

Elevation data availability: Guidance on how to increase accessibility to elevation data

Purpose

This document is intended to provide guidance to Member States of the Intergovernmental Coordination Group for the Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS) on how to upload details on available elevation data. It should be noted that exact details may change as the Caribbean Marine Atlas (CMA) interface is enhanced and maintained.

Background

The Workshop on Tsunami Modelling & Mitigation (2014) report stated the following:

- Countries within the Caribbean basin must explore how to obtain the relevant data if they want to have a good estimate of the effects of potentially devastating tsunamis in their vicinity.
- It is often the case that countries lack the appropriate resources, expertise or skilled personnel to obtain bathymetric data.
- Countries do not share their data because these are seldom in the public domain; government agencies or the military often owns the data.

As a result “[...] a recommendation was presented to form a Data Trust, who would hold the necessary data in the correct format and quality, and who would be in charge of distributing the data only to authorized users that have registered with IOC with the strict objective to use the data only to perform the necessary computations associated to the generation of tsunami evacuation maps.”

At the ICG/CARIBE-EWS XV in 2021, the following recommendation was made: “Recommends WG2 develop a “roadmap”, or general guidance, on how to upload elevation data to the Caribbean Marine Atlas (CMA), and encourages Member States to upload in CMA their elevation data, and to provide status of available data (e.g., extent, resolution, access, etc.) to WG2”.

The CMA’s stated aim is “to consolidate itself as the geospatial information platform of reference for Integrated Ocean Governance in the Wider Caribbean”. The CMA supports a number of organizations including Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO); CMA is also active with the Meso American - Caribbean Sea Hydrographic Commission (MACHC) through the Marine Spatial Data Infrastructure (MSDI) Working Group (MMSDIWG).

As a result, WG2 encourages Member States to upload data available (online or by request) to the CMA. WG2 asks Member States to upload details on the available data (e.g. extent, resolution, where to obtain, etc.).

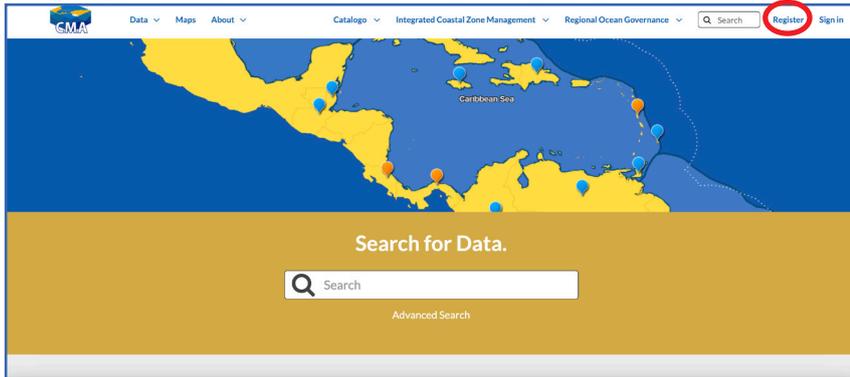
Guidance

The following steps are intended to encourage ICG/CARIBE-EWS Member States to provide information (e.g., extents, resolution, availability, etc.) regarding existing elevation data through a unified platform. The intent is **not** for elevation data to be uploaded directly, due to challenges in data volumes, formats, and other considerations. The Geonode User's Guide should be consulted as an additional resource, <https://docs.geonode.org/en/master/usage/index.html>

Step 1 – Register for a CMA account

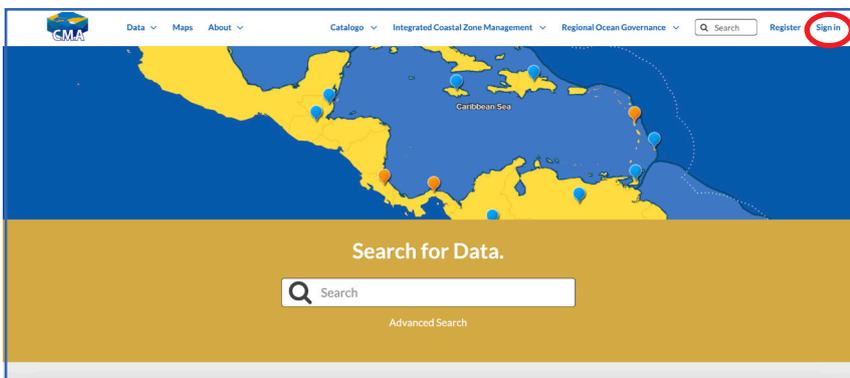
Access the CMA website at <https://www.caribbeanmarineatlas.net/home/>

Register for a CMA account at <https://www.caribbeanmarineatlas.net/account/signup/>

