Detailed user guide

1. EPIRB Web GIS portal welcome

The welcome page of EPIRB Web GIS portal shows a variety of information about the overall interface and functionality. At the top of the page is a toolbar showing quick links to document types: layers, maps and documents.

Data management tools built into the EPIRB Web GIS portal allow for integrated creation of data, documents, link to external documents, and map visualizations. Each dataset in the system can be shared publicly or restricted to allow access to only specific users. Social features like user profiles and commenting and rating systems allow for the development of communities around each platform to facilitate the use, management, and quality control of the data.

2. Layers

Layers are a primary component of the EPIRB Web GIS portal. Layers are publishable resources representing a raster or vector spatial data source. Layers also can be associated with metadata, ratings, and comments. By clicking the Layers link you will get a list of all published layers. Number of layers may vary, based on the credentials. At the moment there are 95 layers created, representing all ICPDR data for the EPIRB region countries.

EPIRB Web GIS portal allows the user to upload vector (currently only Shapefiles) and raster data in their original projections using a web form. Vector data is uploaded in ESRI Shapefile format and satellite imagery and other kinds of raster data are uploaded as GeoTIFFs.
3. Maps

Maps are a primary component of EPIRB Web GIS portal. Maps are comprised of various layers and their styles. Layers can be both local layers in the portal as well as remote layers either served from other WMS servers or by web service layers such as Google or MapQuest.

By clicking the Map link you will get a list of all published maps.

This toolbar allows you to create a map based on the uploaded layers combine them with some existing layers and a remote web service layer, and then share the resulting map for public viewing. Once the data has been uploaded, the user can search for it geographically or via keywords and create maps. All the layers are automatically reprojected to web mercator for maps display, making it possible to use different popular base layers, like Open Street Map, Google Satellite or Bing layers.

4. Documents

As for the layers and maps EPIRB Web GIS portal allows to publish tabular and text data manage metadata and associated documents.

By clicking the Documents link you will be brought to the Documents menu where a new subtoolbar can be seen.

Through the document detailed page is possible to view, download and manage a
5. Searching

In the welcome page, click the Search button to bring up the Search page.

This page contains a wealth of options for customizing a search for various information on EPIRB Web GIS portal. This search form allows for much more fine-tuned searches than the simple search box is available at the top of every page. It is possible to search data by Text, Categories, Type, Keywords, Date, Regions or Extent.

6. Managing layers

Layers are a published resource representing a raster or vector spatial data source. Layers also can be associated with metadata, ratings, and comments. In this section, you will learn how to create a new layer by uploading a local data set, add layer info, change the style of the layer, and share the results. Click the Layers link on the top toolbar. This will bring up the Layers menu.
Click Upload Layers in the Layers toolbar. This will bring up the upload form.

Fill out the form.
Click on the Browse... button. This will bring up a local file dialog. Navigate to your data folder and select all of the files composing the shapefile. Alternatively you could drag and drop the four files in the Drop files here area.

The system has the ability to restrict who can view, edit, and manage layers. On the right side of the page, under Who can view and download this data?, select Any registered user. This will ensure that anonymous view access is disabled.

In the same area, under Who can edit this data?, select the Only the following users or groups option. This will ensure that only you are able to edit the data in the layer.

PERMISSIONS

Who can view and download this data?
- Anyone
- Any registered user
- Only users who can edit

Who can edit this data?
- Any registered user
- Only the following users or groups:
  - admin

Who can manage and edit this data?
Choose one or more users...

Permissions for new layer

Click Upload to upload the data and create a layer. A dialog will display showing the progress of the upload.

Your upload has started
49.0%

Upload in progress

Your layer has been uploaded to the system. Now you will be able to access to the its info page (clicking on the Layer Info button), access to its metadata edit form (clicking on the Edit Metadata button) or to manage the styles for it (clicking on the Manage Styles button).
1. Layer information

Layer information
After upload, another form will displaying, containing metadata about the layer. Change any information as desired, and then click Update at the very bottom of the form.

Date

```
2016-07-15 05:19 PM
```

Date type

```
Publication
```

Edition

```

```

Abstract

```
```

Purpose

```

```

After the update, the layer will display in a preview window.

