It contains the following controls and tools.

	<p><i>Pan Tool</i></p> <p>Allows you to reposition the map by clicking on a spot and dragging the map.</p> <p>To reposition, select the <b>Pan Tool</b> icon and then click a spot on the map. Hold down your mouse button and drag the map until you have the view that you want. (This tool is selected by default.)</p>
	<p><i>Magnifier Tool</i></p> <p>Allows you to re-center the map on any desired point and then zoom in on that spot.</p> <ul style="list-style-type: none"><li>• To re-center, click the <b>Magnifier Tool</b> icon and then click anywhere on the map. Each successive click zooms in on the map's new center.</li><li>• To zoom in on a specific area, click the <b>Magnifier Tool</b> icon and then use your mouse pointer to draw a box around the area of interest. When you release the mouse button, ERMA zooms the map in on the area you selected.</li></ul> <p>You can see the zoom level, map scale, and the latitude and longitude of the map's new center in the Map Key at the bottom of the ERMA window.</p>
	<p><i>Previous Extent</i></p> <p>Allows you to zoom the map to the previous extent.</p> <p>Click the icon to switch to the previous map extent without changing any of the currently selected layers. If the icon is gray, there is no map extent saved.</p>
	<p><i>Next Extent</i></p> <p>Allows you to zoom the map to the next extent.</p> <p>Click the icon to restore the next map extent without changing any of the currently selected layers. If the icon is gray, there is no map extent saved.</p>
	<p><i>Measurement Line</i></p> <p>Allows you to draw a line on the map to measure distances.</p> <p>To draw a line, click the <b>Measurement Line</b> icon and then click the point on the map where you want the line to start. If you single-click at another point, you can continue the line in another direction. Double-click when you want to end the line. You can see a running total of the line's length in the Map Key at the bottom of the ERMA window. (If you click on the number, you can cycle through various units of measure.)</p>

	<p><i>Measurement Polygon</i></p> <p>Allows you to draw a polygon on the map to measure areas.</p> <p>To draw a polygon, click the <b>Measurement Polygon</b> icon and then click a point on the map. Move the mouse pointer until you reach the first vertex of the polygon and click again. You can now move the pointer in another direction to create the next side of the polygon. Repeat this process until you've enclosed the desired area, and then double-click on the final vertex to complete the polygon. You can see the area enclosed by the polygon in the Map Key at the bottom of the ERMA window. (If you click on the number, you can cycle through various units of measure.)</p>
	<p><i>Identify Tool</i></p> <p>Allows you to select a point on the map and see attribute information for the layers that are turned on at that particular location.</p> <p>To see the attribute information, turn on one or more layers. Click the <b>Identify Tool</b> icon and then click the desired point on the map. Attribute information will appear in a pop-up window.</p>

## Find Box

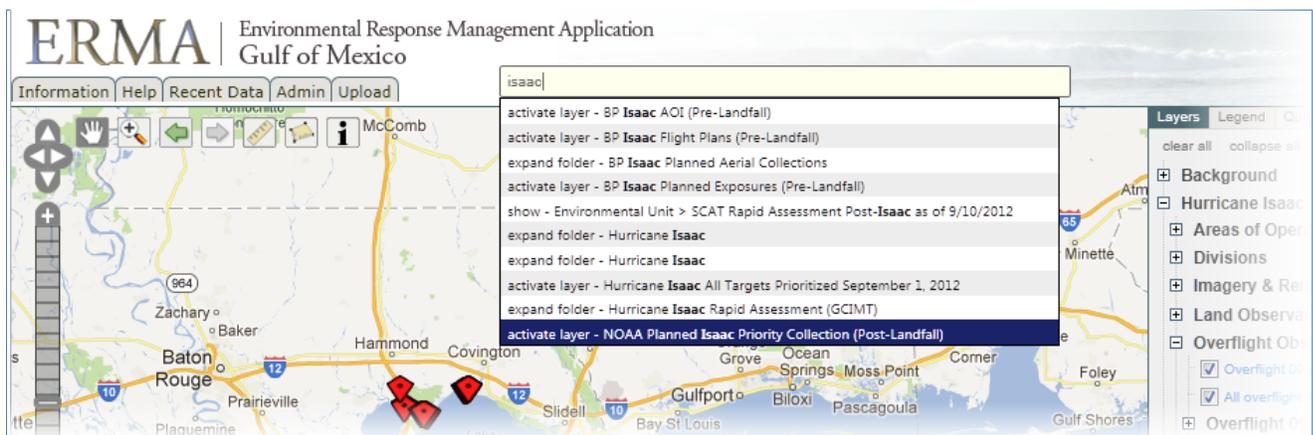
The Find Box is located at the top-center of the ERMA window.



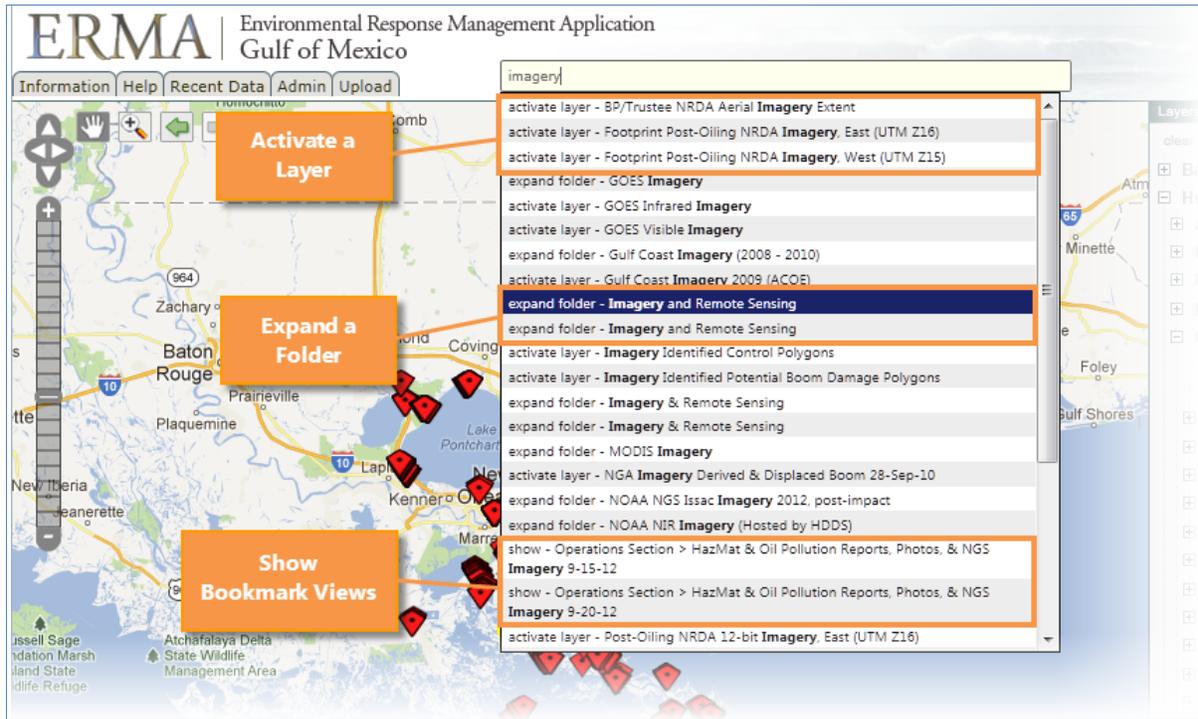
This tool is useful when you want to search for layers, folders, or bookmarks of interest without having to look through multiple folders. Instead, you can enter a word or phrase (which must contain at least three characters) into the Find Box and generate a list of results consisting all of the layers that have your search term in their names.

### To use the Find Box to search for information in ERMA:

1. Type the word or phrase that you are interested in. A list of relevant folders, layers, and bookmarks appears in a drop-down list.



2. You can now select items starting with any of the following:



- **Activate layer:** When selected, the layer is activated, and the data it contains is available for analysis on the map.
- **Show:** When selected, a pre-selected **imagery** group of layers (called a Bookmark View) is displayed on the map.
- **Expand folder:** When selected, the folder is expanded on the Table of Contents, which allows you to look through the folder for other layers that may be helpful.

## Tool Tabs and Table of Contents

The Tool Tabs and Table of Contents (TOC) sit on the right side of the ERMA window. The TOC is accessible via the "Layers" Tab. The rest of the tabs in this part of the ERMA window display panels for tools that let you create, manage, and analyze ERMA data. Access to these tools is controlled by the Tool Tabs, which are located at the top of the TOC, just below and to the right of the Find Box and below the Login/Logout button.



These tools are available on the Table of Contents:

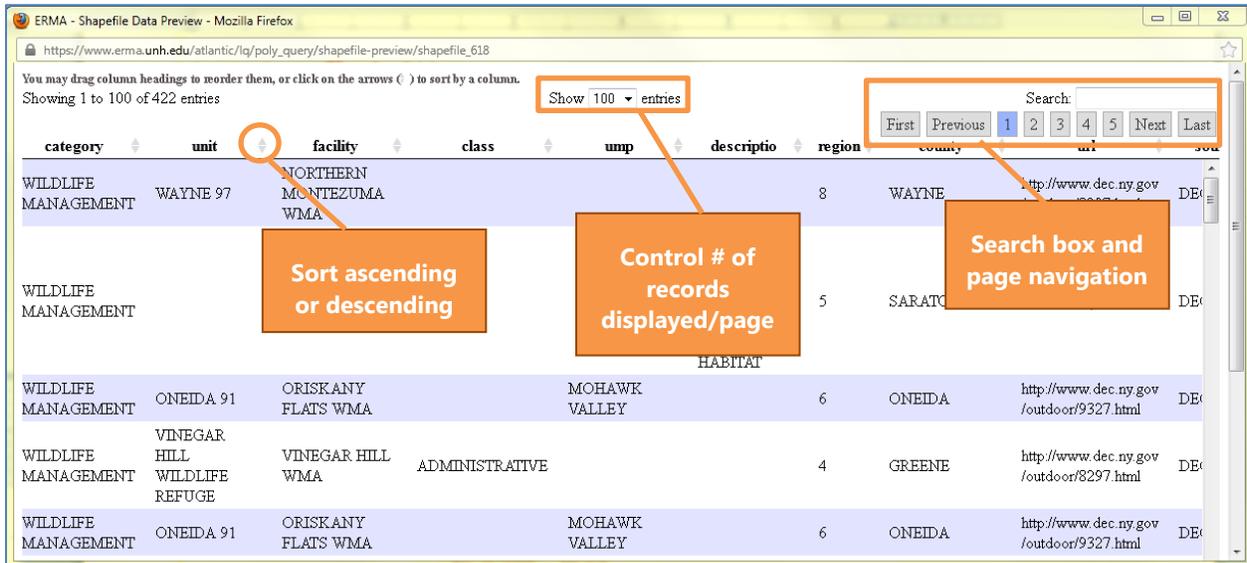
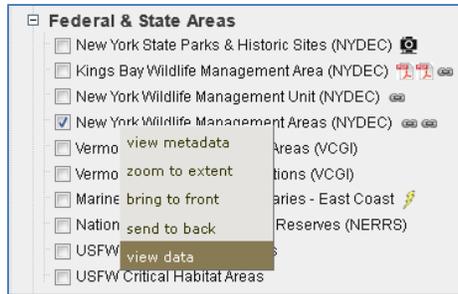
- **Layers** tab.  
Allows you to view, create, and manage the layers of information that can be displayed on the map. This tab also allows you to create Bookmark Views and (if you have the needed permissions) share Bookmark Views with other users. For more information, see "[Layers Tab: Creating, Editing, and Deleting Layers](#)".
- **Legend** tab.  
Helps you interpret the symbology used in the layers displayed on the map. Legend information is automatically generated or updated each time new or different layers are selected for display. For more information, see "[Legend Tab](#)".
- **Query Tools** tab.  
Allows you to create and edit polygons on the map and then analyze the data available for that area. It also allows you to access data in the NOAA Environmental Sensitivity Index (ESI) maps and in the U.S. Fish and Wildlife Service Information Planning and Conservation Tool (IPAC). For more information, see "[Query Tools Tab](#)".
- **AOI** tab. (Available only to users with the required privileges.)  
Allows you to draw points, lines, and polygons on the map to create Areas of Interest (AOIs) that you can share with other ERMA users. For more information, see "[AOI Tab](#)".
- **Labels** tab. (Available only to users with the required privileges.)  
Allows you to put labels on the map to mark specific locations. For more information, see "[Labels Tab](#)".
- **Zoom** tab.  
Allows you to zoom in on a particular location by latitude and longitude; by the place name; by ship identification number or ship name. For more information, see "[Zoom Tab](#)".
- **Download** tab.  
Allows you to download certain types of ERMA shapefile information to your computer. For more information, see "[Download Tab](#)".
- **Print** tab.  
Allows you to print a copy of the map displayed in the ERMA window. For more information, see "[Print Tab](#)".

## Folder/Layer Shortcut Menu

This shortcut menu appears when you right-click on the name of a selected layer or folder. It allows you to perform specific operations on that layer or folder, such as zooming to the layer's extent, viewing the attribute table data, or displaying metadata. The active commands on this menu vary from layer to layer and folder to folder.

### *View Attribute Table Data*

Right click on a layer to open the shortcut menu, then click on **View Data** to open its attribute table.



## Bookmark Views Control

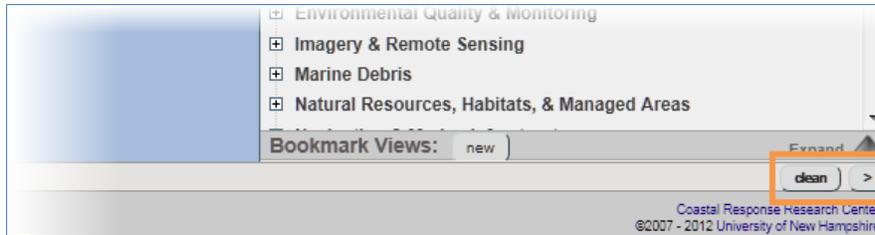
The Bookmark Views control is at the bottom of the **Layers** tab on the Table of Contents. Use this control to open the Bookmark Views panel and create a new Bookmark View.



