Marine Environmental Baseline Information Network (MEBIN)

User Guide

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1. Introduction

Petroleum Resources Development Secretariat (PRDS) has initiated to establish a Marine Database with a view to defining mandatory environmental protection measures prior to future hydrocarbon exploration activities. The technical support is provided by National Aquatic Resource Research and Development Agency (NARA) to develop the database. The information on living and non-living resources within the EEZ of Sri Lanka available at various locations including NARA over the years is compiled in to this database. Marine Environmental Baseline Information Network (MEBIN) contains the largest collection of marine environmental data and information.MEBIN encourage scientists, researches and students to share and published their data in this national important programme that will be benefited by value addition for research data and recognition for researchers.

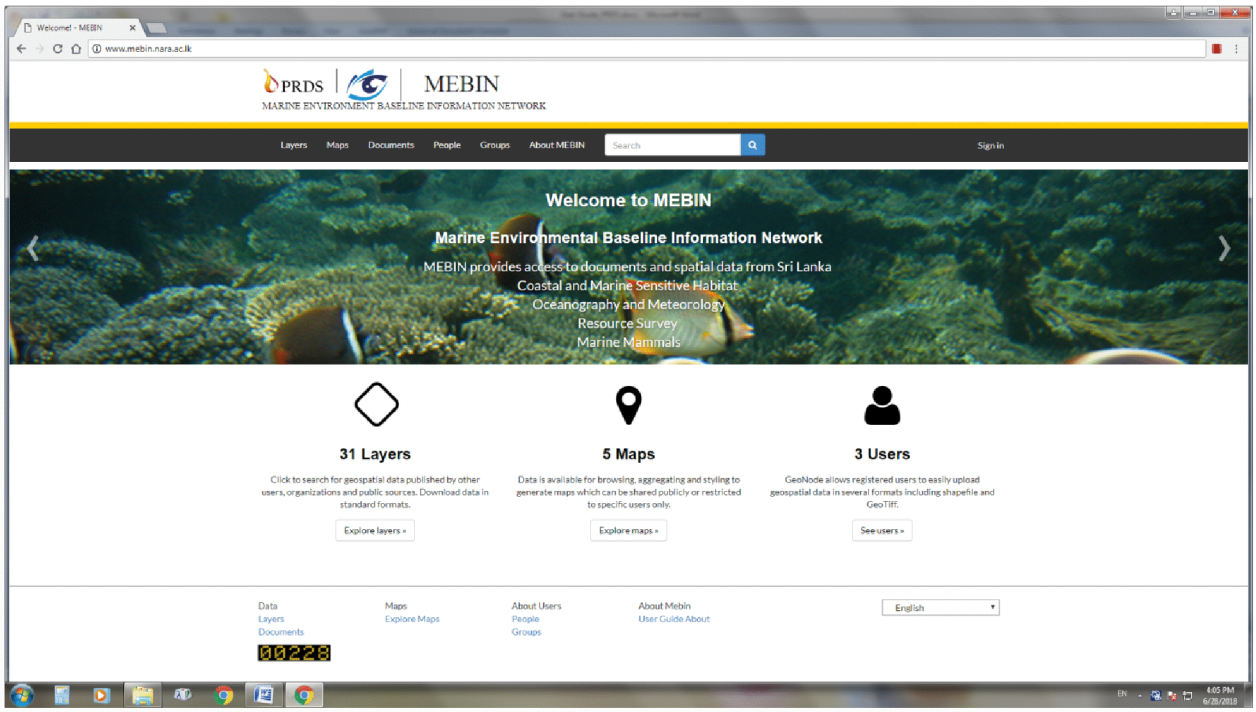
The spatial data is covered under following four themes;

1. Coastal and marine sensitive habitats
2. Meteorological and Oceanographic
3. Living and non-living resource
4. Marine Mammal

There is a large amount of abstracts, published reports and manuscripts on in Sri Lanka in particular relating to above study areas. In addition unpublished data gathered by NARA and internal reports are taken in to this web based database. Such information represents a wide range of aspects on marine living resources mostly relating to biology, ecology, distribution, exploration and exploitation, conservation and management, policy, socio-economic aspects of resource users, marine products, market and trade etc. At present, the published and unpublished information are scattered everywhere. This is therefore, a useful juncture to review the current knowledge of the marine living non-living resources in Sri Lanka, and synthesize research trends; identify gaps in knowledge and future research directions. At the same time this existing data will be useful for investors, who are going to explore marine resources in future.

2. User Guide for Marine Environmental Baseline Information Network

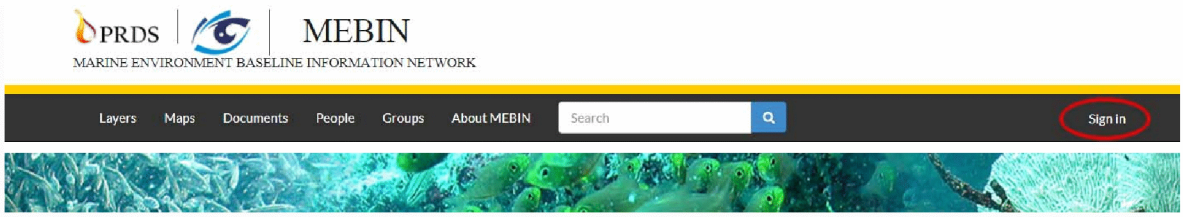
Marine Environmental Baseline Information Network (MEBIN) is constructed using Open Source Geospatial Content Management System. GeoNode is a web-based application and platform for developing geospatial information systems (GIS) and for deploying spatial data infrastructures (SDI).On the GeoNode welcome page, you will see the number of layers uploaded to the platform as well as the number of maps built using these layers. You will also find the number of registered users.



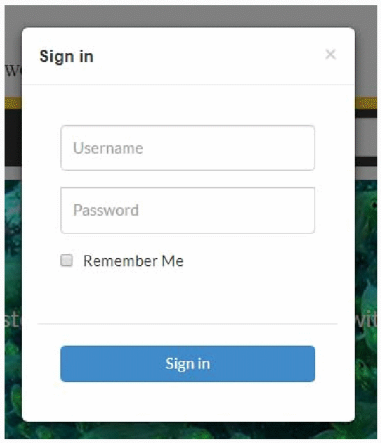
2.1.Login to the account

Without being logged in, you are limited to read-only access of public layers. In order to create a map and add layers to it, you have to have create an account first.

- From any page in the web interface, you will see a *Sign in* link. Click that link, and in the dialog that displays.



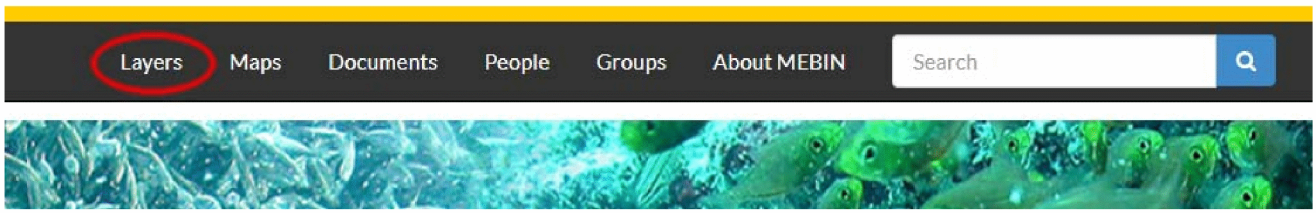
- Provide the username and password given to you by the administrator in the dialog box as given in below.

