Pew EFH Site Administration

Audience: An Essential Fish Habitat Tool user with privileges to log in to the Administration portion of the tool to make edits and add data.

Site Administrator's Role

The site administrator has control of and is responsible for a great many aspects of the site. Because of this, be sure you have access to the following accounts:

- An admin account on the site
- Access to the MapBox Account
- Receiving server email and feedback notifications

Also it is your job to be sure that:

- The Billing manager has:
  - Access to the AWS Billing account
  - Access to the AWS Billing Account Document
- The SysAdmin has:
  - Access to the AWS Account
    - The core user account with full privileges
  - Access to the SysAdmin Documentation
  - SSH Access to the server

Logging In and Accessing the Admin View

Navigate a web browser to the website
- http://pewmarineplanner.ecotrust.org at the time of this writing

Click on "Sign In" in the top right corner
- Enter your username and password in the pop-up

Once you've successfully logged in as a user with Admin permissions, click on your username in the top right (where "Sign In" used to be)
- Select "Admin" from the drop-down selection

Navigating The Data in the Admin View

The data is organized into different sections under blue bars.

The bars are as follows:

- AUTH
  - This is where you will manage users and permissions
- Data_Manager
  - This is where map layers are added and edited
  - This also allows for control over the order and presentation of the map-layers in the map's left-nav panel
- Default
  - This is no longer used. Feel free to ignore.
- Drawing
  - This allows access to the data about Drawings and "Collections" (Scenarios) added by the users
  - The spatial data is not viewable on maps this way.
- Flatblocks
  - This section allows for some detailed control over certain text that appears across the site
- Layer_Manager
  - This is no longer used. Feel free to ignore
- Mp_Settings
  - Many settings related to how the map appears
- Openid
  - This is not used
- Scenarios
  - This is where user records for "Grid Filtering" appear.
- Sites
  - An important piece for the site framework to run, but safe to ignore if you're not the SysAdmin

Users and Permissions

Only users with Administrator privileges can create, edit, or delete user accounts. For most cases, you will only need the "Users" link.

Create a new user

- Under "Auth", click on "Users"

- Click on the "ADD USER +" button in the top right of the page
- Give the user a username and a password
    - Username must:
        - Be 30 characters or less
        - May only contain:
            - letters
            - numeric digits
            - The following special characters:
                - @ (at)
                - . (period)
                - + (plus)
                - - (minus)
                - _ (underscore)
    - password must:
        - differ substantially from the username
        - contain at least 8 characters
        - not be a common password
        - not be entirely numeric
- Click 'SAVE' to move on to edit the details about the user (covered in next section)

Edit User Details

The following fields are all directly editable except password, which provides a form to update.

- Username - name used for logging in. Best kept short and simple
- Password - password user will use for logging in
    - To change this, notice there is a link to change the password using 'this form.'
    - You cannot view a user's password, or even look it up. They are all encrypted upon storage. If a password is lost, it must be reset.
- First Name
- Last Name
- Email address - this data is neither shared beyond the tool, nor part of an automated email list.
    - not required
- Active - Leave this selected. May be unselected to prevent a user from logging in ever again, but don’t want to delete their data.

- Staff Status - check this if you'd like drawings, scenarios, and grid filters shared 'with staff' to be shared with them. Also select this if they are an administrator
- Superuser status - check this to allow users to edit forms in the Admin view. They must also have 'staff status' checked for everything to work.
- Groups - 'share with public' is granted to them (shows up in the box on the right) by default. Be sure to add 'Share with Staff' if you'd like staff content shared with the user.
- User permissions - a very fine-grained level of controlling user access. I recommend ignoring this and leaving the 'Staff status' and 'Superuser status' checkboxes to manage this automatically for you.
- Last login
  - The date and time that the user last logged in to the Marine Planner.
  - This data is tracked automatically, but can be set by hand here.
- Date joined
  - The date and time that the user's record was created.
  - This data is tracked automatically, but can be set by hand here.