	<p><i>New</i></p> <p>Opens the Save a View panel, which allows you to create a new Bookmark View (including the selection of the Base Views and folders/layers that the new view will include).</p>
 	<p><i>Expand/Hide</i></p> <p>Opens and closes the Bookmark Views panel.</p>

## Display Controls

The Display Controls are two buttons located in lower-right corner of the ERMA window.



	<p><i>Clean</i></p> <p>Allows you to make most of the controls, tabs, and buttons on the ERMA map invisible. (Only the Map Key and the tab you are currently using stay visible.) This is especially useful when taking screen shots or preparing a map for a presentation.</p> <p>To restore the hidden elements, click anywhere on the ERMA window.</p>
 	<p><i>Hide/Display TOC</i></p> <p>Toggles the display of the Navigation tabs and Table of Contents (TOC) and expands the map to fill the full ERMA window.</p>

## Map Key

The Map Key is located in the lower-left portion of the map in the ERMA window.



The Map Key has the following elements:

- A *graphic scale* showing how many feet/miles or meters/kilometers are represented by a set length on the map.
- A *north arrow* pointing to the map's northerly direction.
- *Scale*: A fractional scale showing the ratio between a set length on the map and the real-world distance that this length represents. In the illustration above, one unit on the map represents 2 million units in the real world.
- *Zoom Level*: The zoom level for the current map display, as set on the Zoom Level control. Levels range from 0 (zoomed out to show the full map) to 19 (zoomed in as far as possible).
- *Location*: The location indicated by the mouse pointer, to an accuracy of 1/100000 of a degree.
- *Measurement*: After using the measurement tool to draw a polygon or line, the measurement units will be seen at the bottom of the window in blue font. Click on the measurement number to cycle through different units of measure (such as: metric, standard, and nautical).

Except for the north arrow, all of these elements update automatically to reflect changes in the zoom level or movement of the mouse pointer.

# LAYERS TAB: WORKING WITH BOOKMARK VIEWS

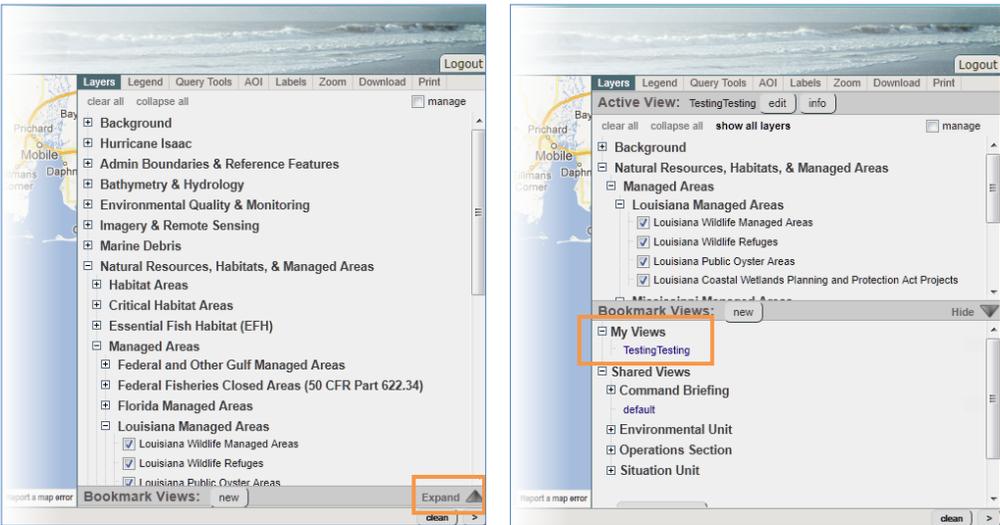
ERMA's Bookmark View function allows you to create and save views that provide you with real-time updating for a specific event or a particular interest. By creating Bookmark Views, you avoid having to assemble new sets of layers each time you want a particular view of ERMA's data. If you have the needed access permissions, you can also share your views with other users.

You can also subscribe to Base Views. Base Views are bookmarks, created by others, that are typically relevant to a high-priority incident or area, such as pertinent operations information gathered during an incident response.

This section gives an overview of ERMA's Bookmark Views, including instructions on how to create and save a Bookmark View and on how to use Bookmark Views to create your personal ERMA default view. It also tells how to set up a playlist that displays Bookmark Views automatically in a specified sequence.

## Bookmark Views

Click the **Expand** button on the **Bookmark Views** control at the bottom of the tab (below left), to open the Bookmark Views panel. Any Bookmark View that you create is shown under *My Views* at the top of the list (below right), while the rest of the panel displays a list of shared views.



To close the Bookmark Views panel, click the **Hide** button on the **Bookmark Views** control.

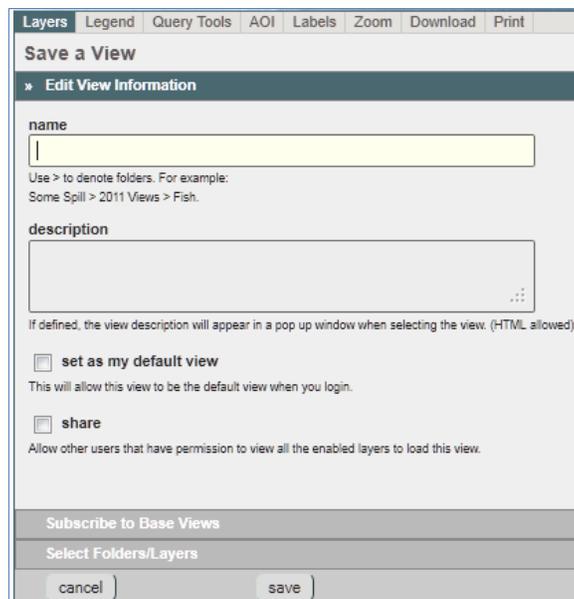
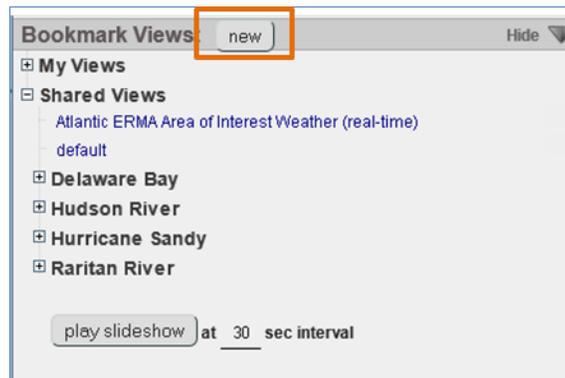
## Creating and Saving Bookmark Views

This "on-the-fly" method can be useful when you realize that the current map view is one that you'd like to be able to use again later.

---

### To create and save a new Bookmark View from the current map view:

1. On the **Layers** tab, click the **Expand** button on the **Bookmark Views** control at the bottom of the tab.
2. When the Bookmark Views panel appears, click the **New** button and the **Save a View** panel opens.



**Hint:** If you right-click on a folder's name before you click **New**, the folder name will be automatically populated in the **Name** field on the **Save a View** panel. For example, if you right-click on **Environmental Unit** and then click **Save Current View**, the text **Environmental Unit >** appears in the **Name** field.

3. If there is no name in the **Name** field already, enter a name for the new Bookmark View. This name should be descriptive and should help you (and other users, if you share the view) know what the Bookmark View shows on the map.

By default, the new Bookmark View will be put into the root level of the list. If you want the view to go into a folder, use a > character to indicate each folder level. For example:

***Some Spill > 2012 Views > Fish***

***IMPORTANT:*** Make sure to put a space after the > character.

4. In the **Description** field, enter a more detailed description of the Bookmark View. It's a good idea to list the layers and views included in the new Bookmark View, and to give other users an idea of why you think these layers and views should be seen together.
5. If you want the new Bookmark View to be loaded automatically when you log in to ERMA, select the **Set as my default view** check box.
6. If you want to share the new Bookmark View with other users, select the **Share** check box. All users who have the appropriate permissions will be able to use your Bookmark View.

***NOTE:*** It not possible to save a bookmark in My Views and Shared Views at the same time. To save the bookmark in both places, you must save the book mark in both places.

7. Click the **Save** button at the bottom of the panel.

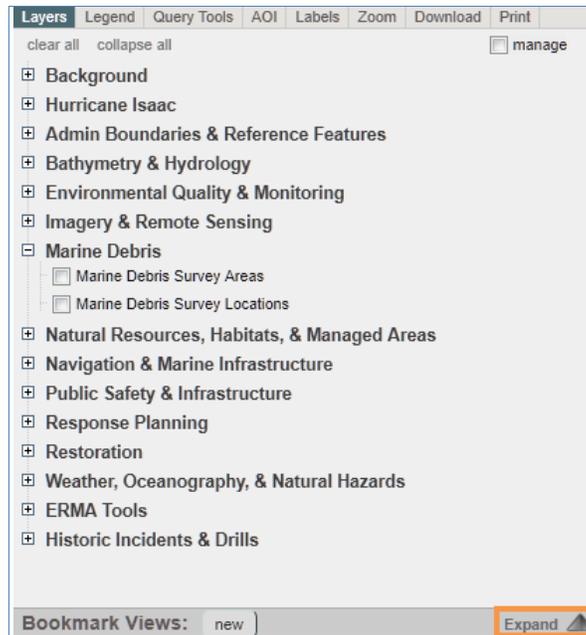
## Working with Bookmark views

This section gives procedures for loading, editing, and deleting Bookmark Views.

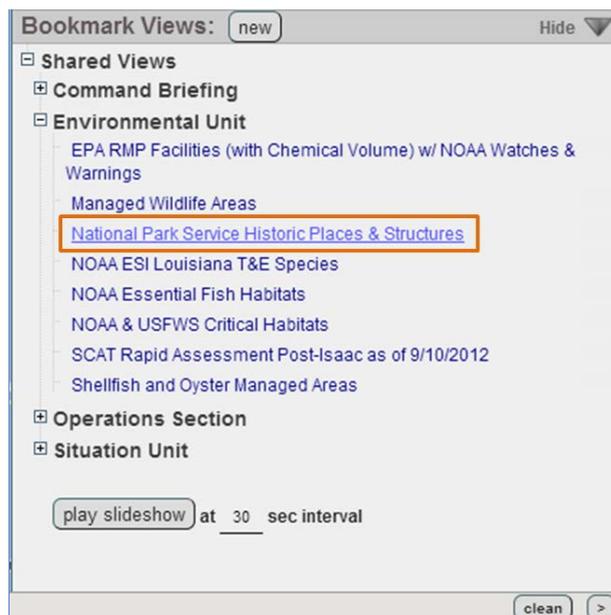
### Loading a Bookmark View

#### To load a Bookmark View:

1. On the **Layers** tab, click the **Expand** button on the **Bookmark Views** control at the bottom of the tab.



2. After the Bookmark Views panel opens, click on the name of the Bookmark View that you want to load. The map will update to show the data in that view.

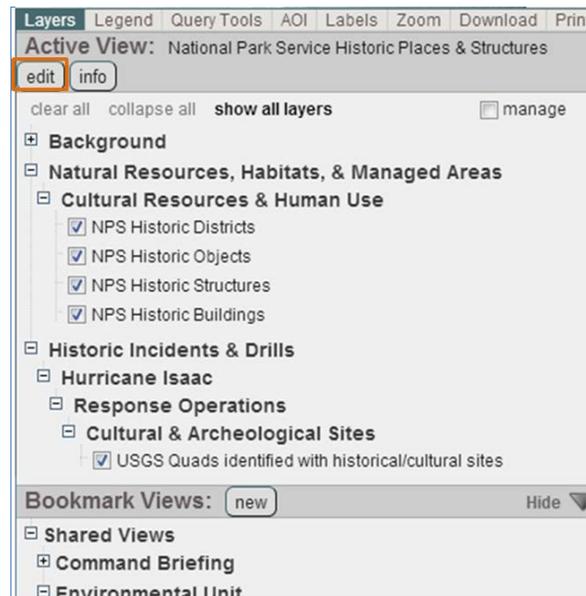


## Editing an Existing Bookmark View

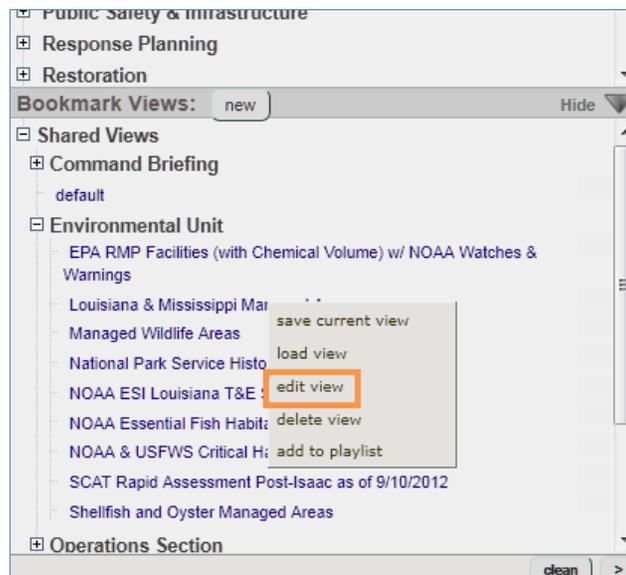
**NOTE:** If the bookmark is not shared out, only the owner can see or edit it. If the bookmark is shared, only the owner and other users with the privileges to share bookmarks can edit it.

### To edit a Bookmark View:

1. On the **Layers** tab, click the **Expand** button on the **Bookmark Views** control at the bottom of the tab.
2. After the Bookmark Views panel opens, click on the **bookmark** you'd like to edit. Then, on the **Active View** panel, located just above the **Bookmark Views** panel, click on the **Edit** button.