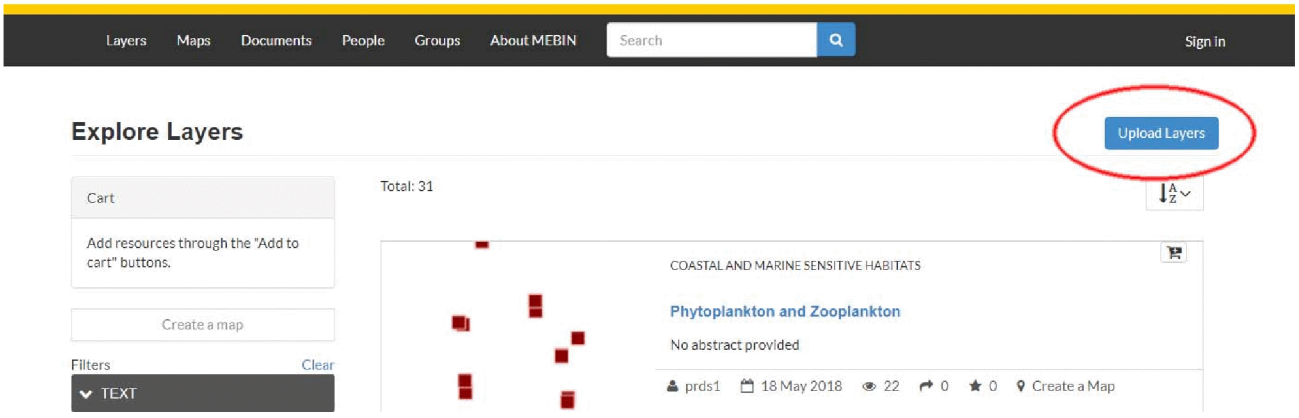


2.2.Add a new layer

Layers are a published resource representing a raster or vector spatial data source , which are associated with metadata. GeoNode supports vector files in ESRI shape file format and raster files in GeoTIFF format. The upload procedure is similar for both formats.

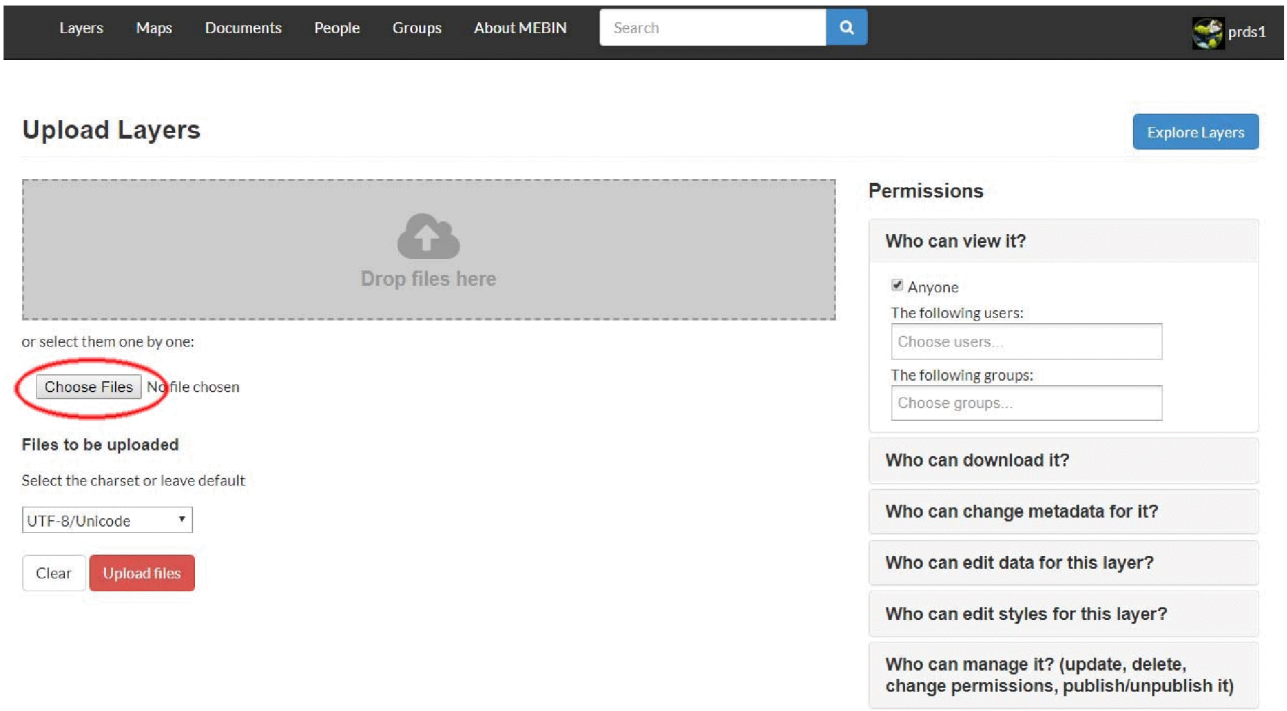
- By clicking the Layers link you will be brought to the Layers menu where a new subtoolbar can be seen. This toolbar allows you to Explore, Search and Upload layers.





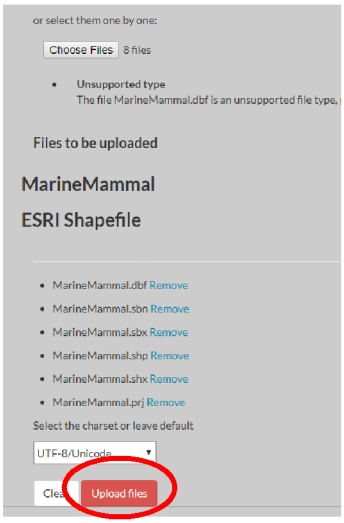
For a raster file, the *.tif format (GeoTIFF) already contains the data and the projection; however, the symbology (*.sld) and metadata (*.xml) also need to be added separately. For example, if we have a raster GeoTIFF called “land_cover”, we would have the following files to upload: • land-cover.tif • land_cover.sld• land_cover.xml

- Now click Upload Layers and you’ll see the upload form.

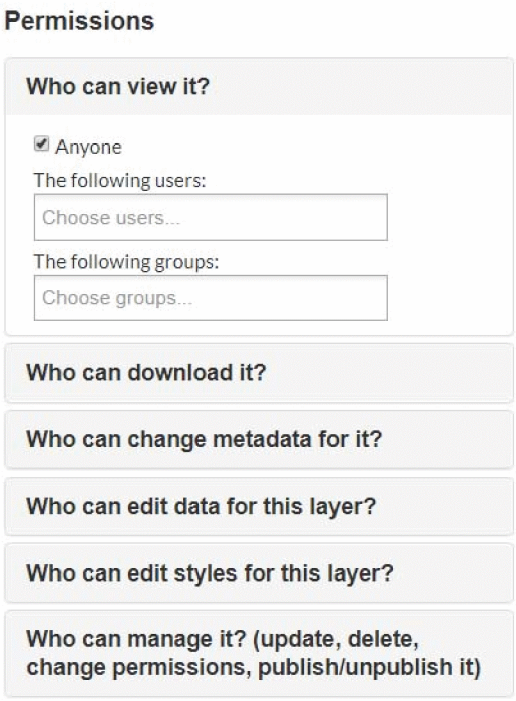


You have two possibilities to add your files. You can either do that by using drag & drop or you choose to browse them. Be aware that you have to upload a complete set of files, consisting of a shp, a prj, a dbf and a shx file. If one of them is missing, GeoNode will warn you before you upload them.