Updating The Data

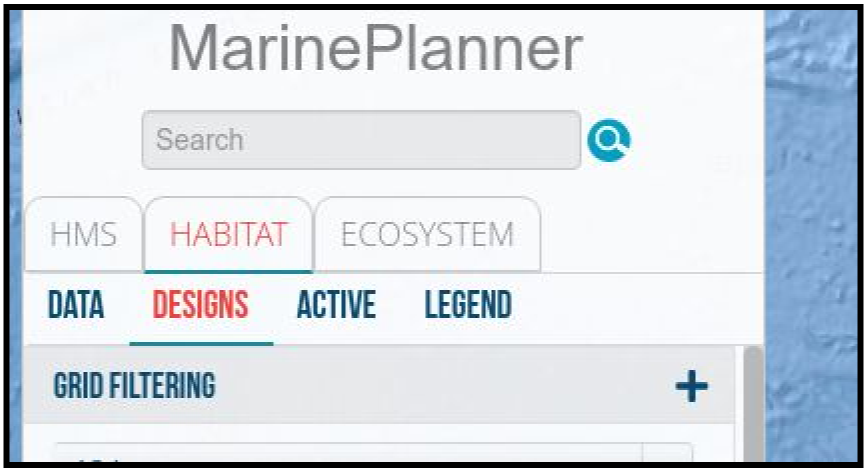
The following section will walk you through editing the most common forms in the Django Admin View. Django is the framework on which Marine Planner was built. It's built-in Admin tool is very powerful and one of the major reasons it was selected for this project.

Apart from managing users (as you've already seen) this extensible form viewer is the command center for managing and updating all aspects of the site (except styles, images, and most text).

NOTE: You MUST click one of the **Save** buttons at the bottom of the forms before any of your changes will be accepted.

Data_manager - Tocs

TOCs, or "Table of Contents" is how the database refers to 'Paradigms': The top tabs in the left nav panel that identify the type of map layers presented below, such as "HMS" (Highly Migratory Species), "Habitat", and "Ecosystem":



Creating a new TOC does not make it automatically appear on the site.

Displaying an existing TOC on the site:

This is managed in another section of the admin: [Mp-settings -> Marine planner settingss]

- Click on the project named “Essential Groundfish Habitat”
  - This should be the only option available
- The third field is “Table of contents” - use this to add existing Table of Contents records to the site
- You need to hold **ctrl** (or **command** for Mac users) while clicking on Table of Contents items in the list to select/deselect them
  - Clicking without holding ctrl or command will result in all other TOC records being unselected.

Creating new TOC records

Under [Data_manager > Tocs] you will see a list of current TOC records.
Click on the ‘Add toc +’ button in the top right to create a new one

- Name - the name that will appear on the tab of this new TOC
- Order - the order this TOC tab should appear (relative to other active TOCs)
  - the lowest Order value will be displayed left-most
- Toc theme orders
  - Here is where you associate existing TOC Theme records with your TOC.
    - TOC Theme records are covered below
  - If you with to add a TOC Theme, you can create one in a pop-up form by clicking on the green ‘+’ next to the selection window.
    - Details on this TOC Theme form will be covered in the TOC Theme section below
  - Order
    - The relative order you wish these TOC Themes to show up up
      - The lowest Order value will be displayed top-most

- Delete
  - Check the ‘Delete’ box in the desired row to disassociate the TOC Theme with the current TOC.
- “Add another Toc Theme Order”
  - If you need room to add more TOC Themes to your TOC, you can click on this button to add a new row.
  - Everytime you open this form 3 empty rows are available for adding new associations if you like.