**Hint:** For a shortcut, right-click on the name of the Bookmark View that you want to edit. A pop-up menu appears. On the menu, click Edit View. The Save a View panel appears, displaying the current information for that Bookmark View.



3. Whichever method you use, clicking the **Edit** button or clicking **Edit View**, the next thing you should see is the **Save a View** panel. In the **Name** field of the **Save a View** panel, make any needed changes to the name of the Bookmark View. As with the original name, your new name should be descriptive, and help you (and other users, if you share the view) know what the Bookmark View shows on the map.

If you want the Bookmark View to go into a folder, use a > character to indicate each folder level. For example:

***Some Spill > 2012 Views > Fish***

**IMPORTANT:** Make sure to put a space after the > character.

4. In the **Description** field you can edit or add a description of the Bookmark View. It's a good idea to list the layers and views included in the Bookmark View and to give other users an idea of why you think these layers and views should be seen together.
5. If you want the Bookmark View to be loaded automatically when you log in to ERMA, select the **Set as my default view** check box. If you do not want it to be the default, make sure the check box is cleared.

*Note: Only Bookmark Views in your **My Views** list can be edited to be your default view. If you want to make a **Shared View** your default view, save the **Shared View** as a new **My View**.*

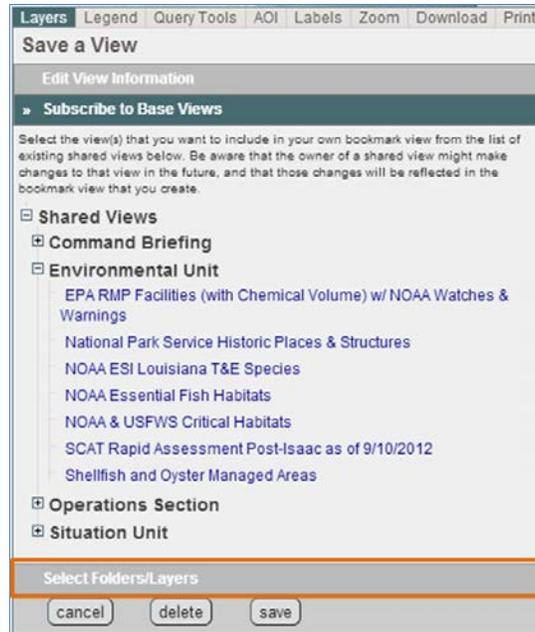
6. If you want other users to be able to use the new Bookmark View, select the **Shared** check box.

**IMPORTANT:** Only users who have the appropriate permissions can share Bookmark Views.

7. Click the **Subscribe to Base Views** control. The Subscribe to Base Views panel opens.

Subscribing to Base Views allows you to rely on bookmarks created by others which you won't need to maintain or update and can include in your own views. This is useful for a bookmark such as Response Operations created by another user where you'd want to constantly see all the

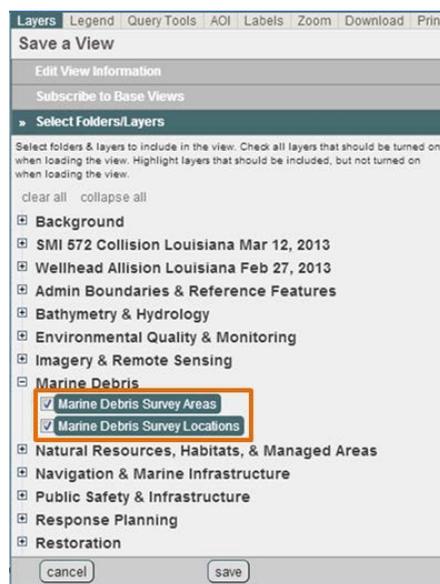
current boom, vessels, or teams without updating it yourself. You could subscribe to this bookmark and build on it with your own shoreline data to keep tabs of how the shoreline might be impacted by operations or how it should be protected. Another example to subscribe to would be a bookmark of oceanographic data such as currents, tides, and wave heights.



8. Highlight each Base View that you want to edit your Bookmark View to include. These can include your own saved views or Bookmark views saved and shared by other users.

**NOTE:** *If you choose to include Base Views, be aware that a shared view's owner might make changes to that view in the future, and that those changes will be reflected in the bookmark view that you create.*

9. Click the **Select Folders/Layers** control (see above). The Select Folders/Layers panel appears.



10. Select the check box next to each layer that should be turned on when your new Bookmark View loads.
11. Highlight each layer or folder that should be included in the view, but not loaded.
12. Click the **Save** button at the bottom of the panel.

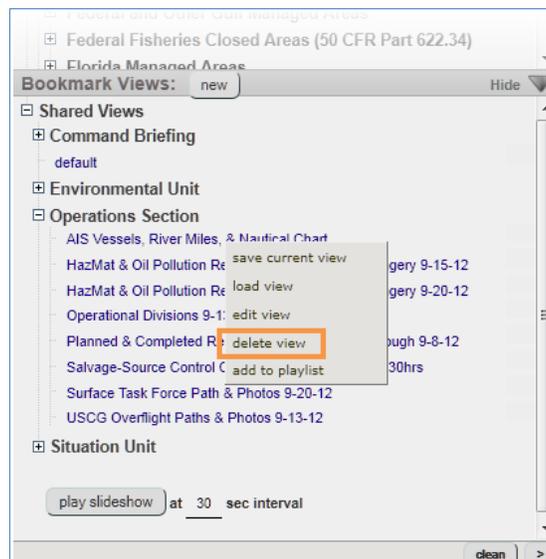
## Deleting an Existing Bookmark View

*Note: If the bookmark is not shared out, only the owner can delete it. If the bookmark is shared, only the owner and other users with the privileges to share bookmarks can delete it.*

---

### To delete a Bookmark View:

1. On the **Layers** tab, click the **Expand** button on the **Bookmark Views** control at the bottom of the tab.
2. After the Bookmark Views panel opens, right-click on the name of the Bookmark View that you want to delete. A pop-up menu appears.



3. On the menu, click **Delete View**. The Bookmark View that you selected is deleted.

## Using Playlists

Bookmark Views can also be set up to display automatically in a specified sequence as a *playlist*. A playlist is very useful when you want ERMA to run on its own like a slide show. You can customize your playlist so that it plays all bookmarks or just specific bookmarks.

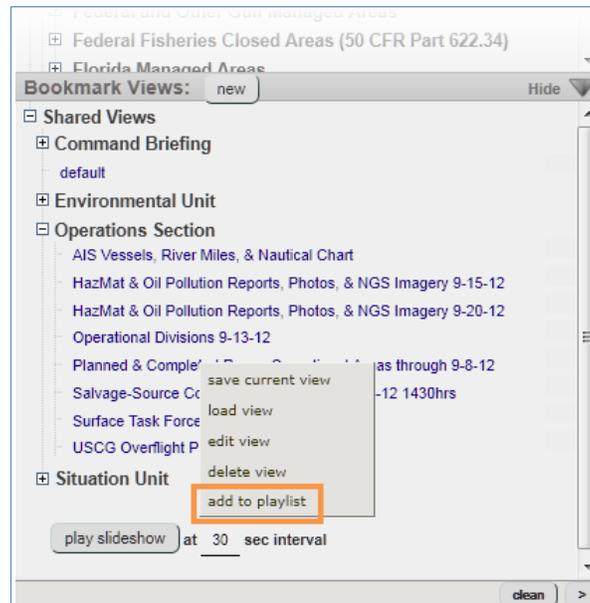
## Creating a Playlist

---

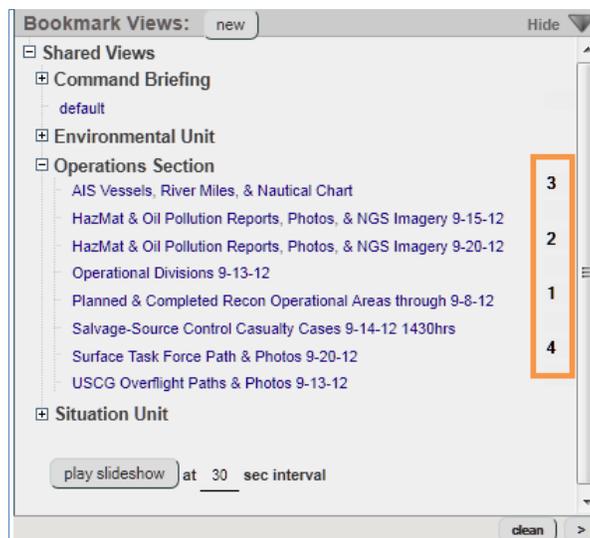
### To create a playlist:

1. On the **Layers** tab, click the **Expand** button on the **Bookmark Views** control at the bottom of the tab.

2. After the Bookmark Views panel opens, right-click on the name of the Bookmark View that you want to appear when your slideshow runs. A pop-up menu appears.



3. Click **Add to Playlist**. A number (in this case, 1) will appear to the right of the Bookmark View's name.



4. Repeat steps 2 and 3 for each bookmark you want to add to the playlist.
5. By default, Bookmark Views are displayed at 30-second intervals. If you want to make the interval longer or shorter, scroll to the bottom of the Bookmark Views panel and enter a new interval value.
6. To make the slideshow start playing, click the **Play Slideshow** button at the bottom of the panel.

## Changing the Playlist Running Order

### To change the running order of a playlist:

1. Click on the number next to a Bookmark View that's in the playlist. A field containing the existing number appears.



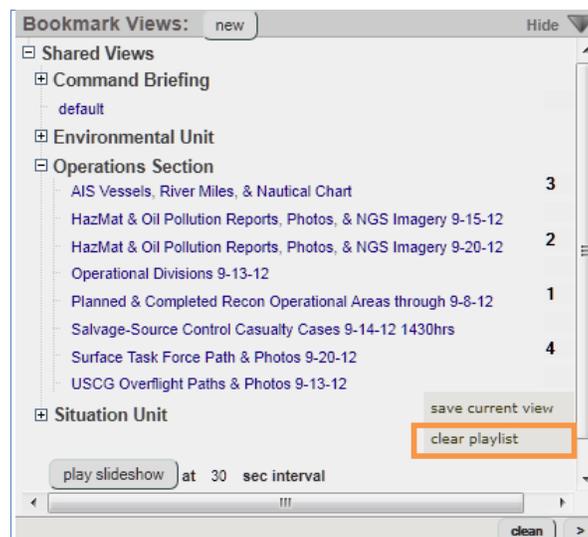
2. Enter a new number into the field. The order of the other Bookmark Views will update to reflect the change you just made.
3. Repeat step 1 and 2 until the playlist is in the order that you want.

## Clearing a Slideshow

Since a slideshow can't be saved, an active slideshow is cleared automatically when you log out of ERMA. If you want to clear a playlist before then, follow the procedure below.

### To clear a playlist:

1. Right-click in any empty spot in the Bookmark Views panel. A pop-up menu appears.



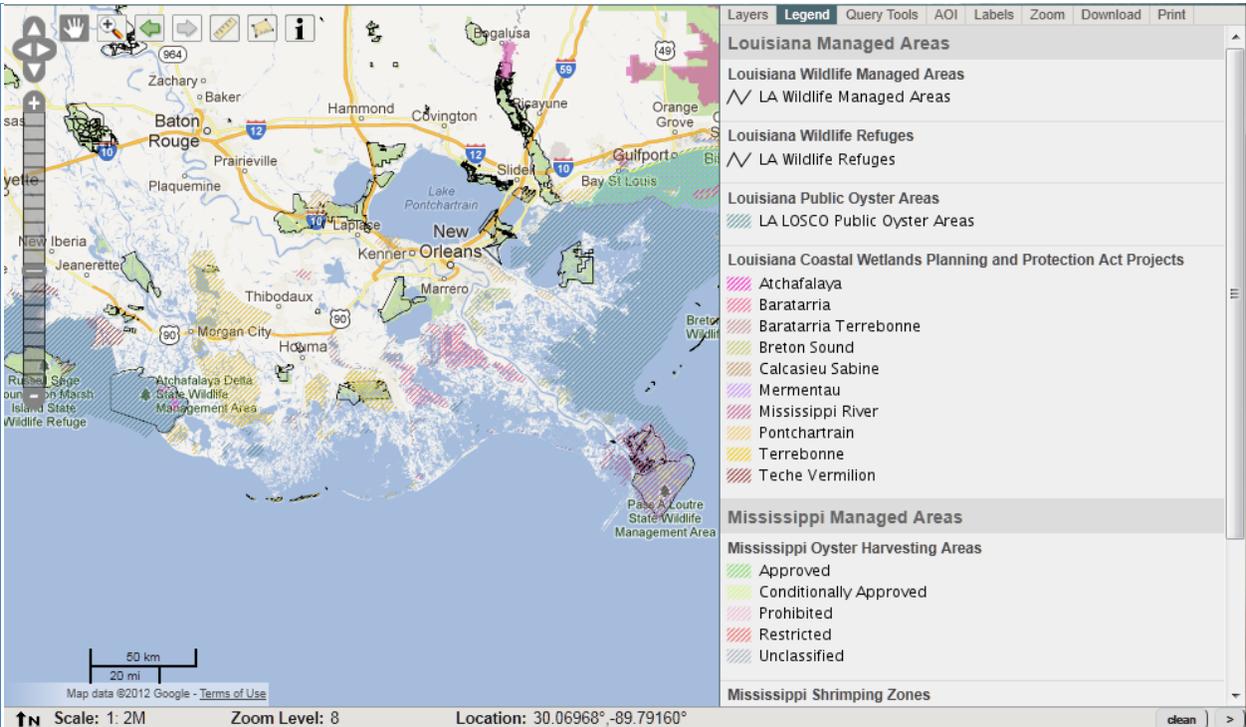
2. Click **Clear Playlist**.