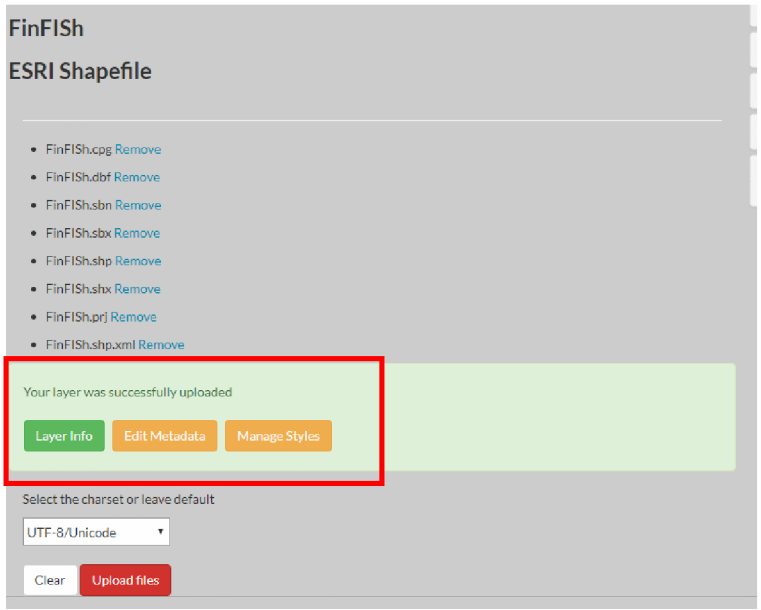
- You should now be able to see all the files you want to upload



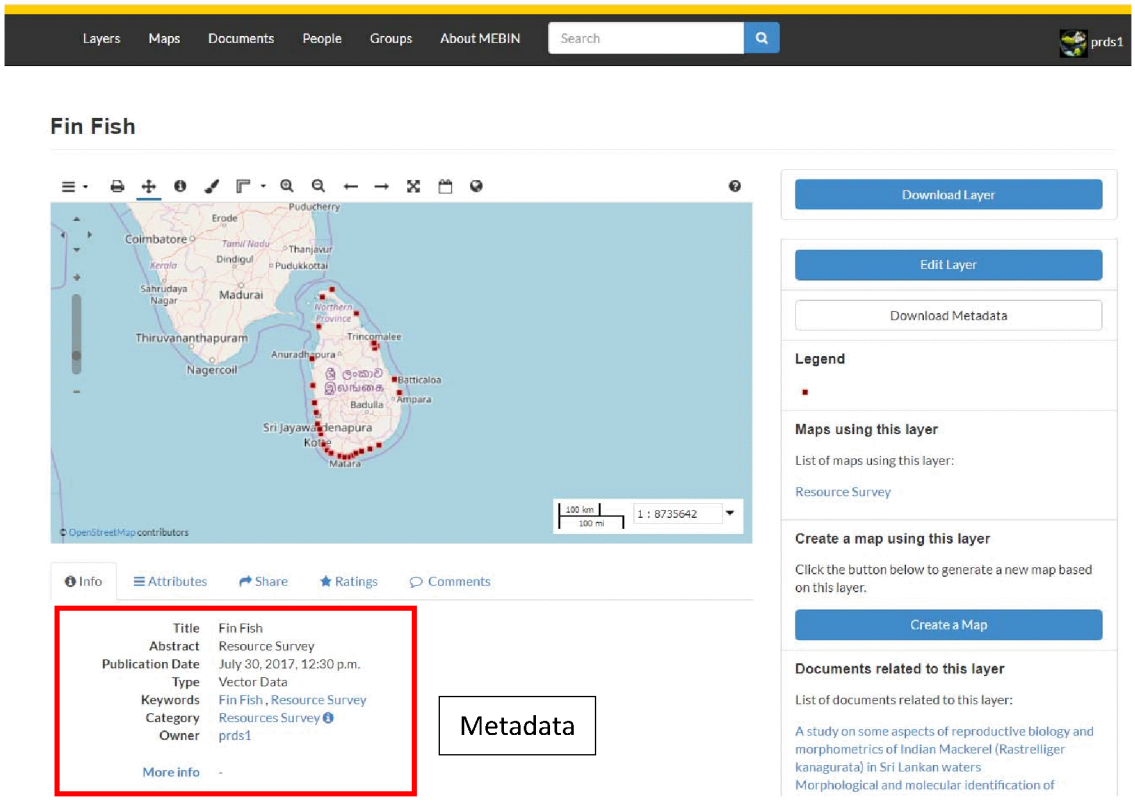
GeoNode has the ability to restrict who can view, edit, and manage layers. On the right side of the page you can see the permission section, where you can limit the access on your layer. Under who can view and download this data, select any registered user. This will ensure that Anonymous view access is disabled. In the same area, under who can edit this data, select your username. This will ensure that only you are able to edit the data in the layer.



After a few seconds, you should see a message confirming that the files have been successfully uploaded. In the same confirmation box, you can also edit the metadata by clicking on the Edit metadata button, in case either you had no .xml file containing the metadata and you want to add it afterward, or you want to modify some elements of the metadata.



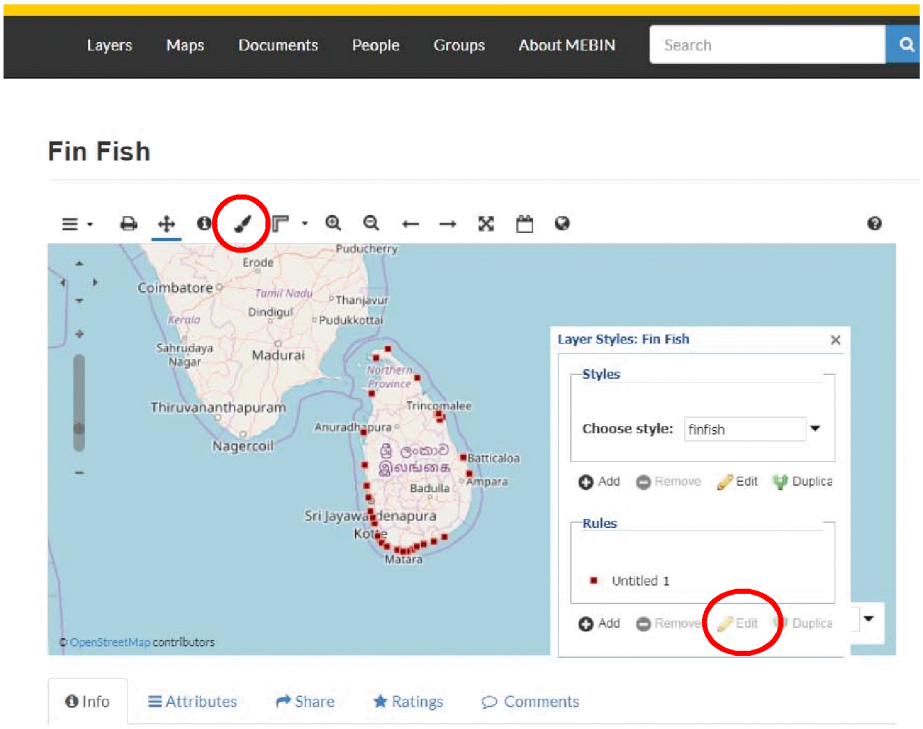
Selecting Layer Infoopens the layer visualization page. As mentioned before, here you can see the data you have uploaded superimposed to a background base map. You can also visualize here the metadata of respective layer.