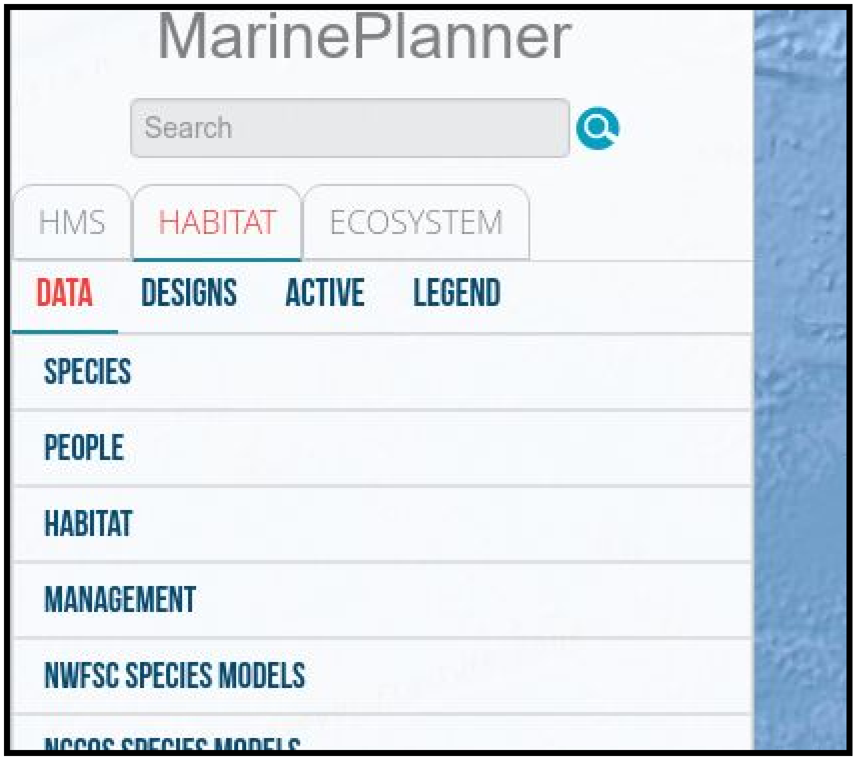
- X Delete
  - The red ‘Delete’ link at the bottom starts the process to delete the entire TOC record
- Save and add another:
  - Saves your edits and opens a fresh TOC form
- Save and continue editing
  - Saves your edits and brings you back to the form to edit this current TOC
- Save
  - Saves your edits and returns you to the TOC overview screen

Editing existing TOC records:

Under Data_manager > Tocs you will see a list of current TOC records.
Clicking on the blue ‘name’ field for any of these will open a form for editing the TOC record.
Editing is the exact same form as the ‘create’ form in the previous step.

Data_manager - Toc themes

TOC Themes (Table of Contents Themes) are the categories under which map layers are organized in the map-viewer’s left-nav panel under the Data tab. They are not layers in themselves.



Species, People, Habitat, Management, and others are the “Toc Themes” associated with the “Habitat” TOC in the example above.

Displaying an existing TOC Theme on the site:

For a TOC Theme to appear in Marine Planners map view, it must be associated with a parent TOC. These steps are covered in the TOC section above.

Creating new TOC Theme records:

From the Admin homepage view, click on “Toc Themes” under “Data_manager”
You will be presented with a list of all of the current TOC Theme records.
Click on the ‘Add toc theme +’ button in the top-right of the screen to open the form for creating a new one.

- Display Name
    - The name you wish users to see in the map view
- Name
    - a meaningful name like Display Name, but this **CANNOT** have any spaces.
        - Accidentally putting a space in the Name field will make the tool **unusable** until this field is fixed.
    - The name can only be comprised of the following characters:
        - Letters (A-Z and a-z)

        - Numeric digits (0-9)
        - hyphens (-)
        - underscores (_)
- Description
    - A brief description about what this Theme is and what types of layers it should contain.
- Layers
    - This is how you associate Layer records with a given TOC Theme
    - Layers may be associated with multiple TOC Themes
    - You need to hold **ctrl** (or **command** for Mac users) while clicking on Layer items in the list to select/deselect them
        - Clicking without holding ctrl or command will result in all other Layer records being unselected.
    - If the layer record you wish to associate with this TOC Theme does not exist, you can click on the green '+' to pop-open a 'Create New Layer' form
        - Details about the Layer form are covered below