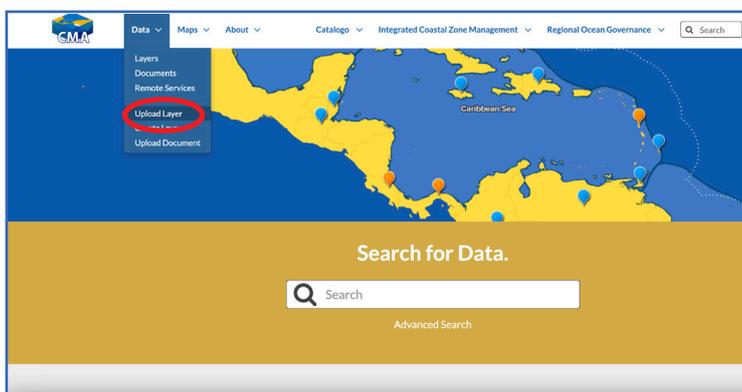


Step 2 – Upload a shapefile of data extents

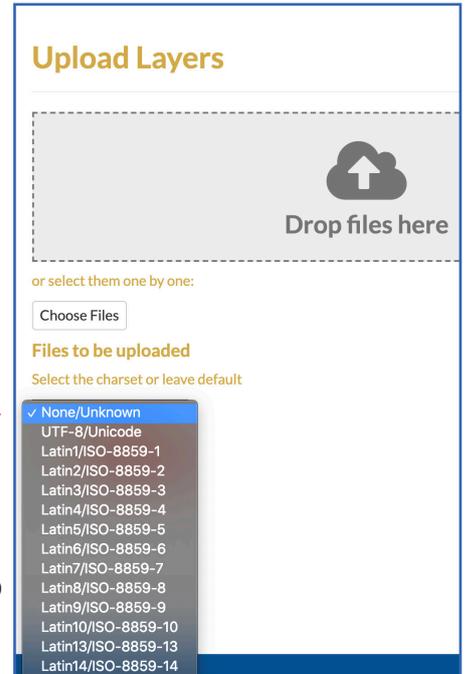
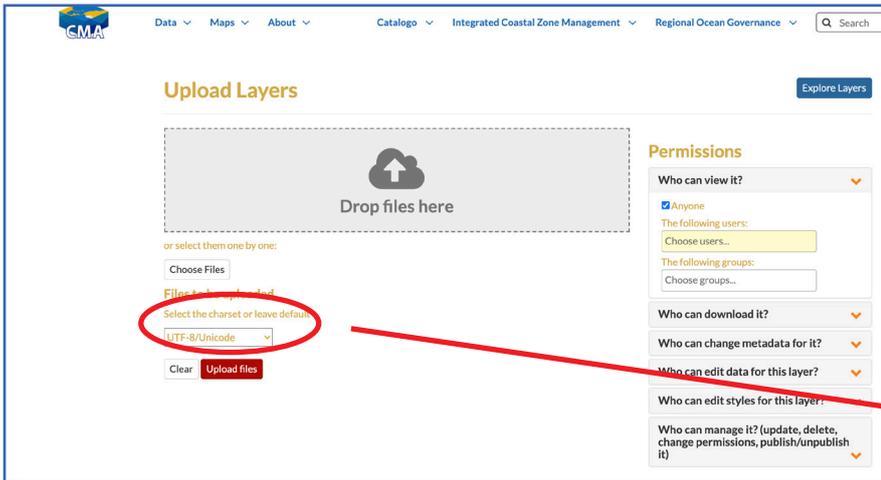
Sign in at <https://www.caribbeanmarineatlas.net/home/>



Ensure to have your shapefile of data extents, then proceed to “Upload Layer”



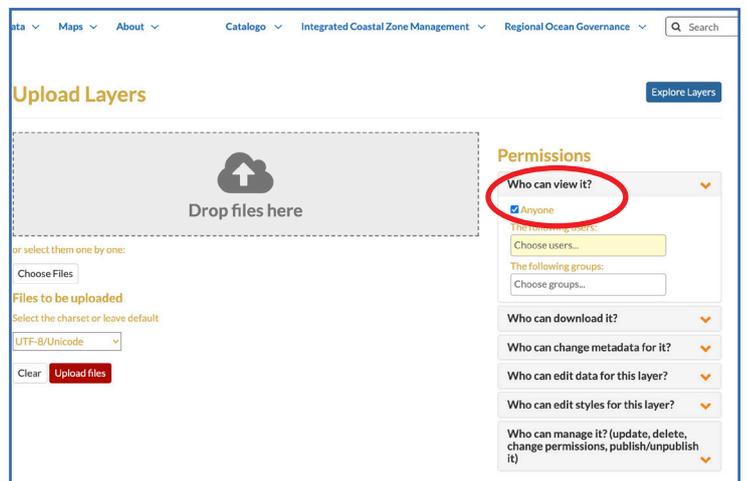
“Select the charset or leave default” as “None/Unknown”



Then upload file or data extent by dropping or selecting
Do **not** select “Upload files” (red) until completing next step

Step 3 – Set permissions for file

Ensure “Who can view it?” has the selection “Anyone” checked, or else the data extents will not be viewable. The remainder of the permissions options relate to editing privileges, it is recommended you list individuals in your organization, or partner organizations, that may need to update in the future. Please note those individuals will need to register for CMA accounts (*Step 1*). Permissions can also be edited after files are uploaded.