2.3.Style the layers

GeoNode recognizes styles in the Styled Layer Descriptor (SLD) markup language or SLD. SLD is an Open Geospatial Consortium (OGC) standard that extends the web map service (WMS) standard allowing user-defined symbolization and coloring of geographic feature (vector) as well as coverage (raster) data. In other words, the SLD language controls the type and manner in which the data is displayed.

- Open the Edit Layer menu by clicking and choose Edit on the Styles in the window that opens. Select then the Labels tab, tick the Label Features box. The Label Feature drop-down menu lists all the variables of the layer's attributes table.


Layers
Maps
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About MEBIN
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Fin Fish
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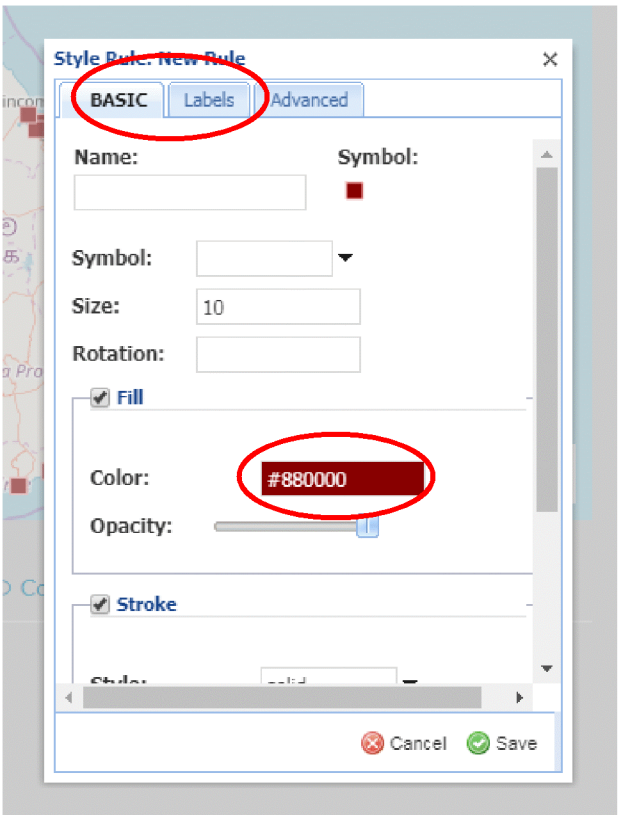
Abstract Resource Survey
Publication Date July 30, 2017, 12:30 p.m.
Type Vector Data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2.4.Associate metadata to layers

Metadata can be associated with a layer in two different manners: either during the layer upload in GeoNode by using a .xml file or by editing the metadata after the layer upload, directly through the metadata editor in GeoNode.

Using an .xml file

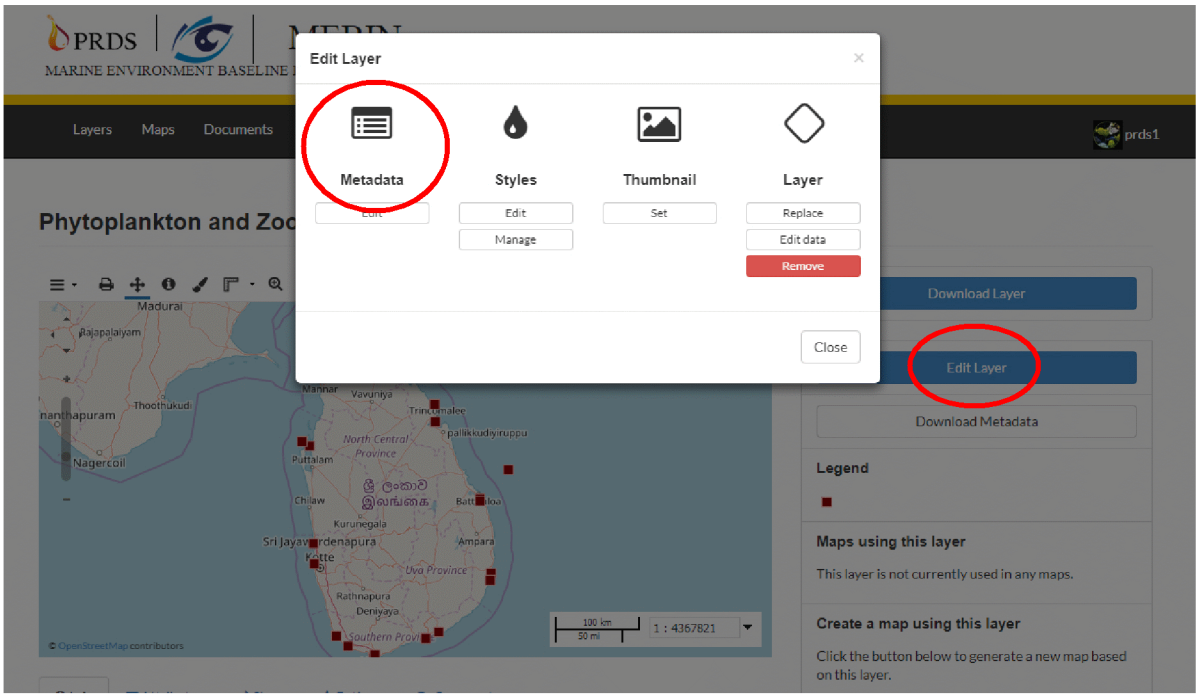
If the metadata already exists when uploading a layer, it needs to be inserted in a .xml file with the same name as the layer. The metadata standards supported by GeoNode are ISO, FGDC and Dublin Core. Such a .xml file with proper tags can be automatically created from a GIS software (e.g. ESRI ArcGIS) or from a QGIS plugin (e.g. meta tools, Geoserver Explorer, Qsphere) or exported from a Geonetwork record. This XML file will contain specific tags that will allow populating the title, abstract, etc.

If you want to upload metadata for the layer, you need to upload it at the same time as the layer itself. In this case, you need to click on the Layers top menu, then on the Upload Layers button. In the upload layers page, you still need to click on the Browse button and select the data files as well as the metadata file. When you click on Open, the various files, including the .xml file for metadata, will appear as ready to be uploaded. You will then simply need to click on the upload button and your metadata will be uploaded at the same time.

Using the GeoNode metadata editor

It is also possible to either create or update metadata for a layer directly from GeoNode. For this, simply click on the concerned layer when logged in, click on the Edit Layerbutton and on the Edit button under Metadata in the dialogue window that opens.

You can then fill or update the various fields that appear and click on Save or Update when this is finished. Your layer will then have the correct metadataassociated.When you are satisfied with the metadata edition, simply click on the Updatebutton either at the top or the bottom of the page and your metadata will be updated.