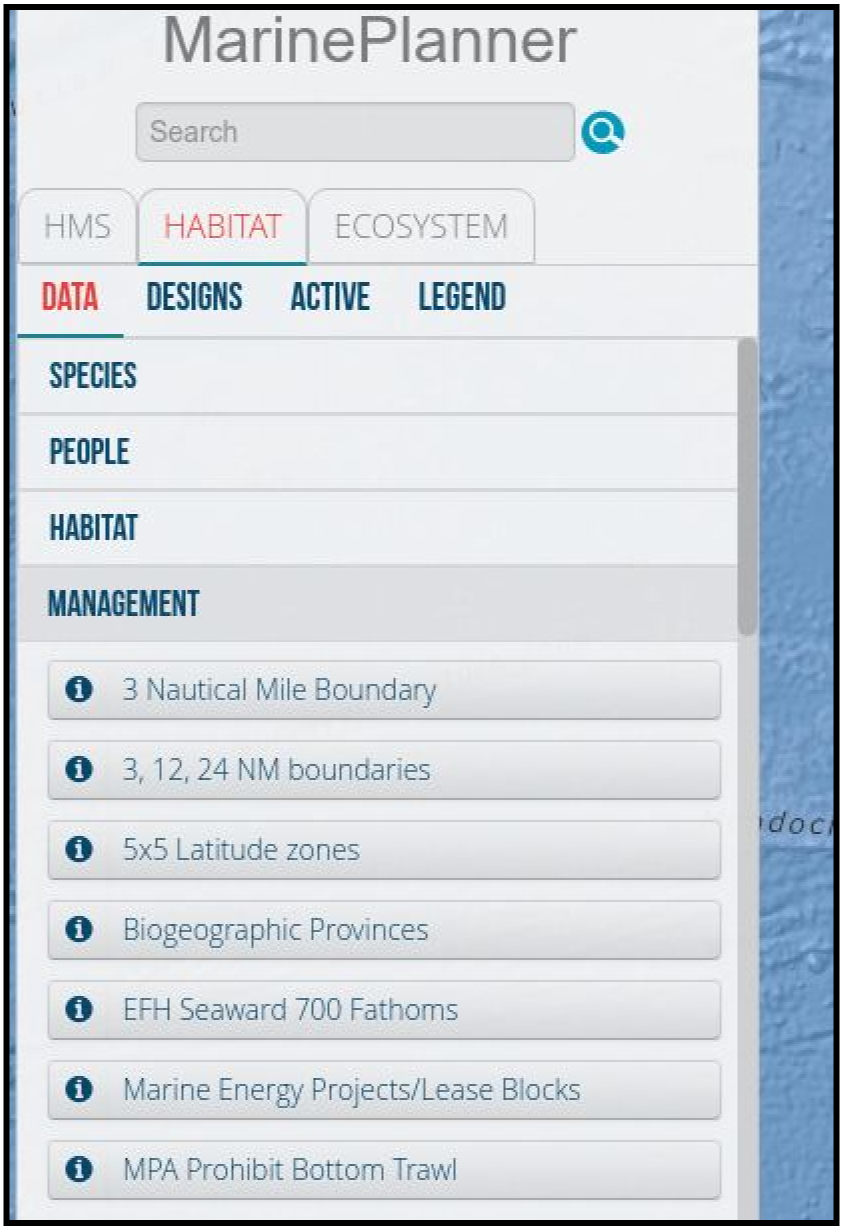
Be sure to click one of the save buttons to make your changes permanent

Editing Existing TOC Theme records

From the Admin homepage view, click on "Toc Themes" under "Data_manager"
You will be presented with a list of all of the current TOC Theme records.
Click on any of their blue 'Display Name' fields to open the form for editing.
The form is the same as the 'create new' form above.

Data_manager - Layers

The following steps walk a data manager through the process of preparing and uploading data layers to the Portal. Some of the process may occur outside of Marine Planner and require GIS skills and experience. Data layers can come from a variety of places. A few are served by another process on the same server that Marine Planner is running on. Others are stored by external services and are shared in Marine Planner using web-mapping services (WMS).



3 Nautical Mile Boundary, 5x5 Latitude Zones, Biogeographic Provinces and others are Layer records associated with the Management TOC Theme

Creating New Layer Records

From the Admin Main View, select "Layers" under "Data_manager" to see a list of all current layers records in the tool.
In the top right corner, click on "Add layer +" to open the form to begin creating a new layer

Name:

The name of the layer as you wish to see it in the tool

Layer type:

- XYZ
    - Possibly the most common layer type, this pulls in tiled raster layers.
    - Over 100 layers that were created for this project are served this way
        - These may be paired with UTF Grid technology to allow vector-like interactivity with the layers
- WMS
    - Despite WMS ("Web Map Service") being a catch-all term for all technologies for serving map layers on the web, WMS is also a specific technology/protocol.
    - This protocol can be used for querying ArcServer MapServer's WMSServer as well
        - Supports Vector and Raster Layers
    - If the service you want does not provide the correct projection ("EPSG:3857", also known as "Web Mercator" or "EPSG:900913"), check out the "MapServer Proxy" Section later in this document to get the layers you need.
- ArcRest
    - Used to pull in layers from ArcServer instances
        - Can support both MapServer and FeatureServer instances
        - MapServer is traditionally (not exclusively) used for Raster layers
        - FeatureServer is for Vector Layers
    - Supports Feature Identification when configured correctly
- MapBox
    - Used to pull in layer styles from MapBox Studio
    - Supports Feature Identification when configured correctly
- Radio
    - Can be used to create a list of sublayers where only one can be selected at a time
    - This feature is not tested on this tool
- Checkbox
    - Can be used to create a list of sublayers where any number can be selected at a time
    - This feature is not tested on this tool
- Vector
    - Used when a layer is presented as a single vector file that is web-enabled
    - A .geojson file would be an example of when to use this
    - This feature is not tested on this tool
- Placeholder
    - This can be used in place of a real layer during testing. Nothing will show up on the map.