3. Click **Save** when you are finished.

# LEGEND TAB

The Legend explains the symbols used on the map to represent information. These colors and shapes help users to understand what they are seeing on the map.

Legend information is automatically generated or updated each time a layer is created or edited. Legend styles are populated from the styles that are set for a particular layer.



# QUERY TOOLS TAB

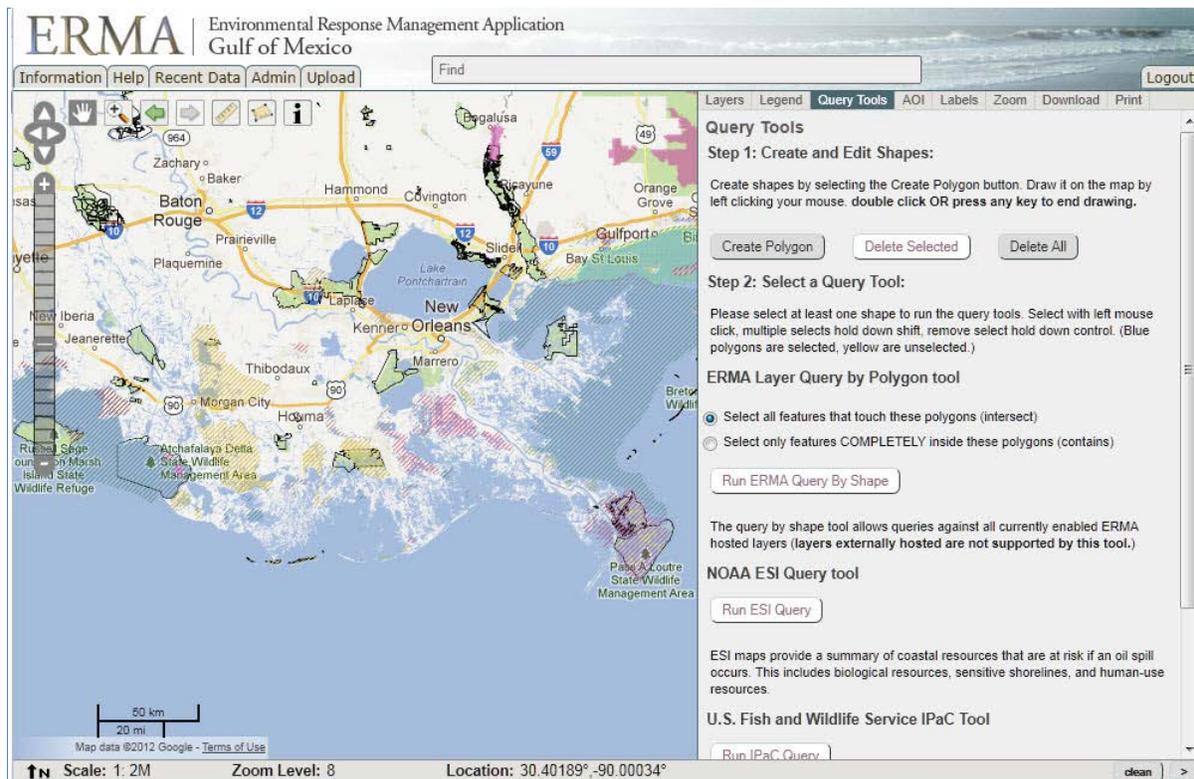
ERMA has a tool that allows you to select one or more specific areas of the map by drawing a polygon around each area. Once you draw the polygon(s), you can analyze data using any of the query tools described in this section.

## Creating and Deleting Polygons

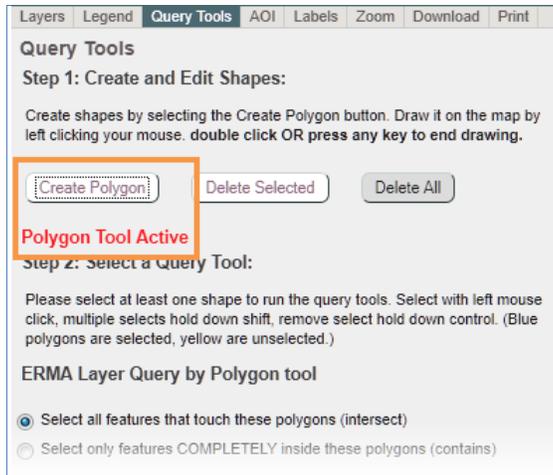
### Creating a Polygon

**To create a shape on the map:**

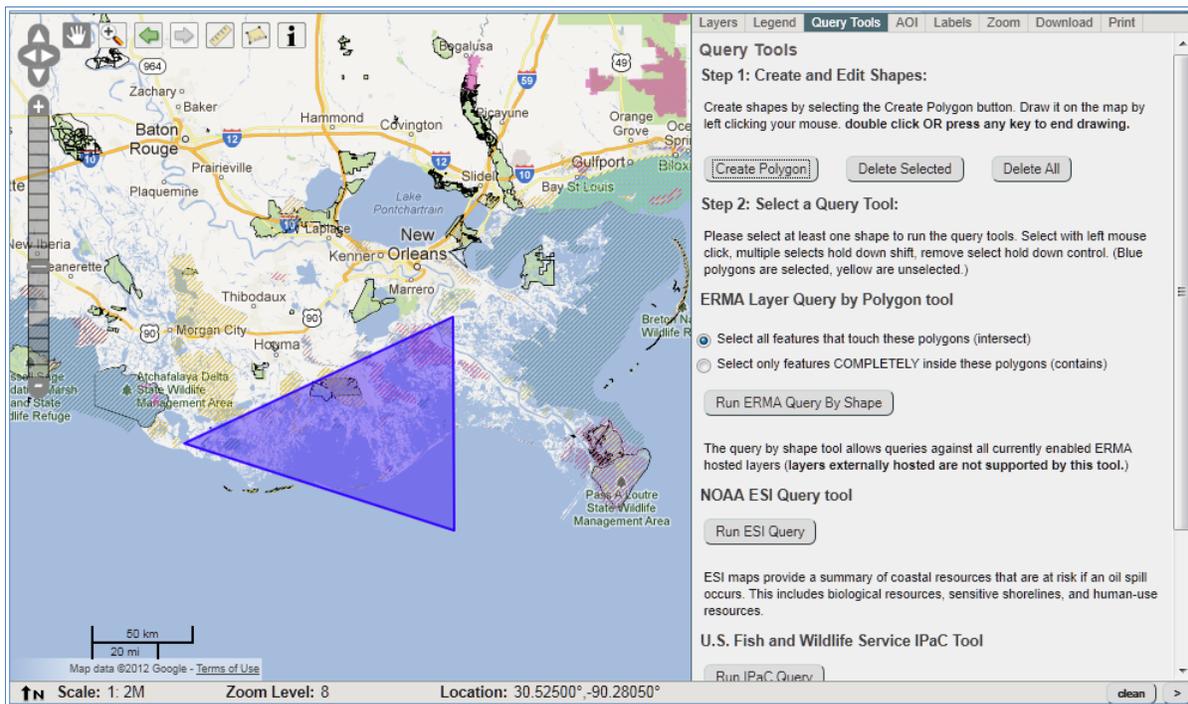
1. On the ERMA window, click the **Query Tools** tab.



2. Click **Create Polygon**. A message tells you that the Polygon Tool is active.



- To make a polygon, click on a spot on the map and then move the mouse pointer to draw the polygon's first side. For each additional side, click again and draw the new side.



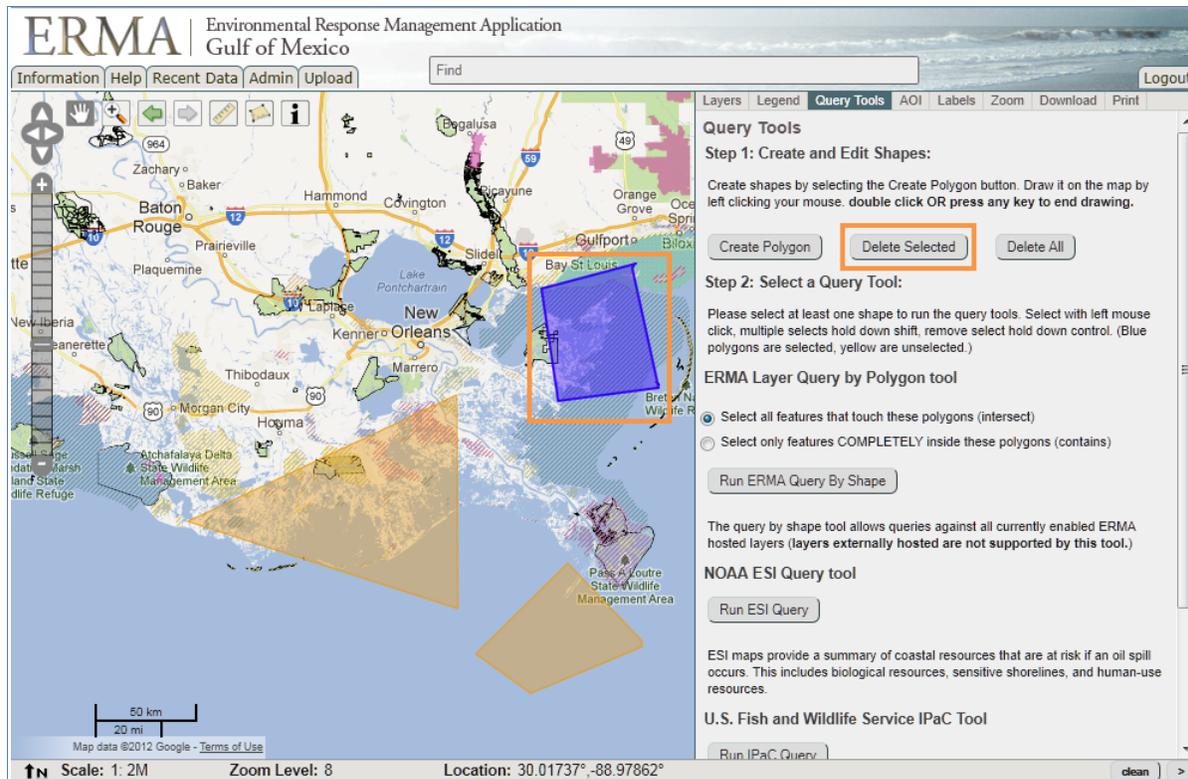
- When the map displays the shape that you want, double-click or press any key to turn off the Polygon Tool.
- Repeat steps 2 through 4 for each additional polygon.

## Deleting Polygons

ERMA allows you to delete single polygons or all of the polygons on the map at once.

## To delete a single polygon:

1. Click on the polygon that you want to delete. That polygon will turn (or remain) blue; all of the other polygons will turn orange.



2. Click **Delete Selected**. The selected polygon disappears from the map.

## To delete all of the polygons on the map:

Click **Delete All**.

## Using Polygons to View and Analyze Data

ERMA provides three tools for viewing and analyzing data using the polygon(s) that you have created.

- ERMA Layer Query by Polygon Tool. This is ERMA's native polygon query tool.
- NOAA ESI Query Tool.
- U.S. Fish and Wildlife Service IPaC Tool.

### ERMA Layer Query by Polygon Tool

**IMPORTANT:** The ERMA Layer Query by Polygon tool returns data for ERMA-hosted layers only (i.e. Internal services such as shapefiles). It does not return data for layers that are hosted externally (i.e. External WMS feeds such as NOAA Nautical Charts or AIS vessels).

The ERMA Layer Query by Polygon Tool allows you to create a subset of all active layers that are contained completely within the polygon(s) that drawn on the map, or which intersect the drawn polygons. All data for active layers is returned in a new browser window, and it can then be exported as:

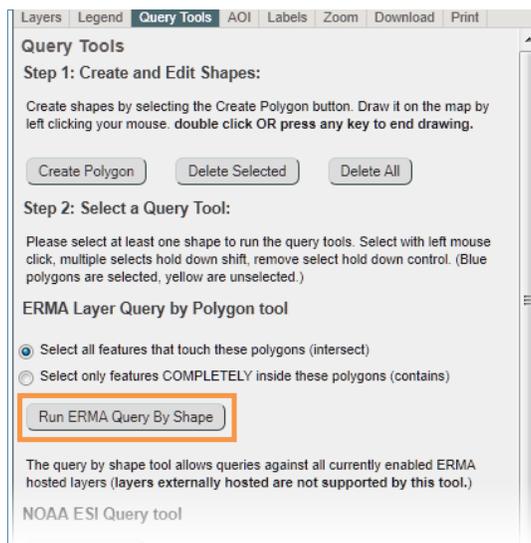
- An Excel spreadsheet
- A KML (Google Earth) file
- A shapefile
- A SpatiaLite (SQLite) database

Metadata is available for each layer.

---

### To use the ERMA Layer Query by Polygon Tool:

1. On the **Layers** tab, turn on all of the layers that you want to query.
2. On the **Query Tools** tab, create one or more polygons using the procedure in "[Creating a Polygon](#)".
3. Click on the polygon(s) that you want to use in your query. To select multiple polygons, press the SHIFT key and click on each polygon you want to include.
4. Select one of these query types:
  - **Select all features that touch these polygons (intersect)** returns data for any feature in an active ERMA-hosted layer that is wholly or partially contained in the selected polygon(s).
  - **Select only features COMPLETELY inside these polygons (contains)** returns data for any feature in an active ERMA-hosted layer that is wholly contained in the selected polygon(s).



5. Click **Run ERMA Query By Shape**. ERMA will generate a subset of records based on your selections, and then display a window similar to the one below.