PRDS
MARINE ENVIRONMENT BASELINE
Layers
Maps
Documents
prds1
Edit Layer
Metadata
Edit
Styles
Edit
Manage
Thumbnail
Set
Layer
Replace
Edit data
Remove
Close
Phytoplankton and Zoo
Download Layer
Edit Layer
Download Metadata
Legend
Maps using this layer
This layer is not currently used in any maps.
Create a map using this layer
Click the button below to generate a new map based on this layer.
Madurai
Rajapalaiyam
Thoothukudi
Nagercoil
Mannar
Vavuniya
Trincomalee
North Central Province
Puttalam
Chilaw
Kurunegala
Ampara
Uva Province
Rathnapura
Deniyaya
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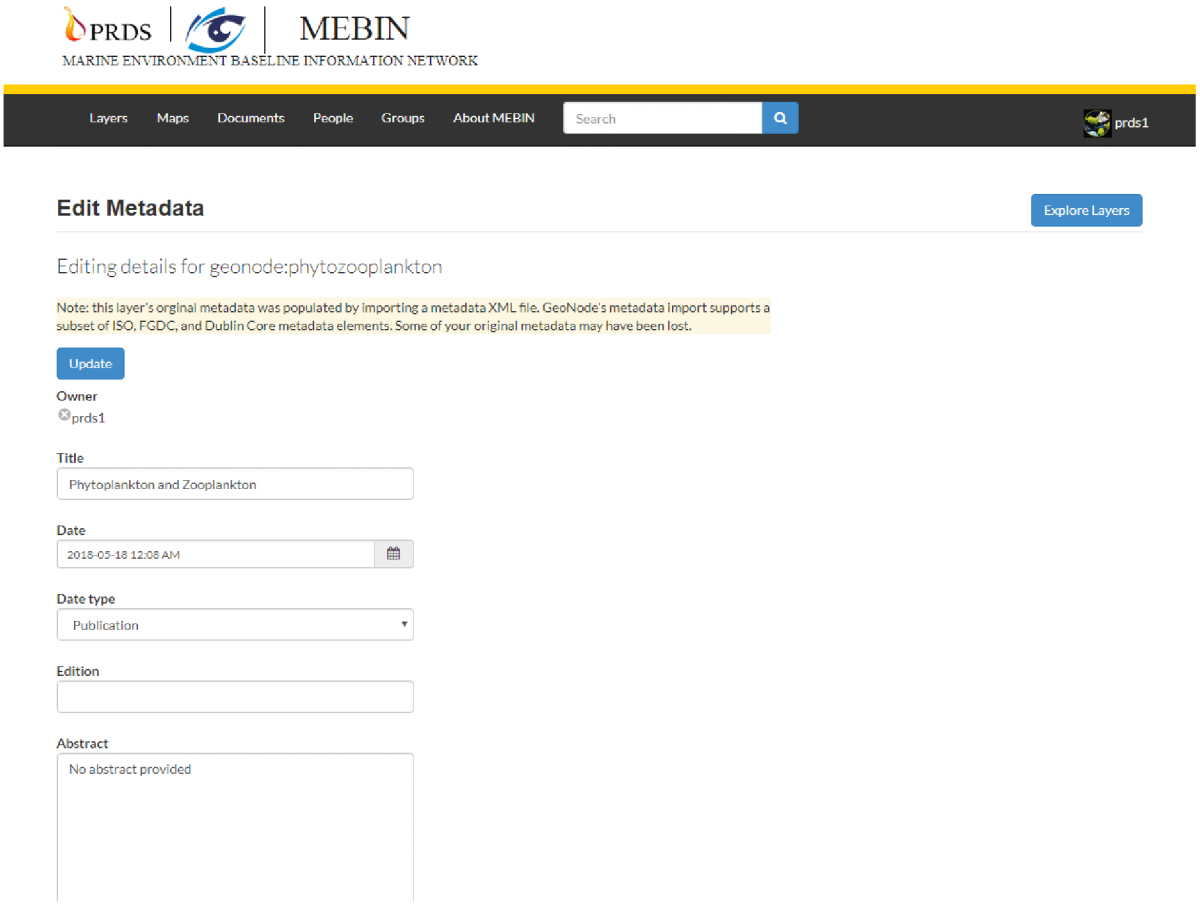
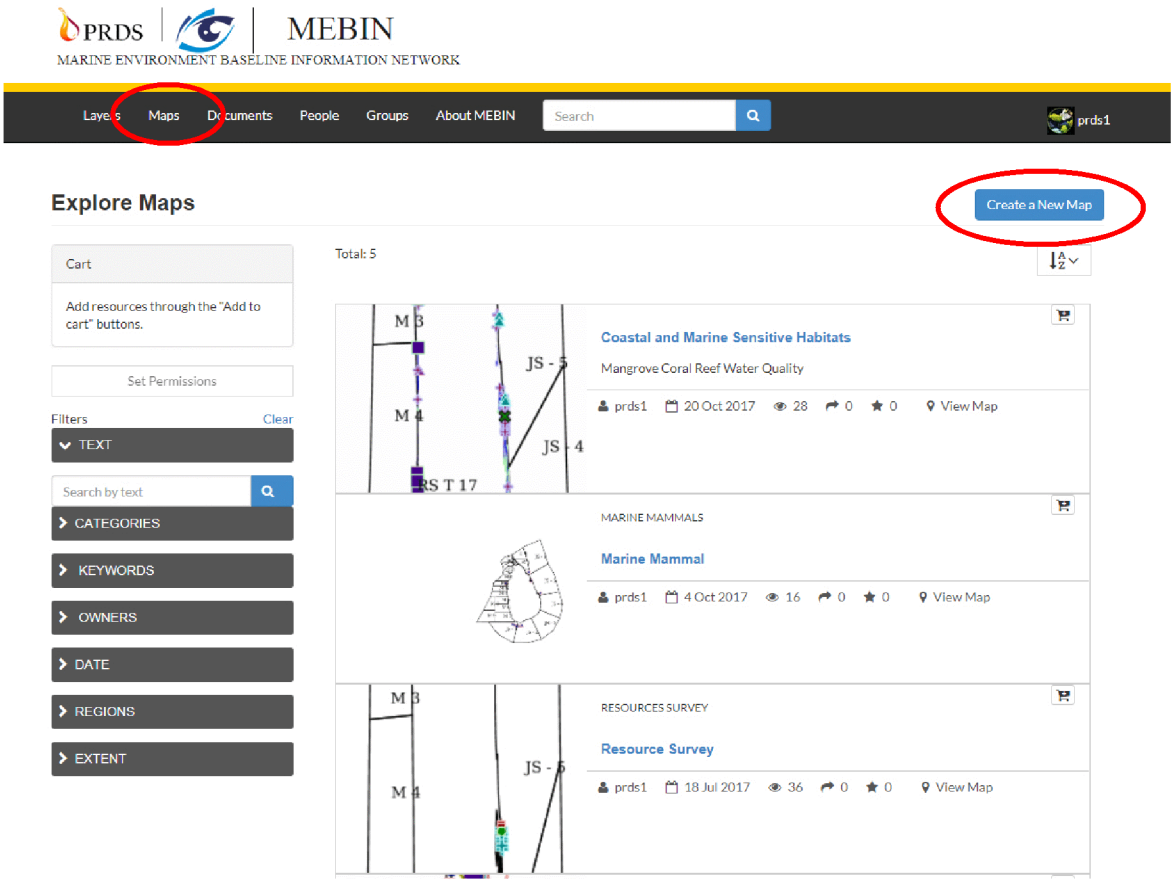

PRDS
MEBIN
MARINE ENVIRONMENT BASELINE INFORMATION NETWORK
Layers
Maps
Documents
People
Groups
About MEBIN
Search
prds1
Edit Metadata
Explore Layers
Editing details for geonode:phytozooplankton
Note: this layer's orginal metadata was populated by importing a metadata XML file. GeoNode's metadata import supports a subset of ISO, FGDC, and Dublin Core metadata elements. Some of your original metadata may have been lost.
Update
Owner
prds1
Title
Phytoplankton and Zooplankton
Date
2018-05-18 12:08 AM
Date type
Publication
Edition
Abstract
No abstract provided