Layer preview
This page contains lots of options for managing this layer.
At the top of the page there are two buttons titled Download Layer and Download Metadata. These buttons provide access to the ability to extract geospatial data and metadata from within the system. In this way, the system allows for two way data and metadata access; one can import as well as export data.

Click the Download Layer button. You will see a list of options of the supported export formats.

![DownloadLayerOptions]

Click the option for Zipped Shapefile. The system will process the request and bring up a Save As dialog. Save this file to your computer, and note how it is the same content as was uploaded.

**Metadata**

Click the Download Metadata button. You will see a list of options of the supported export formats.
Available metadata export formats
Click the option for DUBLIN CORE.
The system will process the request and display XML metadata. Try clicking various metadata formats, and note how it is the same metadata content in various formats compatible with metadata and GIS packages.

Scroll down the page toward the bottom. Five tabs are available: Info, Attributes, Share, Ratings, and Comments. The info tab is already highlighted, and presents basic information about the layer, of the kind that was seen on the layer list page.

Layer Info tab
Click the Attributes tab. This lists the attributes of the layer, including statistics (range, average, median and standard deviation). Layer attribute statistics are made available only for numeric attributes. As we can see, this layer’s attributes are not numeric, so no statistics are calculated.

Attributes tab

Click the Ratings tab. This tab allows you (and others viewing this page) to rate this layer. Ratings can be based on quality, accuracy, or any other metric. Click on the appropriate star to rate this layer.

Click the Add Comment button and enter a comment.

When finished, click Submit Comments

Sharing layers
The system has the ability to restrict or allow other users to access a layer and share on social media. The user need to ensure that your permissions are set so anyone can view the layer for others to see it on social networks.

![Permissions](image)

This is done by selecting anyone in the layer permissions tab, be aware this now means your layer is public!

Sharing with social media

On the taskbar below your username and profile picture there are three links to social media services, Twitter, Google Plus and Facebook.

Upon clicking on these icons you will be taken through the application’s process for posting to the social network. Ensure the permissions are set so anyone can view the layer if you want unauthenticated to be able to access it.

Edit Layer Style

Edit style task can be performed only by the user who have the permission to do it.

In the Explore Layer page choose a Layer that you want to edit clicking over the name of layer or in the preview window.

In the Edit Layers page click the Edit Layer button.
In the Edit Layer window click Edit button under Style icon. In this interface is it possible to change the style of layers. The system allows to edit layer styles graphically, without the need to resort to programming or requiring a technical background.

In the following example the layer has one style and one rule in that style. Click Edit in Styles menu change Title and Abstract of the selected Style.

Layer Styles window

User Styles window

Click the Rule (Untitled 1) to select it, and then click on Edit below it. Edit the style choosing Basic tab to edit symbology of layers, Labels to add and manage labels and Advanced to manage styles by scale and condition. When done, click Save, then click on the word Layers to return to the layer list.
Basic Style Rule window

Labels Style Rule window
Advanced Style Rule window

In the Edit Layer window click Manage button under Style icon. Manage Styles function allows to assign available style to selected layers.

If you import a Style created by other GIS softwares (or edited directly in Geoserver) make sure that your .sld file already has the <Title></Title> and <Abstract></Abstract> nodes under the <UserStyle> node: otherwise the style will be shown as “None” in Geonode.

Managing maps
The next primary component of the system is the map. Maps are comprised of various layers and their styles. Layers can be both local layers in the system as well as remote layers either served from other WMS servers or by web service layers such as Google or MapQuest.
Maps also contain other information such as map zoom and extent, layer ordering, and style.
Click the Maps link on the top toolbar. This will bring up the list of maps.
Click the Create a New Map button. A map composition interface will display.

In this interface there is a toolbar, layer list, and map window. The map window contains the MapQuest OpenStreetMap layer by default. There are other service layers available here as well: Blue Marble, Bing Aerial With Labels, MapQuest, and OpenStreetMap. Click on the New Layers button and select Add Layers.
Add layers link

Select all of the layers by clicking the top entry and Shift-clicking the bottom one. Click Add Layers to add them all to the map.