Url:

The URL endpoint of the WMS to be queried

- XYZ

- Will require a template for where the X, Y, and Z values for the tiles should appear in the url endpoint
  - for example: /tiles/TRCA_MA15_N4810/${z}/${x}/${y}.png
  - Note the $ and {} wrapped around x, y, and z
- Layers served by the same server that Marine Planner lives on does not need a fully qualified URL, like the example above. Many of the layers' urls start with the '/tiles/' endpoint where this server is serving the tiles.

- WMS
  - Requires a knowledge of basic WMS protocol to use
  - These are added to the end of the URL, for example:
    - https://coast.noaa.gov/arcgis/services/MarineCadastre/2013VesselDensity/MapServer/WMSServer**?request=GetMap&service=WMS&LAYERS=0**
    - The '?' indicates the beginning of arguments being passed to the WMS Server
- ArcRest
  - For MapServer, append '/export' to the end of the URL, for example:
    - https://www.webapps.nwfsc.noaa.gov/server/rest/services/FRAM/EFH_Amd28_Alt1h_PFMC_FPA/MapServer/export
- MapBox
  - You can get this by:
    - logging in to MapBox Studio
    - Finding your desired 'Style'
      - https://www.mapbox.com/studio/
    - Clicking on the "Share and Use" button next to the Style's listing
    - Click on "Use" ("Share" is shown by default)
    - Select "Third Party" ("Web" is selected by default)
    - Select "CARTO' ("WMTS" is selected by default)
    - Scroll down to "Integration URL"
      - example: https://api.mapbox.com/styles/v1/efhsupport/cjp8m2k884wq02rrv7jh3ga7g/tiles/256/{z}/{x}/{y}@2x?access_token=pk.eyJ1IjoiZWZoc3VwcG9ydCIsImEiOiJjam9oamt6YjAwcWgyM3dxaG83MzVwajk2In0.tt6jiyeTJI-GuCXxBEF5wg
    - Place a dollar sign ("$") in front of each set of curly braces ("{ }")
    - Remove everything from the "?" on
    - example:
      - https://api.mapbox.com/styles/v1/efhsupport/cjp8m2k884wq02rrv7jh3ga7g/tiles/256/${z}/${x}/${y}@2x
- Radio, Checkbox, and Placeholder do not use the URL field
- Vector should just be the endpoint of the static vector file

Shareable url:

If the layer is raster, checking this will present tool users with a link to see how the layer can be implemented in other WebApps

Proxy url:

This may be needed to get around Cross-Domain request issues. For the most part you should be able to ignore this.

Arcgis layers:

If you selected ArcRest as your layer type, this is where you indicate which layer indexes to include

The value should be the layer id numbers, separated with commas if more than 1

Do not use spaces

Sublayers:

If your layer is Checkbox or Radio, you may use this widget to assign a list of sublayers below it.

This uses the same ctrl+click (or command+click) of multiselect widgets mentioned above.

Is sublayer:

Use this if the layer you are editing is a sublayer of another radio or checkbox layer

Legend:

Link to a web-accessible image file for the legend.

It is possible to have the SysAdmin server the file from the local server, resulting in a non-fully-qualified URL

Legend Title:

If you'd like the legend title to be something specific

Legend Subtitle:

Optional additional subtitle for Legend

Utfurl:

Url endpoint used for UTF grids

Finding and generating these is beyond the scope of this document

Utfjsonp:

Specific feature support for MBTiles files.

Untested for this tool.