Query Layers by Polygon Results

Results Summary Layer 5348 Layer 5349 Layer 482 Layer 6102

Layer Name	Layer ID	Result Count	Comments	Metadata	Export?
Louisiana Wildlife Managed Areas	5348	1		Metadata	<input checked="" type="checkbox"/>
Louisiana Wildlife Refuges	5349	59		Metadata	<input checked="" type="checkbox"/>
Louisiana Public Oyster Areas	482	5		Metadata	<input checked="" type="checkbox"/>
Louisiana Coastal Wetlands Planning and Protection Act Projects	6102	28		Metadata	<input checked="" type="checkbox"/>
Mississippi Oyster Harvesting Areas	455	0	Your polygon(s) did not intersect any of the features in this layer, you might consider a larger polygon.	Metadata	
Mississippi Shrimping Zones	457	0	Your polygon(s) did not intersect any of the features in this layer, you might consider a larger polygon.	Metadata	
Mississippi Proposed Coastal Preserves	478	0	Your polygon(s) did not intersect any of the features in this layer, you might consider a larger polygon.	Metadata	
Mississippi Wildlife Management Areas	477	0	Your polygon(s) did not intersect any of the features in this layer, you might consider a larger polygon.	Metadata	

Apply filters to export  
 Export all data  
 Select your desired extract format:

The **Results Summary** tab lists each layer for which data exists, and tells you whether there is data that could not be included because it is hosted externally. Separate tabs for each layer let you examine the data in more detail.

6. Decide whether you want to apply filters to the exported data.
  - If you want to filter the data, select **Apply filters to export** and then continue to step 7.
  - If you want to export *all* of the data, select **Export all data** and then skip to step 14.
7. Clear the check box next to each layer that you *do not* want to include in the exported file. Then:
  - If you want to export *all* of the data in the remaining layers, skip to step 12.
  - If you want to export only *some* of the data for at least one of the remaining layers, continue to the next step.
8. Click the tab for the layer that you want to filter.
9. Click Enable Advanced Filters.

Query Layers by Polygon Results

Results Summary Layer 5348 Layer 5349 Layer 482 Layer 6102

**Louisiana Wildlife Refuges (Metadata)**

You may drag column headings to reorder them, or click on the arrows (↕) to sort by a column.

Showing 1 to 53 of 53 records Show 100 entries Search all

14/15 Columns Shown

area_	perimeter	nwrunit	nwrname	ifwsno	tractno	status_1	status_2	type	status	hectares	acres
Search area_	Search perimetr	Search nwr	Search nwr	Search if	Search tr	Search stat	Search stat	Search	Search sta	Search hectares	Search acres
186594058744	3322535.90582	Delta National Wildlife Refuge	dlt	193	7	o		Ownership		12038.3022939	29747.29280
62276402072.8	1741445.83876	Delta National Wildlife Refuge	dlt	193	6	o		Ownership		4017.82435613	9928.260201
12223502165	1292036.86004	Delta National Wildlife Refuge	dlt	193		i		Inholding or Acquisition Boundary		788.61146567	1948.701370

10. Click **Select Filters** to open a drop-down list.

Query Layers by Polygon Results

Results Summary Layer 5348 Layer 5349 Layer 482 Layer 6102

**Louisiana Wildlife Refuges (Metadata)**

You may drag column headings to reorder them, or click on the arrows (↕) to sort by a column.

Showing 1 to 53 of 53 records Show 100 entries

14/15 Columns Shown Add to Map

Select Filters ...

Enable all Filters

perimeter

area\_

acres

hectares

gid

shape\_leng

shape\_area

Reset all filters View Tutorial

nwrunit	nwrname	ifwsno	tractno	status_1	status_2	type	status	hectares	acres
Delta National Wildlife Refuge	dlt	193	7	o		Ownership		12038.3022939	29747.2000000
Delta National Wildlife Refuge	dlt	193	6	o		Ownership		4017.82435613	9928.2000000
Delta National Wildlife Refuge	dlt	193		i		Inholding or Acquisition Boundaries		788.61146567	1948.2000000

11. On the drop-down, select the check box for each filter that you want to use.
12. Repeat steps 8 to 11 for each additional layer you want to filter.
13. When you are done selecting filters, return to the **Results Summary** tab.
14. Click the button for your desired data export format. When ERMA has finished creating the export file, a dialog box will ask you where you want to save the file.

## NOAA Environmental Sensitivity Index (ESI) Tool

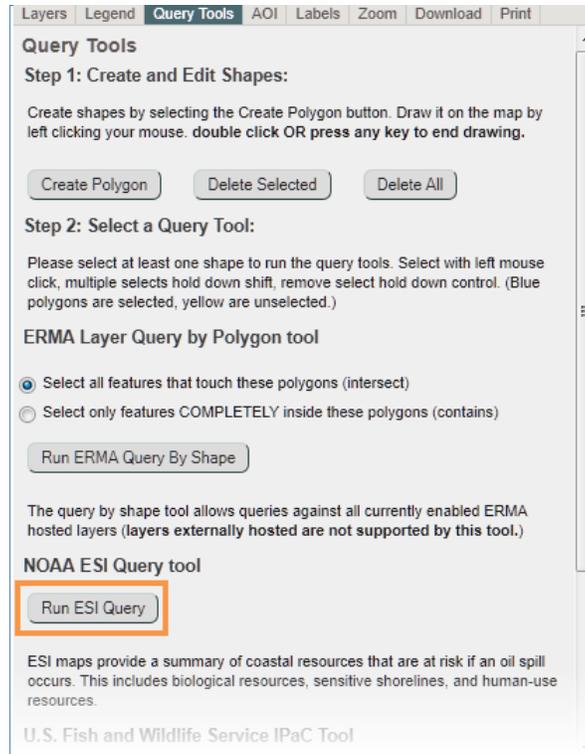
This tool allows you to create NOAA Environmental Sensitivity Index (ESI) maps that provide a summary of coastal resources that are at risk if an oil spill, or other hazardous incident, occurs. The summary includes biological resources, sensitive shorelines, and human-use resources.

**NOTE:** You do not need to turn on any ESI layers before following the steps below. You will choose the layers you want during the procedure.

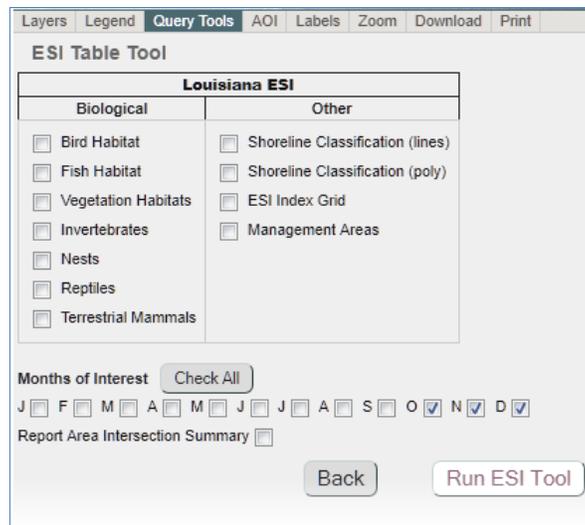
---

### To run an ESI query:

1. On the **Query Tools** tab, create one or more polygons using the procedure in "[Creating a Polygon](#)".  
Given the size of the ESI database and the time it takes to process large areas, it is a good idea to select a reasonably small area for your query (an island or section of shoreline, for example) rather than use a large region (such as an entire state).
2. Create one or more polygons using the procedure in "[Creating a Polygon](#)".
3. Click on the polygon(s) that you want to use in your query. To select multiple polygons, press the SHIFT key and click on each polygon you want to include.
4. Click Run ESI Query.



- When the ESI Table Tool appears, select the information that you want included in the ESI report.



- Select the check box for each month that you want the ESI report's data to cover. If you want data for a full year, click **Check All**.
- If you want the report to include a section listing data that involves more than one of the information types that you have selected, select the **Report Area Intersection Summary** check box.
- Click **Run ESI Tool**. A report is generated and then displayed in a new window similar to the one shown below.



Layers | Legend | **Query Tools** | AOI | Labels | Zoom | Download | Print

### Query Tools

**Step 1: Create and Edit Shapes:**

Create shapes by selecting the Create Polygon button. Draw it on the map by left clicking your mouse. **double click OR press any key to end drawing.**

**Step 2: Select a Query Tool:**

Please select at least one shape to run the query tools. Select with left mouse click, multiple selects hold down shift, remove select hold down control. (Blue polygons are selected, yellow are unselected.)

**ERMA Layer Query by Polygon tool**

Select all features that touch these polygons (intersect)  
 Select only features COMPLETELY inside these polygons (contains)

The query by shape tool allows queries against all currently enabled ERMA hosted layers (layers externally hosted are not supported by this tool.)

**NOAA ESI Query tool**

ESI maps provide a summary of coastal resources that are at risk if an oil spill occurs. This includes biological resources, sensitive shorelines, and human-use resources.

**U.S. Fish and Wildlife Service IPaC Tool**

IPaC provides information about U.S. Fish and Wildlife Service trust resources for your selected area, including threatened and endangered species affected by the oil spill. It also provides recommended conservation measures tailored to your

- After a window like the one shown below opens, follow the prompts in the IPaC System to complete your query.

**NOTE:** For help using the IPaC tool, go to <http://ecos.fws.gov/ipac/faqs.jsp>.

**U.S. Fish & Wildlife Service**  
**IPaC - Information, Planning, and Conservation System**  
 Environmental Conservation Online System

Search

**Step 1**  
Location

**Step 2**  
Activities

Step 3  
Trust resources list

Step 4  
Conservation measures

**Describe your project**

Select your project type:

Last updated: December 16, 2011

[ECOS Home](#) | [Contact Us](#)

[U.S. Fish and Wildlife Service Home Page](#) | [Department of the Interior](#) | [USA.gov](#) | [About the U.S. Fish and Wildlife Service](#) | [Accessibility](#) | [Privacy](#) | [Notices](#) | [Disclaimer](#) | [FOIA](#)

# AOI TAB

The **AOI** tab allows you to draw points, lines, and polygons on the map to create Areas of Interest (AOIs) that you can share with other ERMA users.

**IMPORTANT:** Any AOI that you create is visible to all users who have the required privileges—there is no way to limit visibility to certain of those users only. Because of this, use care when creating new, detailed AOIs.

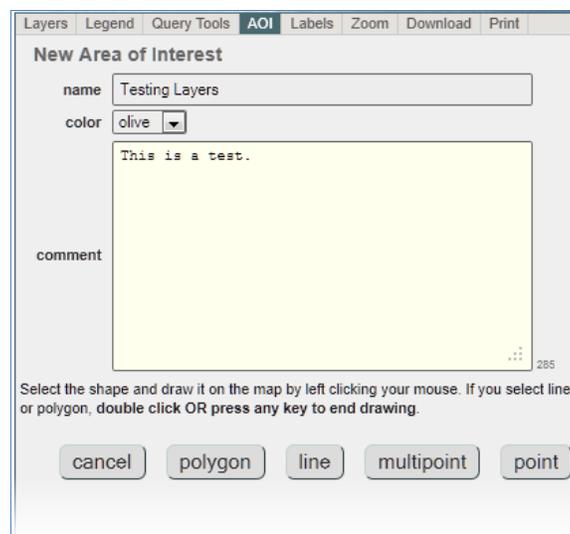
## Creating a New Area of Interest

To create a new AOI:

1. Select the **AOI** tab, and click **Create New Area of Interest**.



The New Area of Interest panel appears.



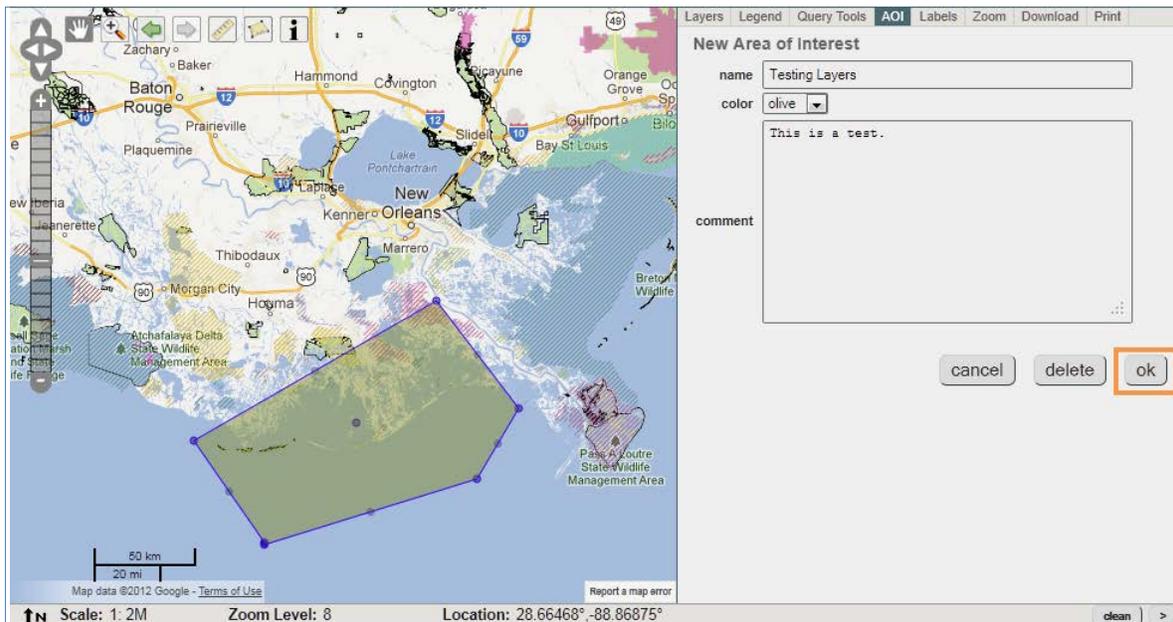
2. In the **Name** field, type a descriptive name for the AOI.