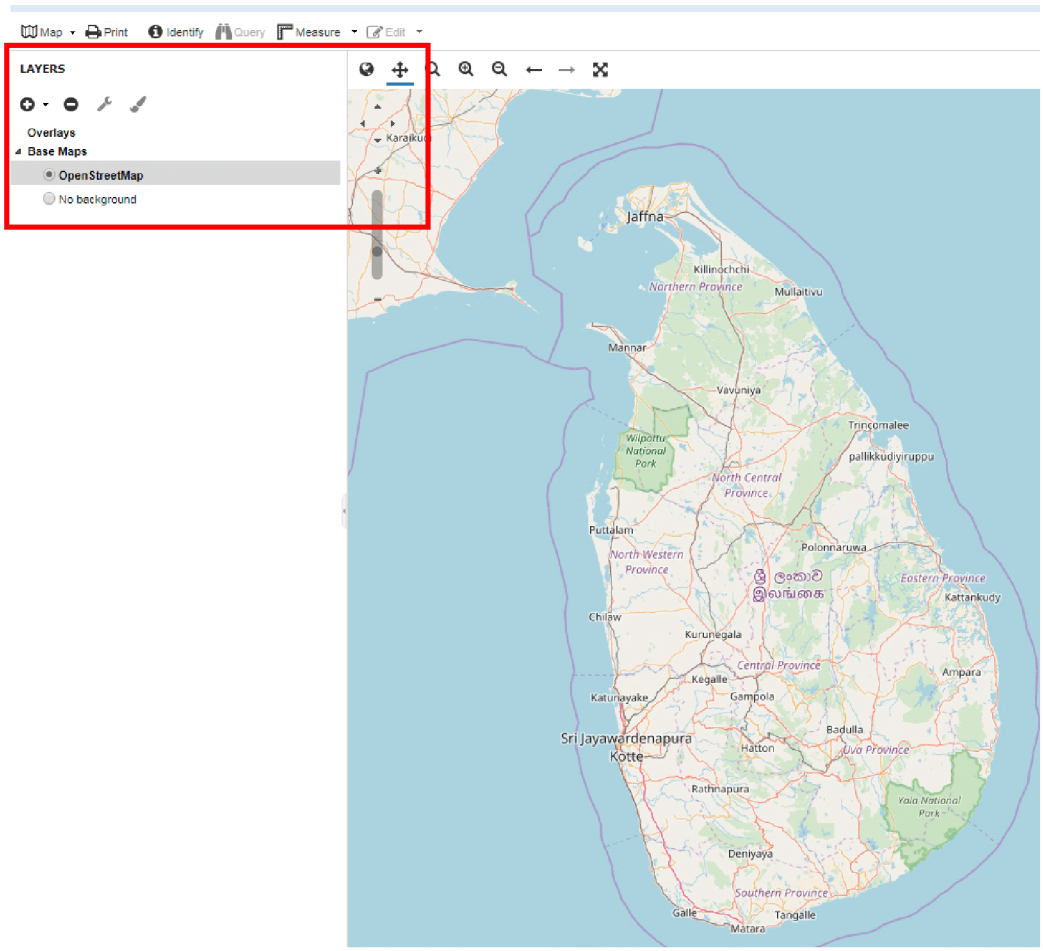
2.5.Create a new map

Create a map adding the newly created layers are possible under this tool.

- Click the Maps link on the top toolbar. This will bring up the list of maps.



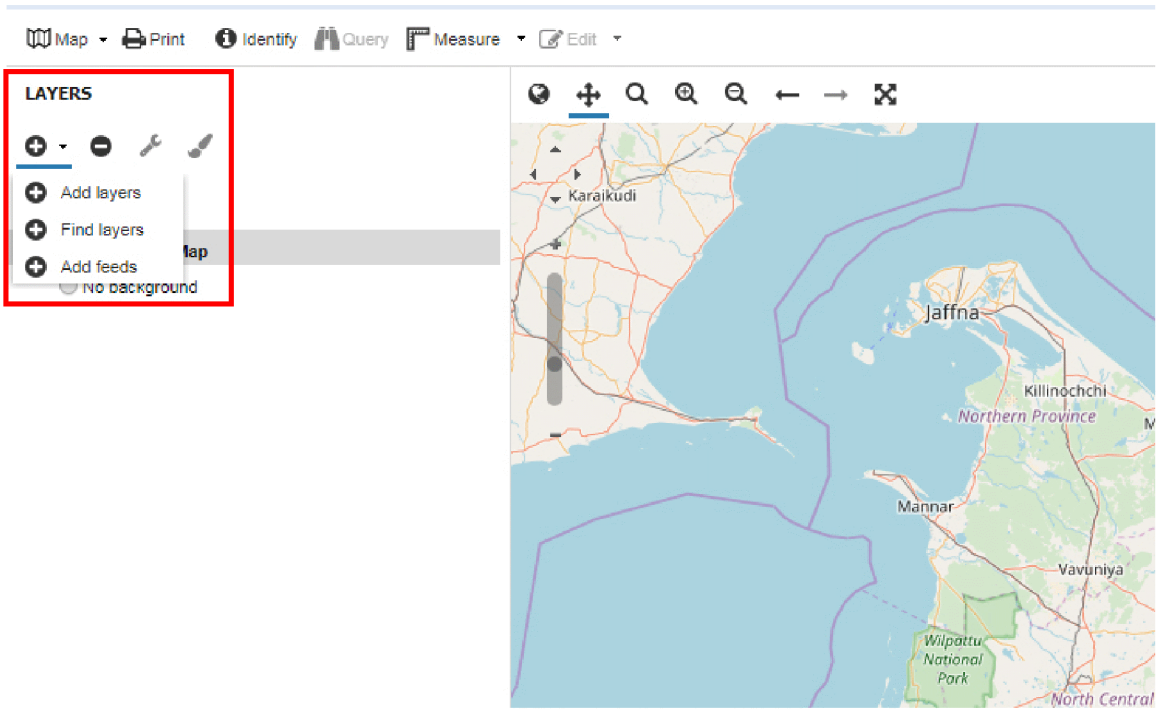
- To add one click the Create a New Map button and a map composition interface will display as below.



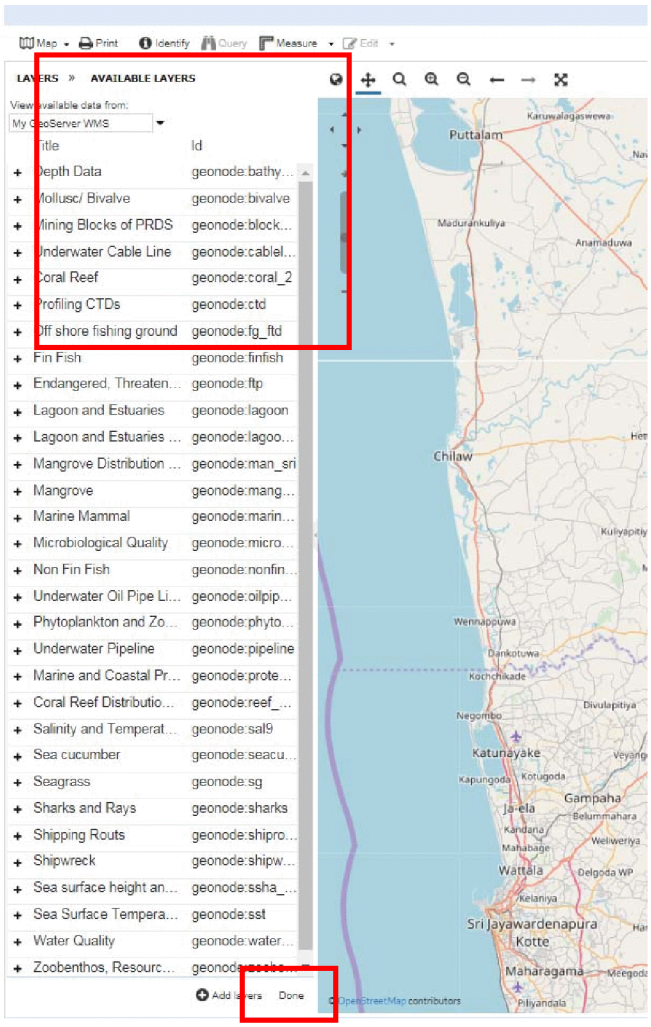
Maps Editor

In the above interface there is a toolbar, layer list, and map window. The map window contains the MapQuest Open Street Map layer by default. There are other service layers available here as well: Blue Marble, Bing Aerial with Labels, MapQuest, and Open Street Map.