Description:

A brief description of the layer

Data source:

Who to thank for providing the data

Data notes:

Additional notes about the data

Data download:

Link to download the data (if it exists)

If filled, this will be available to the users if they open a layer's info popup

Metadata:

Link to the metadata for the layer

If filled, this will be available to the users if they open a layer's info popup

Source:

A link to where the data was found.

If filled, this will be available to the users if they open a layer's info popup

Attribute title:

If 'click reporting' is a feature of this layer, this allows setting a proper title on the pop-up window showing report results.

Attribute fields:

Enables more specific control over which fields are reported on click, and how they get presented in the reporting pop-up

Lookup field:

Enables translation of click-report results, when used in conjunction with Lookup Table

Lookup table:

Defines what value to present to user based on what value is returned from click-report query.

Vector color:

Color of lines of features in vector layers

Vector fill:

Color of fill of polygons in vector layers

Vector graphic:

Optional graphic used for point data in vector layers

Opacity:

Starting opacity of the layer. Can be temporarily changed by user during their session with the opacity slider.

Enable MapBox ID:

If this is a MapBox layer and you want to run "identification queries" against the layer (i.e. see attributes of a shape displayed on the screen when you click on it), you will need to check this box and fill out the following 2 fields.

MapBox Tileset ID:

This is the ID of the tileset that was loaded into MapBox Studio. You can get this by :

- logging in to the EFH MapBox account
- Going to the TileSets page
  - https://www.mapbox.com/studio/tilesets/

- Clicking on the layer you wish to be queried on map clicks
- Copying the id in the top-right under “Map ID”
    - Something like efhsupport.3i91fbl2

MapBox Access Token:

This field allows the map to query your MapBox account for map layers and feature information.

This should be automatically set for you, pulled from server settings that were created when the server was installed. However, if you wish to pull layers from other MapBox accounts, you will need to override this.

You can find this ID by:

- Logging in to the desired MapBox Studio Account
- Clicking on ‘Account’ at the top
- Click on ‘Access Tokens’ under that:
    - https://www.mapbox.com/account/access-tokens
- Copying the id under “Default Public Token”
- Note: If you refresh this token, the server will have to be updated with the new token AND you will need to update this field for all current MapBox layers.

Editing Existing Layer records

From the Admin homepage view, click on “Layers” under “Data_manager”
You will be presented with a list of all of the current Layer records.
Click on any of their blue ‘Name’ fields to open the form for editing.
The form is the same as the ‘create new’ form above.

MapServer Proxy

This section assumes you have familiarity with Web Map Service (WMS)endpoints. If not, you can learn a bit about what you see below, here:
http://www.opengeospatial.org/standards/wms/introduction

When would you use this? “The Problem”

You have a WMS endpoint for a server with data you want, but it does not offer that map layer in the “Web Mercator” projection (“EPSG:3857”).

For example, you want the “Sea Surface Temperatures” seen here:
https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/index.html

You get the WMS endpoint:

https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request

You follow the instructions above, adding:
?request=GetMap&service=WMS &LAYERS=jplMURSST:analysed_sst

And add the resulting URL to the correct place in the Layer record editor of the admin:
https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request?request=GetMap&service=WMS &LAYERS=jplMURSST:analysed_sst

When you open the layer in the viewer, nothing shows up.

So you, being super familiar with WMS by now, pop open the WMS server's capabilities with some slight edits to the URL:
https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request?layers=jplMURSST:analysed_sst&service=WMS&version=1.1.1&REQUEST=GetCapabilities

Reading through the XML you see this line seven times:
<SRS>EPSG:4326</SRS>
but NOT this line:
<SRS>EPSG:3857</SRS>

How do you fix this? "The Solution"

You only need to know two things from your old query:
- The endpoint: https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request?
- The layer name: jplMURSST:analysed_sst

This server has 'MapServer' installed (you can see it running in a boring way here!), and that can make the request for the layer for you, and will convert the layer into the projection you need to display it.

1. Replace the URL with:
    - /mapserver/?map=/mapfiles/generic.map&layers=generic
2. Add the following to that URL:
    - &CONN=
        - add your endpoint here:
            - https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request?
    - &LAYERNAME=
        - add your layername here:
            - jplMURSST:analysed_sst

In this example, your URL would look like:
/mapserv/?map=/mapfiles/generic.map&layers=generic&CONN=https://coastwatch.pfeg.noaa.gov/erddap/wms/jplMURSST/request?&LAYERNAME=jplMURSST:analysed_sst