*Note:* If you want your AOI to appear in a particular folder rather than at the TOC's root level (the default), use the format *foldername*> *AOIname*. If you wanted to put an AOI called Sediment into the Testing Layers folder, for example, you'd type:

*Testing Layers*> *Sediment*

**IMPORTANT:** Make sure to put a space after the > character.

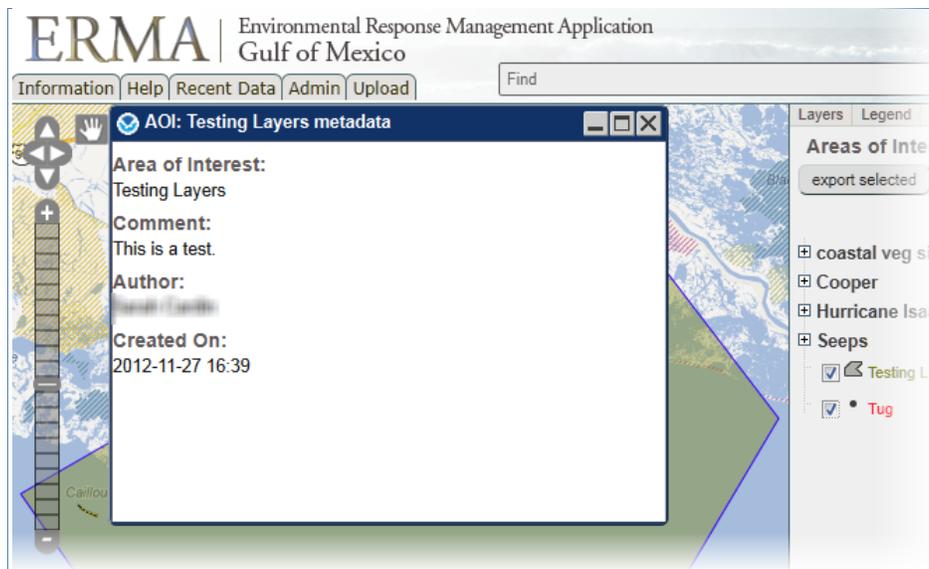
3. Open the **Color** drop-down list and select the figure's color.
4. In the **Comment** field, enter information about the purpose of the new AOI.
5. Click one of the buttons at the bottom of the panel to choose the type of figure (polygon, line, multipoint, point) that you want to use for the new AOI. (Multipoint allows you to draw many point locations at once; point draws just a single location.)
6. Click on the map and draw the figure. Double-click to complete the drawing.



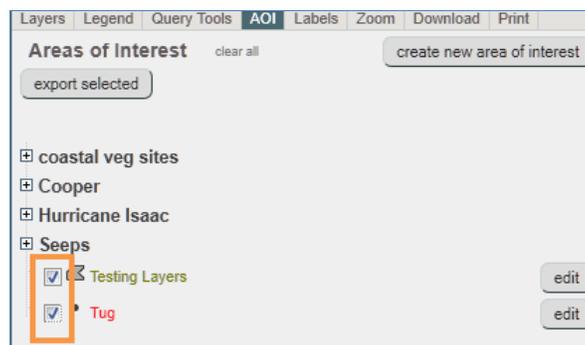
7. Click **OK** to add your AOI to the AOI list. ERMA stores the following metadata:
  - The AOI name.
  - The contents of the **Comment** field.
  - Your user name.
  - The date the AOI was created.
8. (Optional) When the AOI list appears, you can verify your AOI's metadata by right-clicking on its name to open a menu.



Then, select **View Metadata** to view the metadata.



9. To make the new AOI appear on ERMA's map, select the check box next to its name.



10. If you need to make adjustments to the location or shape of your figure, click **Edit**.

- To change the figure's location, click anywhere on the figure and drag it to the new location.
- To change the figure's shape, click on any of the figure's vertexes or on the grab point located in the middle of each side.

11. To have the AOI's name appear on the map, go to the **Layers** tab, open the ERMA Tools folder and then select the check box next to Area of Interest Labels.

**NOTE:** Not all AOIs are listed at all times—only the AOIs in the current map view will appear in the list. To see a list of all AOIs, zoom out to a different scale.

## Editing an Existing Area of Interest

ERMA only allows you to modify AOI's that you created yourself.

---

### To edit an existing AOI:

1. Select the **AOI** tab, and find the name of the AOI you want to edit.
2. Click **Edit**. An Edit Area of Interest panel appears.

Layers Legend Query Tools AOI Labels Zoom Download Print

### Edit Area of Interest

name: Nearshore Water and Sediment > Area of Misplaced 20-Aug

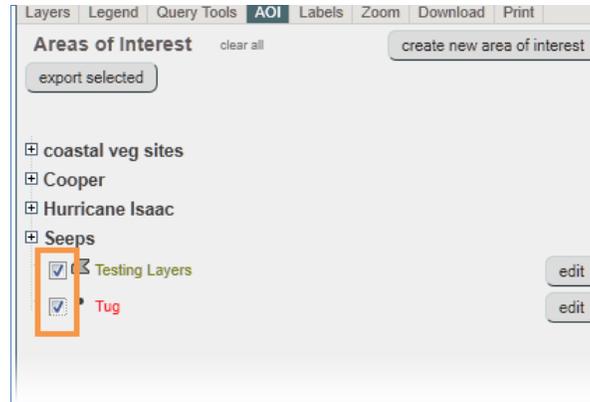
color: red

comment: Area where 20-Aug-11 Houma Subsurface Shoreline Oiling ID = 131420580328490 and 20-Aug-11 Houma Subsurface Shoreline Oiling Depth ID = 131420233026906

created on 2011-08-24 13:13 by Mathew Dorsey

cancel delete ok

3. Do any or all of the following:
  - Enter a new name or comment, or use the Color drop-down list to change the color of the AOI's figure.
  - Change the figure's location by clicking anywhere on the figure and dragging it to the new location.
  - Change the figure's shape by clicking on any of the figure's vertexes (or on the grab point located in the middle of each side) and dragging.
4. Click **OK**.
5. If you want the AOI to appear on the map:
  - a. Select the check box next to the AOI's name.



- b. Go to the **Layers** tab and open the ERMA tools folder.
- c. Select the check box next to **Area of Interest Labels**. The edited AOI will appear on the map.

**NOTE:** *The ESI Tool can be run on the AOIs created to show resource of interest within these areas. For more information on the ESI Tool refer to section below.*

**IMPORTANT:** *Not all AOIs are listed at all times—only the AOIs in the current map view will appear in the list. To see a list of all AOIs, zoom out to a different scale.*



# LABELS TAB

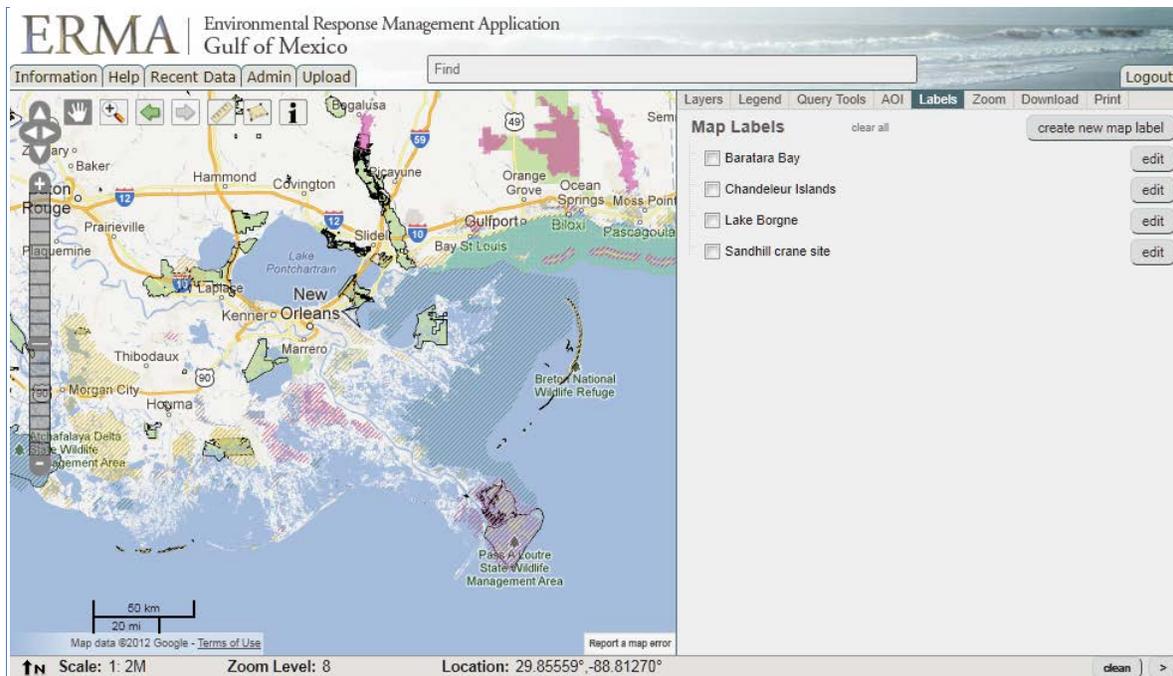
The **Labels** tab allows you to create and edit map labels to mark specific locations on the map.

**IMPORTANT:** Any label that you create is visible to any user who has an ERMA account—there is no way to limit visibility to certain users only. Because of this, use care when creating new labels.

## Creating a New Map Label

**To create a new map label:**

1. Click the **Labels** tab. The Labels panel appears, displaying a list of the labels that currently exist.



2. Click **Create New Map Label**. A new panel appears.

3. In the **Name** field, enter a name for the new label.

If you want your label to appear in a particular folder rather than at the TOC's root level (the default), use the format *foldername* > *labelname*. To put the "Vessel grounding" label into the NOAA folder, for example, you'd type:

*NOAA > Vessel grounding*

**IMPORTANT:** Make sure to put a space after the > character.

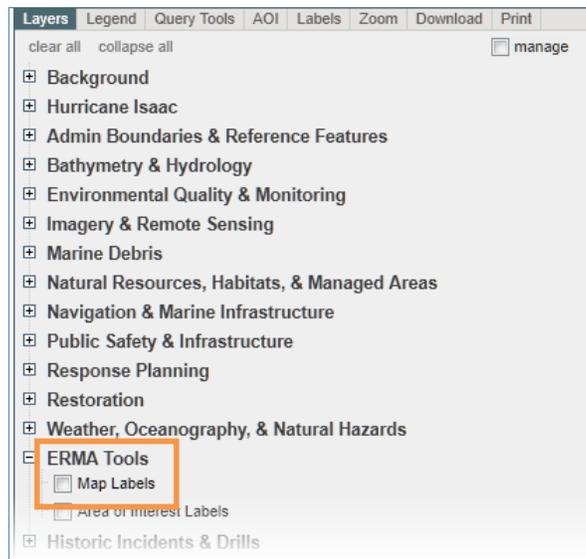
4. If desired, enter additional information about the label in the **Comments** field.
5. Click the map on the spot where you want your label to appear. A red dot will appear.

6. Click **OK** to save your label.

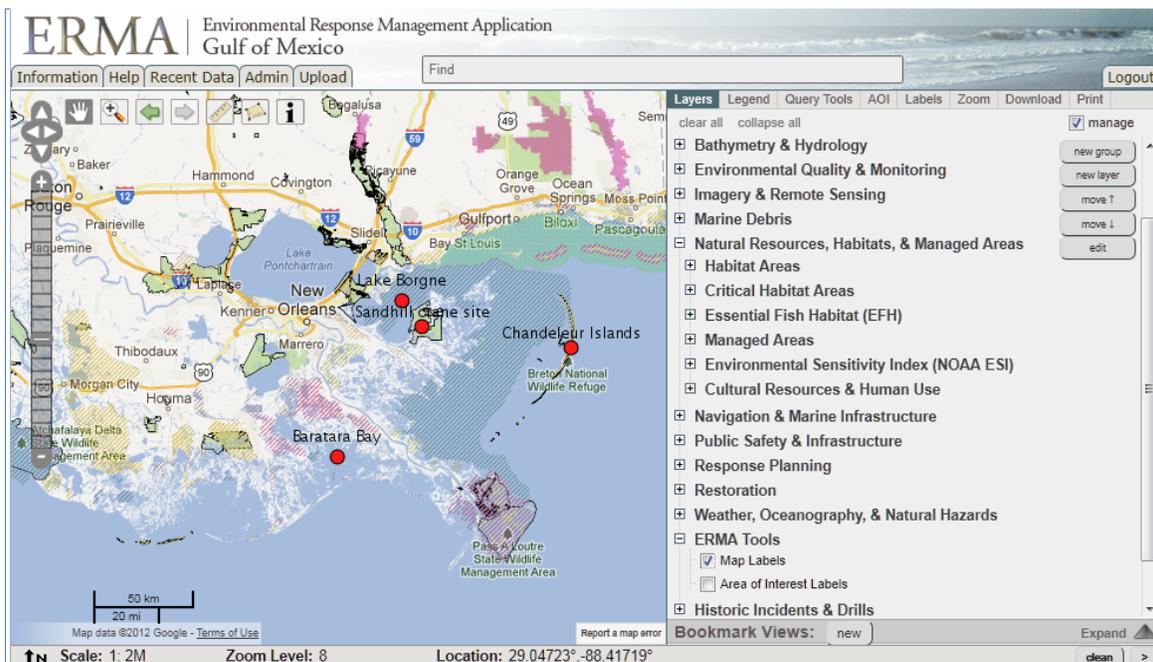
## Displaying Map Labels

To make map labels display on the map:

1. On the ERMA window, click the **Layers** tab.
2. Open the ERMA Tools layer.
3. Select the check box next to Map Labels.



All existing map labels are displayed (as shown in the illustration below).