The layers will be added to the map. Click Done (right next to Add Layers at the bottom) to return to the main layers list.

Adding external layers

Once again, click on the New Layers button and select Add Layers.

Add layers link

From the top dropdown list, select Add a New Server...
Add a New Server
Enter the URL of the server, and select the correct type of server from the dropdown (WMS, TMS, or ArcGIS). For example, enter http://e-atlas.org.au/geoserver/wms for the URL and select Web Map Service as the type. Then click the Add Server button.
Note - for security purposes, the URL you enter must be on a list of pre-approved external services set up by the GeoNode administrator. Otherwise you will receive a 403 error when trying to add the server.

A list of layers available from that server should appear momentarily. The layers must be available in the Web Mercator projection or they will not show up in the list. Select the layers you want to add to the map. Click Add Layers to add them all to the map.

Add layers
The layers will be added to the map. Click Done (right next to Add Layers at the bottom) to return to the main layers list.

Saving the map

While we still have some work to do on our map, let’s save it so that we can come back to it later. Click on the Map button in the toolbar, and select Save Map.
Save map link
Enter a title and abstract for your map.
Click Save. Notice that the link on the top right of the page changed to reflect the map’s name.
This link contains a permalink to your map. If you open this link in a new window, your map will appear exactly as it was saved.

Styling layers
In this interface, we can pause in our map creation and change the style of one of our uploaded layers. The system allows you to edit layer styles graphically, without the need to resort to programming or requiring a technical background.
In the layer list, click to select the remaining layer and then click the palette icon (Layer Styles). This will bring up the style manager.

Styles manager
This layer has one style (named the same as the layer) and one rule in that style. Click the rule (Untitled 1) to select it, and then click on Edit below it.
Edit style rule link

Edit the style. You can choose from simple shapes, add labels, and even adjust the look of the points based on attribute values and scale.

**Basic**

- **Name:** Points of Interest
- **Symbol:** circle
- **Size:** 10
- **Rotation:**

**Fill**

- **Color:** #006689
- **Opacity:**

**Stroke**

- **Style:** solid
- **Color:** #bbffbb
- **Width:** 1
- **Opacity:**

Editing basic style rules
When done, click Save, then click on the word Layers to return to the layer list.

Adjusting map composition
Make any final adjustments to the map composition as desired, including zoom and pan settings.

Click the Map button in the toolbar, and then click Publish Map.

Publish map link

The title and abstract as previously created should still be there. Make any adjustments as necessary, and click Save.

A new dialog will appear with instructions on how to embed this map in a webpage, including a code snippet. You can adjust the parameters as necessary.
Map publishing options

Your map can now be shared.

ArcGIS
ArcGIS Desktop (ArcMap) supports adding WMS layers to your map project. The following set of steps will walk you through how to configure a WMS Layer from your GeoNode within ArcMap.
First, you can start with a new empty project or add these layers to your existing project.

Next click the ArcCatalog button on the toolbar to bring up its interface.
From there, double click the “Add WMS Server” item in the tree to bring up the dialog that lets you enter the details for your WMS.

Next, enter the URL for your WMS endpoint which:
http://185.17.144.169:8080/geoserver/geonode/ows?

Click the “Get Layers” button to ask ArcMap to query your WMS’s GetCapabilities document to get the list of available layers.
Once your server is configured in ArcMap, you can right click on one of the layers and investigate its properties.

In order to actually add the layer to your project, you can drag and drop it into the Table of Contents, or right click and select “Create Layer”. Your Layer will now be displayed in the map panel of your project.
Once the layer is in your projects Table of Contents, you can right click on it and select the Layer Properties option and select the Styles Tab to choose from the available styles for that layer.

QGIS
Quantum GIS or QGIS is an open source, cross platform desktop GIS app. It can also be used to add layers from your GeoNode instance as WMS or WFS. The process is very similar to how we add these same layers to ArcMap, and we will walk through the steps necessary in the following section.
First, select “Add WMS Layer” from the Layer menu, with the following address: http://185.17.144.169:8080/geoserver/geonode/ows?

![Create a new WMS connection](image)

The Add WMS Layer Dialog will be displayed where you are able to specify the parameters to connect to your WMS server.