- Click on the New Layers button and select Add Layers.

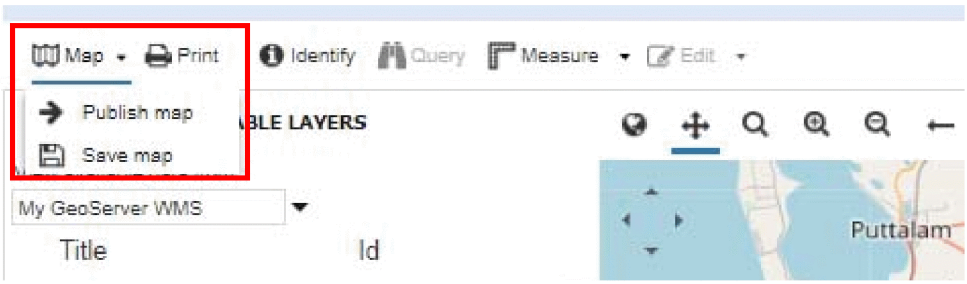


Now you should be able to see all the available layers.

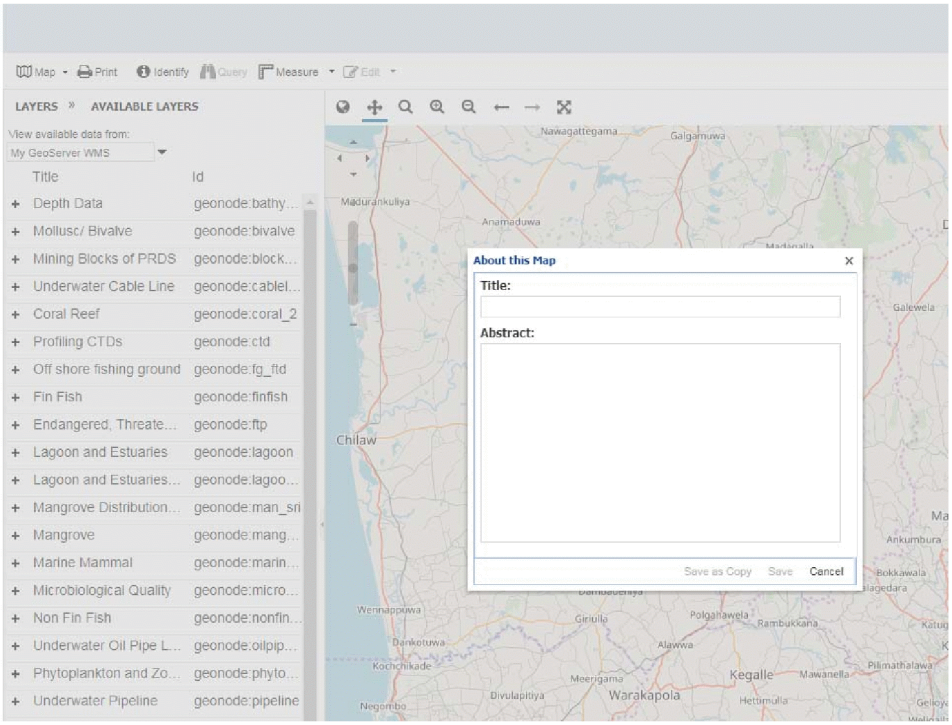


Select all of the layers by clicking the top entry and Shift-clicking the bottom one. Click Add Layers to add them all to the map. The layers will be added to the map. Click Done (right next to Add Layers at the bottom) to return to the main layers list.

- To save the map click on the Map button in the toolbar, and select Save Map.



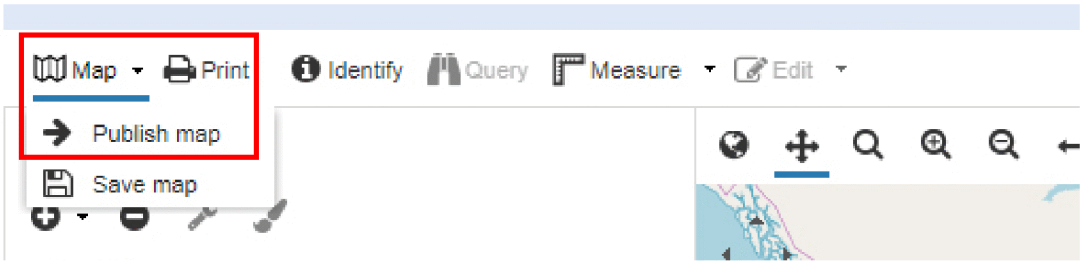
- Enter a title and abstract for your map and click save.



2.6.Share your map

Make any final adjustments to the map composition as desired.

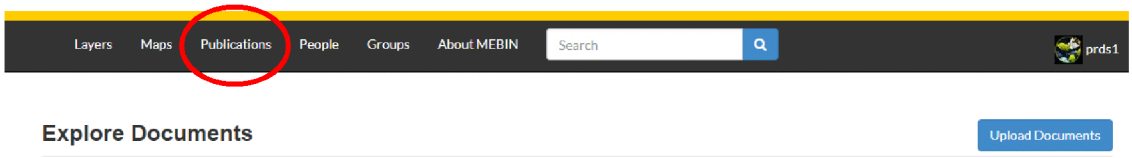
- Click the Map button in the toolbar, and then click Publish Map.