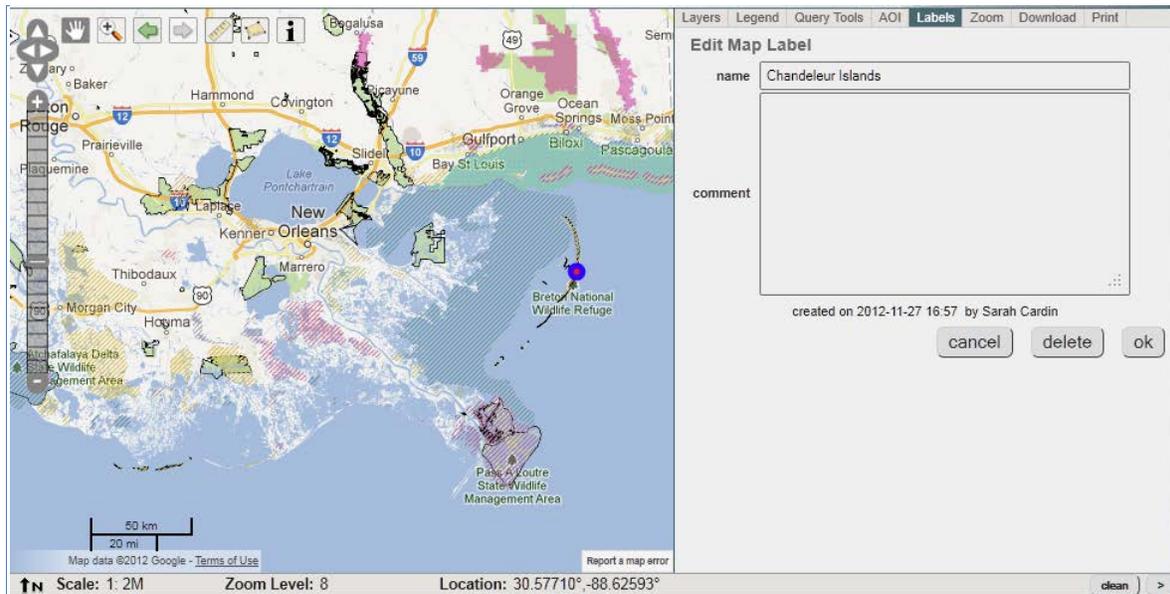
## Editing Map Labels

### To edit an existing map label

1. Click the **Label** tab. The Label panel appears, displaying a list of the labels that currently exist.



2. Click the **Edit** button for the map label that you want to edit. A new panel appears, and the map displays the point that you're editing.



3. Make any needed changes to the label.
4. Click **OK** to save your edits and close the Edit Map Label panel.

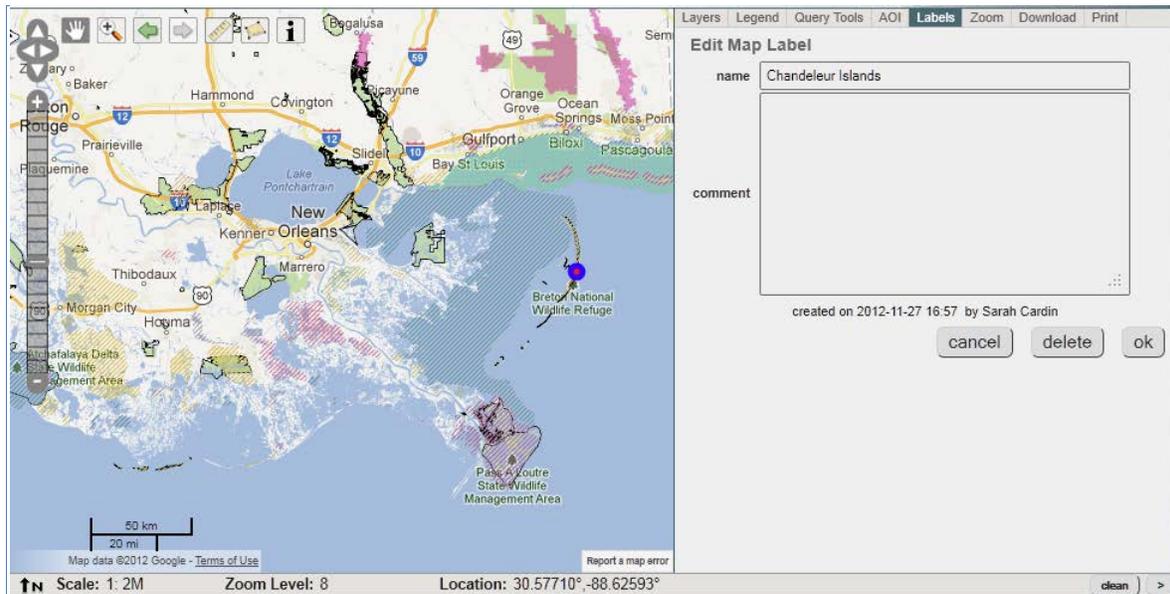
## Deleting Map Labels

### To delete an existing map label

1. Click the **Label** tab. The Label panel appears, displaying a list of the labels that currently exist.



2. Click the **Edit** button for the map label that you want to edit. A new panel appears, and the map displays the point that you're editing.



3. Click **Delete** to delete the label.

# ZOOM TAB

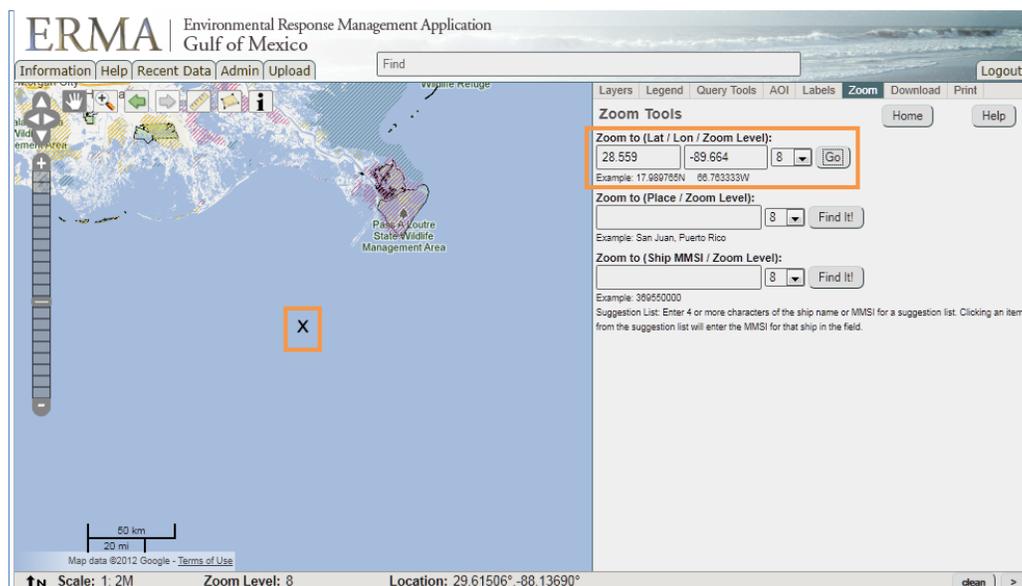
The **Zoom** tab allows you to zoom to a particular location in any of these ways:

- By latitude and longitude
- By the place name for a geographic location.
- By NAIS ship location using a ship's MMSI number or its name.

## Zooming By Latitude and Longitude (Lat/Lon)

### To zoom using latitude and longitude:

1. In the **Zoom to Lat/Lon** field, enter a known latitude and longitude in any of these formats:
  - Decimal degrees. For example:  
*18.384, -65.655*
  - Degrees decimal minutes. For example:  
*66 45.8000W.)*
  - Degrees minutes seconds. For example:  
*-66 45 48*
2. Select a zoom level from 1 (zoomed out to show the whole map) to 19 (zoomed in as close as possible).
3. Click **Go**. A black X appears on the map at the exact location you selected.



## Zooming By Place Name (Place)

### To zoom using a place name:

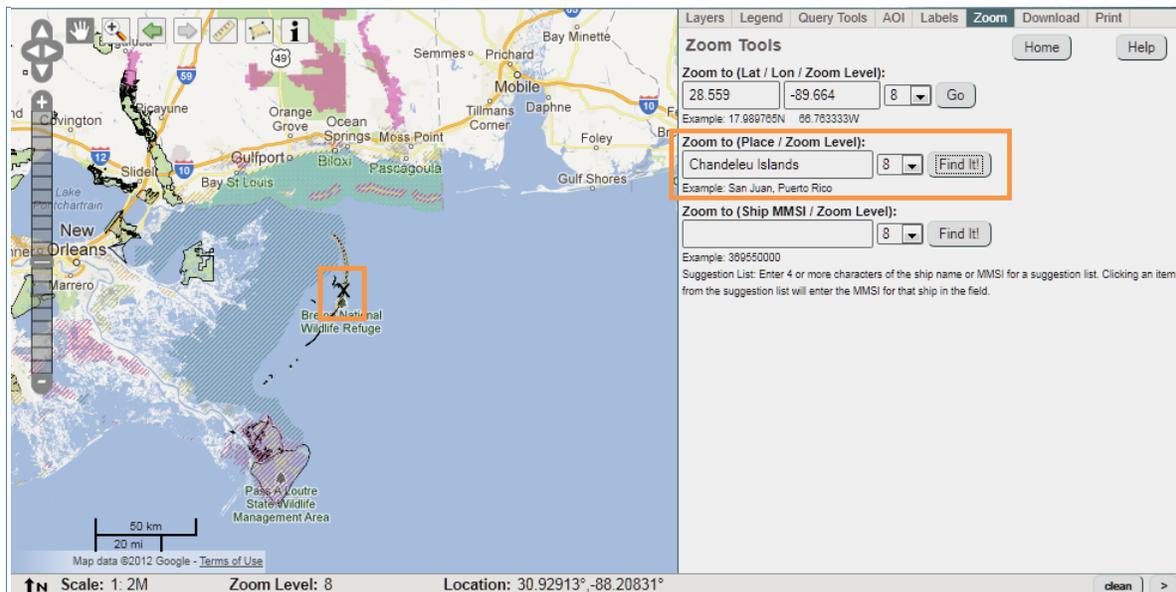
1. In the **Zoom to Place** field, enter the name of a geographic location or an address.

**Hint:** Enter an address in the same format that you would use with Google Maps or other popular online map application. For example:

*7600 Sand Point Way NE, Seattle, WA.*

Unless a street name is very common, you may be able to zoom to the correct address using only the street address.

2. Select a zoom level from 1 (zoomed out to show the whole map) to 19 (zoomed in as close as possible).
3. Click **Find It!** A black X appears on the map at the location you selected.



## Zooming By Ship Number (Ship MMSI) or Ship Name

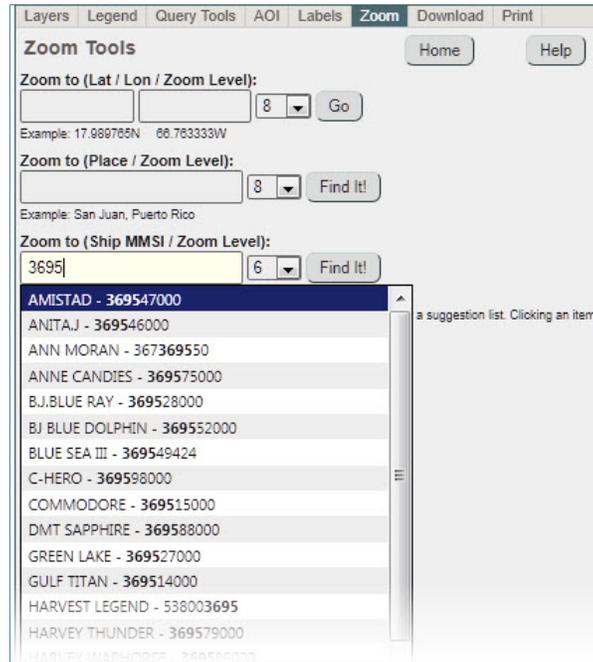
Users with the required privileges have access to the NAIS (Nationwide Automatic Information System) feed. This is a near real-time data feed that shows the name, location, status, and other details for most open-water vessels. If you know a particular ship's Maritime Mobile Service Identity (MMSI) number or the ship's name—or at least part of the number or name—you can use this tool to find its last received location.

### To zoom by ship number:

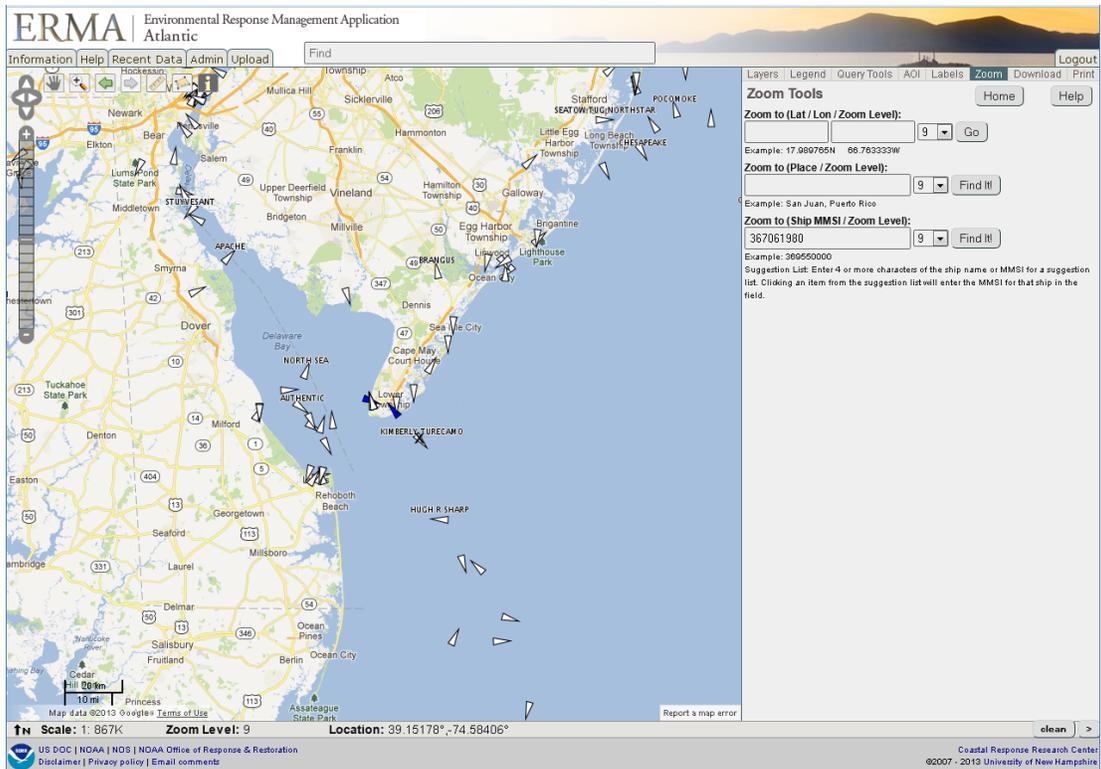
**NOTE:** It is helpful, although not necessary, to turn on the NAIS layer before or after zooming to a specific ship. It enables you to see the vessel locations and to use the Identify Tool to get additional information about the ship you've zoomed to.

1. In the **Zoom to Ship MMSI** field, enter at least four digits of the known ship's 9-digit MMSI number.

If more than one ship matches the number or digits that you entered, a drop-down list appears. Select the ship that you want from the list.

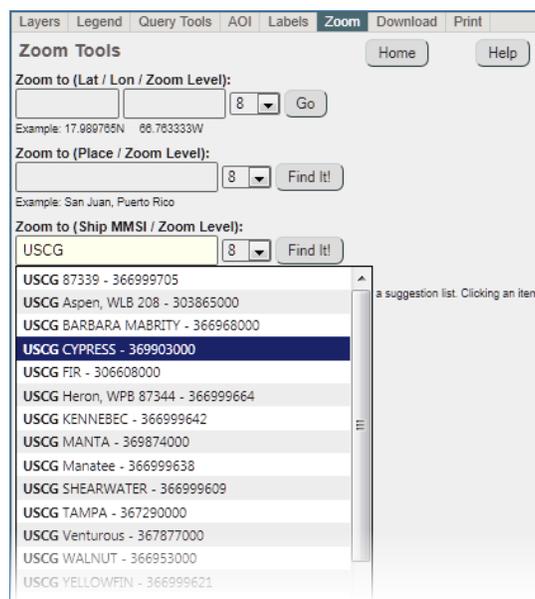


2. Select a zoom level from 1 (zoomed out to show the whole map) to 19 (zoomed in as close as possible).
3. Click **Find It!** A black X appears on the map showing the most recent received location of the ship.



## To zoom by ship name:

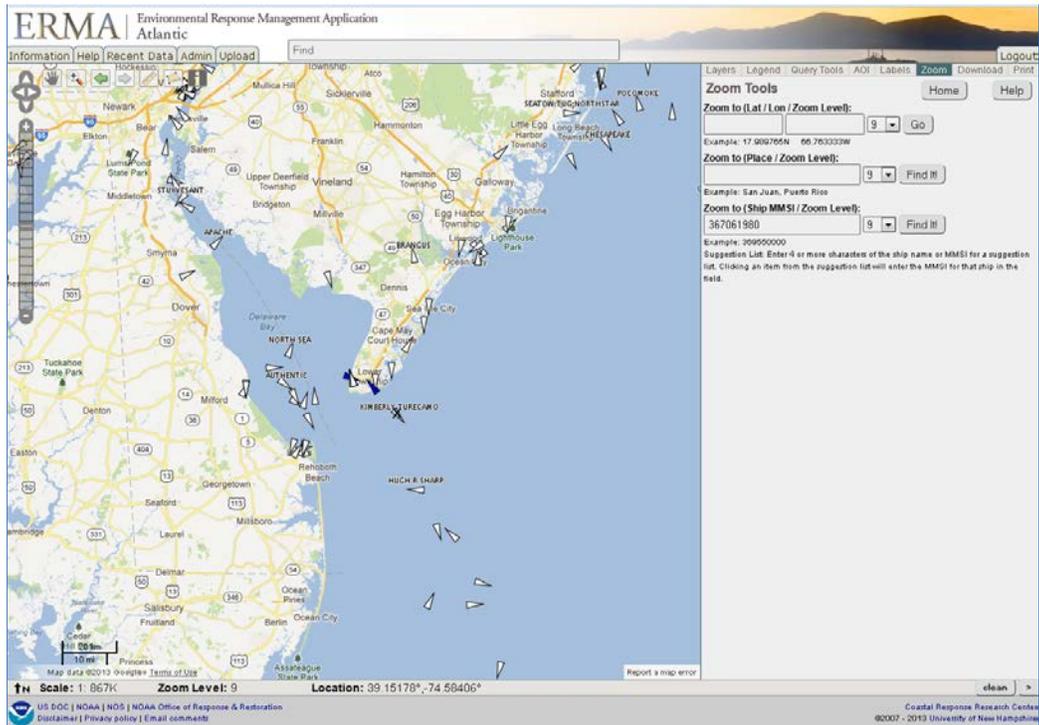
1. In the **Zoom to Ship MMSI** field, enter at least four characters of the known ship's name. If more than one ship matches the name or characters that you entered, a drop-down list appears. Select the ship that you want from the list.



2. Select a zoom level from 1 (zoomed out to show the whole map) to 19 (zoomed in as close as possible).

3. Click **Find It!** A black X appears on the map showing the most recent received location of the ship.

**NOTE:** The **Zoom to** field will display the ship's MMSI, not its name. Additionally, it is helpful, although not necessary, to turn on the NAIS layer before or after zooming to a specific ship. It enables you to use the Identify Tool to get additional information about the ship you've zoomed to.



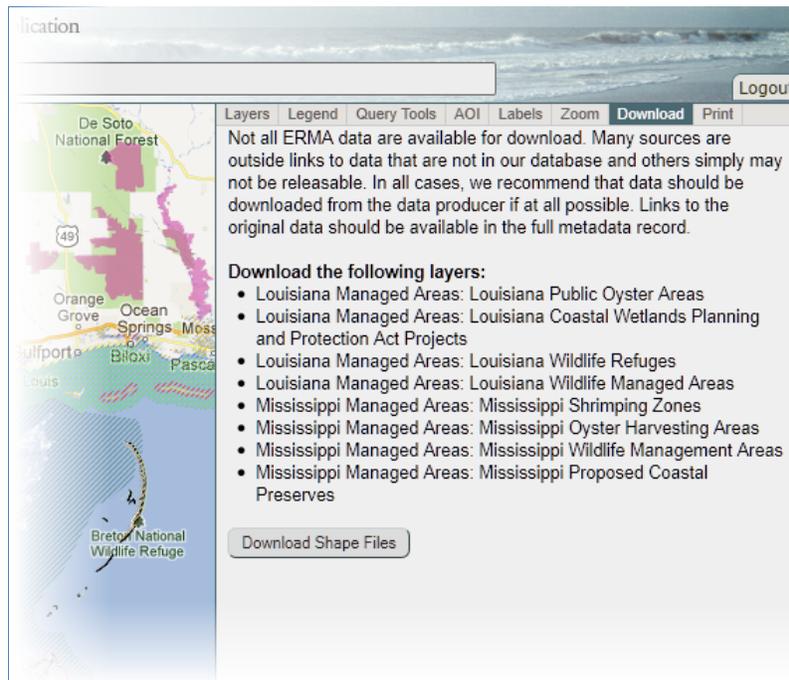
# DOWNLOAD TAB

ERMA users can download any available shapefile data to their computer for use in ArcMap or other GIS application.

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## To download shapefile data:

1. On the **Layers** tab, turn on the layers that you want to download.
2. Select the **Download** tab. You'll see a list of the layers that are available for downloading. You'll also see the layers that cannot currently be downloaded, if there are any.



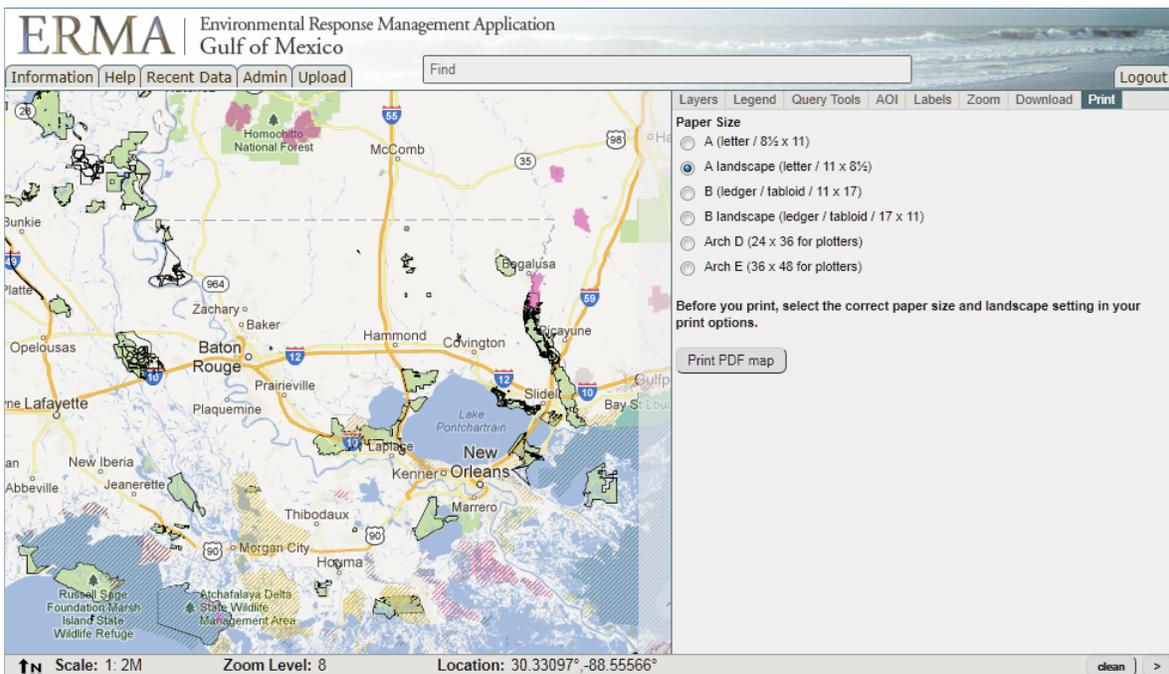
3. Click **Download Shapefiles**. Your browser will then prompt you to save a ZIP file that contains the full shapefile data.
  - No legend information is downloaded unless a LYR legend file was originally uploaded with the shapefile. In this case, the LYR file will be included.
  - Multiple shapefiles are saved into a single file called erma.zip rather than as separate ZIP files.

# PRINT TAB

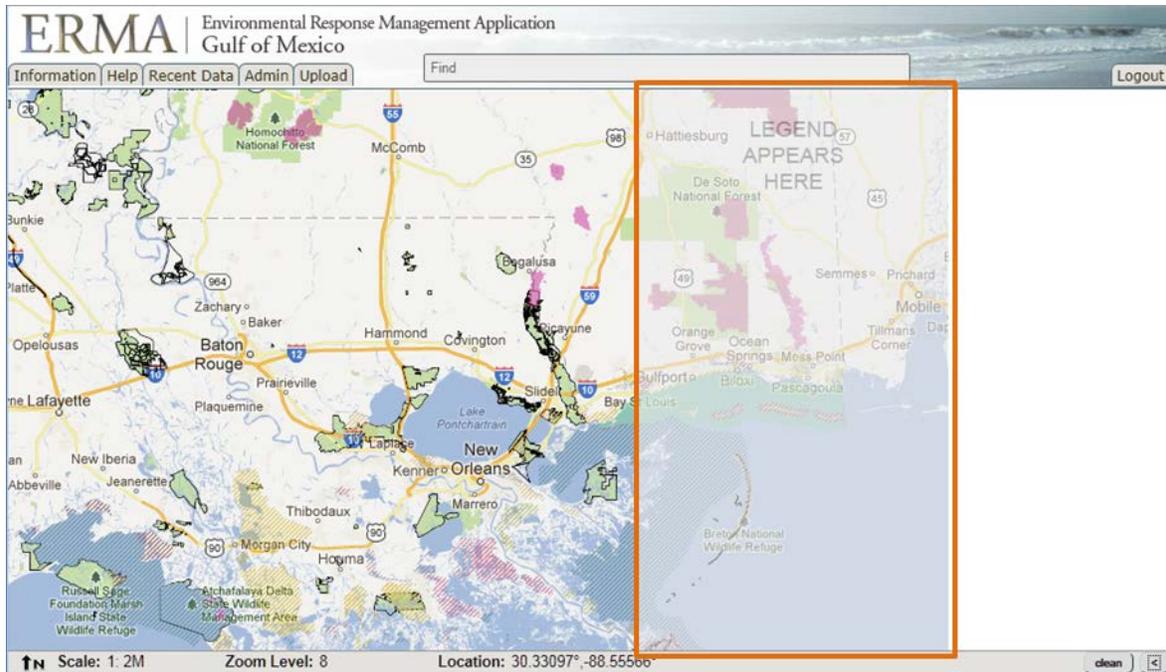
This tab allows you to print a PDF version of the map displayed in the ERMA window. This map is suitable for saving to your desktop or emailing to others.

## To print a map displayed in the ERMA window:

1. On the ERMA window, select the **Print** tab. Your map is displayed with rectangular watermarks indicating the approximate locations of the Print Logo and Legend.



2. Depending on the size of your monitor, the ERMA TOC may be blocking part of your map. If needed, click the **Hide TOC** button  (located in the lower-right corner of the panel) to hide the Print panel and get a full view of what the printed map will look like. You can move the map around until what appear on the screen matches what you want to print. Click the **Show TOC** button  when you are done.



3. Under Paper Size, select the size of the paper you will print the map on, and the orientation of the map image on the paper.
4. In your web browser, open the print settings and make sure that the paper size and orientation match what you have selected on ERMA's **Print** tab.

5. Click **Print PDF Map**. ERMA creates a printable PDF file and sends it to your computer. If you open the PDF file, you'll see that the map includes your name and a date/time stamp in the lower-left corner.