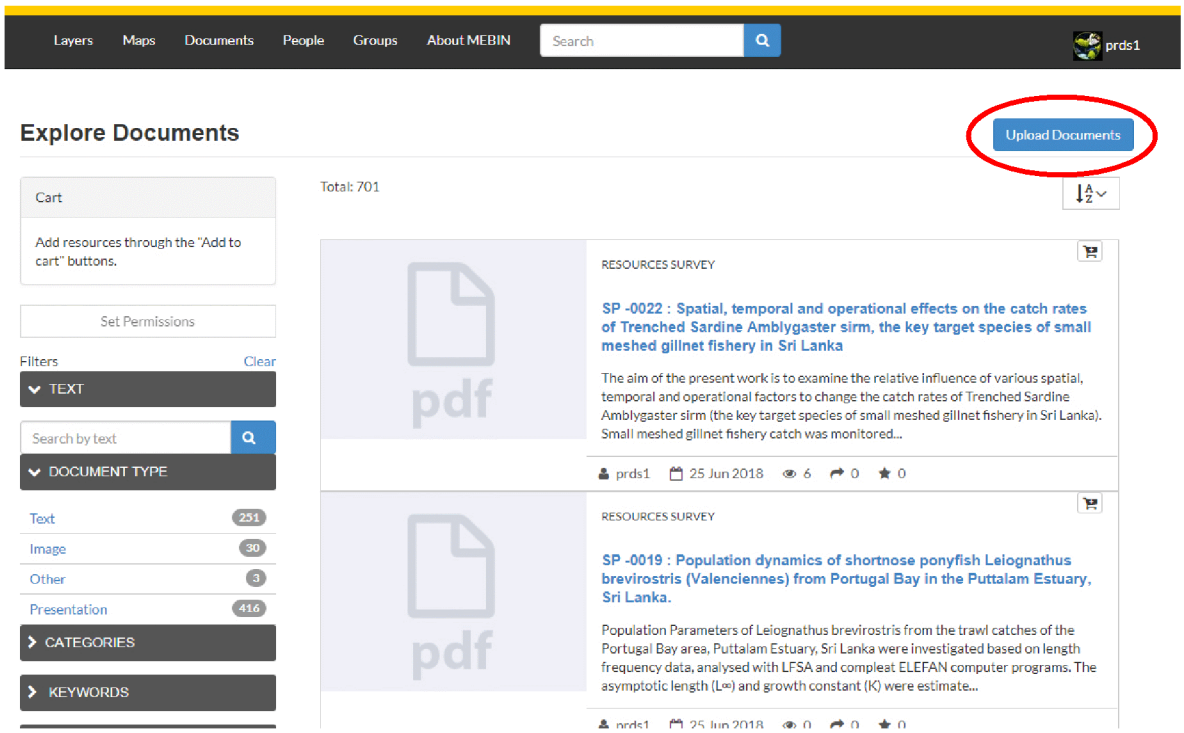
The title and abstract as previously created should still be there. Make any adjustments as necessary, and click Save. A new dialog will appear with instructions on how to embed this map in a web page, including a code snippet. You can adjust the parameters as necessary.

2.7.Add a publication

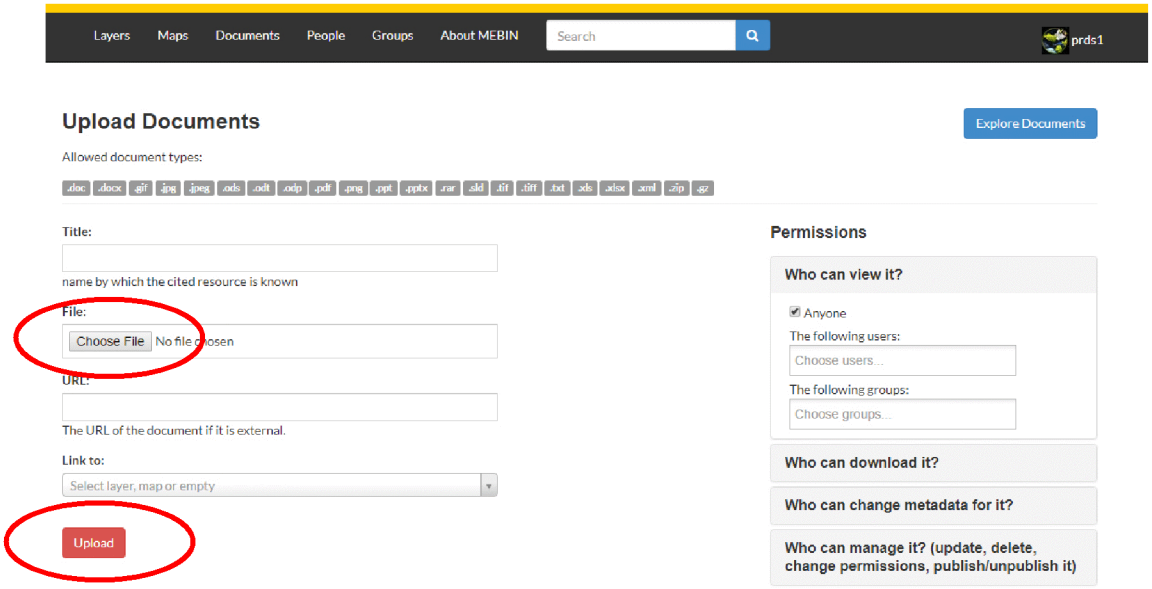
Published research article or scientific paper, report and any other document can be added with its metadata by using this tool.



- By clicking the publication link you will be brought to the publication menu to Explore, Search and Upload documents.

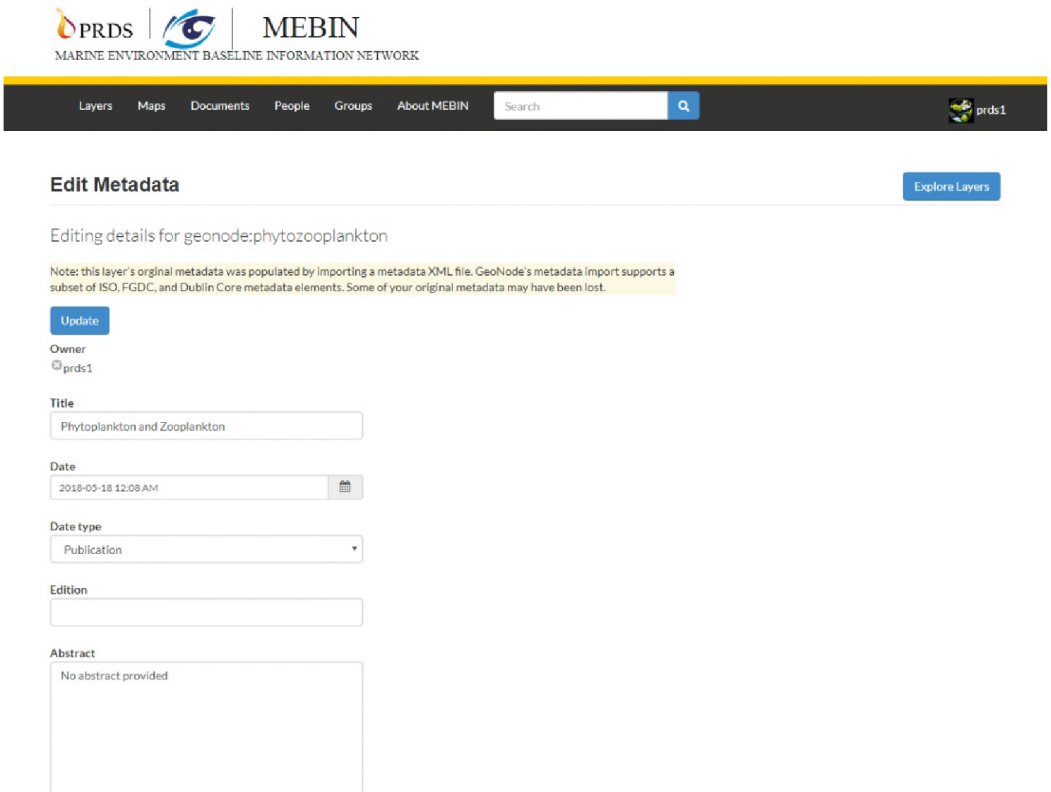


- When you click Upload Documents link following window will appear, you should click on choose file and upload the document.



At the same time you can change the permission in the right side menu as you want.

- Edit metadata of the publication once you upload the document and then update



2.8.Explore a publication or a document

You can search a document or publication by title of the text, category name, keywords or region wise by selecting required option as highlighted in below window. Species names are entered in to the keywords. Publications in relevant to the particular species can be searched through the keywords.