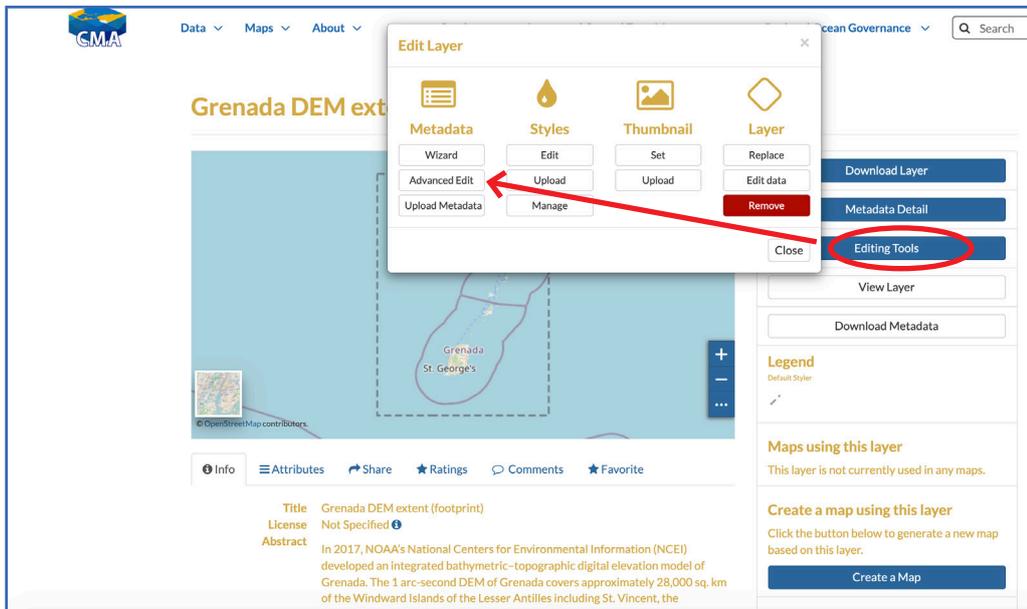
Select “Upload files” (red) Upload files

Step 4 – Edit metadata

Navigate to the Layer you have uploaded.



Select “Editing Tools” then under Metadata select “Advanced Edit”



Enter all relevant metadata.

- In “Abstract” provide a short summary of available elevation data and where it can be access and/or contact for availability.
- Under “Free-text Keywords” please be sure to include “CARIBE-EWS”, thus allowing other CARIBE-EWS Member States to easily find your entries. Please consider adding other keywords. The Global Change Master Directory (GCMD) Keywords are recommended as they offer a “hierarchical set of controlled Earth Science vocabularies that help ensure Earth science data, services, and variables are described in a consistent and comprehensive manner and allow for the precise searching of metadata and subsequent retrieval of data, services, and variables”. See here: <https://wiki.earthdata.nasa.gov/display/CMR/GCMD+Keyword+Access>
- Under “Regions” please be sure to include “Caribbean”, as well as the Member State(s) represented in the uploaded data.

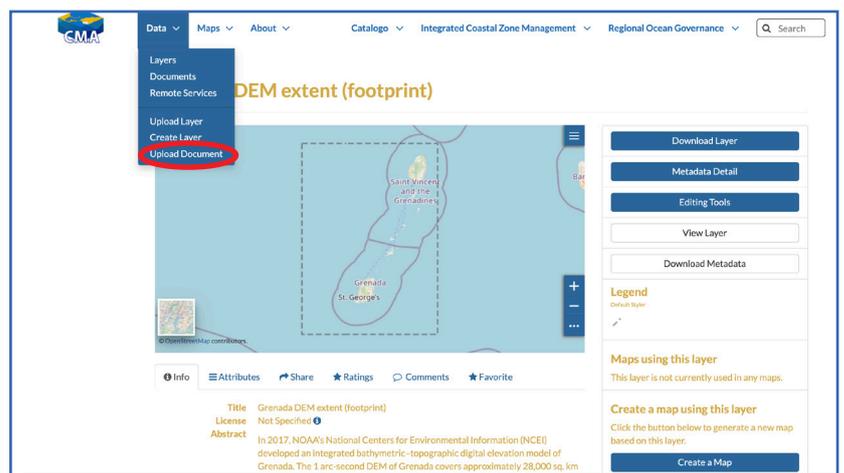
Make all other Metadata edits as needed, be sure to select “Update” to save changes.

Step 5 – Upload documentation

Most elevation data is accompanied by a Technical Report (or similar) that includes information critical to understanding the available data. Such information may include:

- Data coverage and resolution (e.g., cell size, coordinate system, horizontal datum, vertical datum, units, grid format, etc.)
- Data sources
- Data processing
- References

Navigate to “Data” tab then select “Upload Document”



Upload file and fill fields as needed.

Important: under “Link to”, link to the related layer you uploaded in Steps 1-4.

Ensure permissions are set as appropriate.

Ensure “Who can view it?” has the selection “Anyone” checked, or else the document will not be viewable.

The screenshot shows the 'Upload Documents' interface. At the top, there are navigation menus for 'Data', 'Maps', 'About', 'Catalogo', 'Integrated Coastal Zone Management', and 'Regional Ocean Governance'. A search bar is on the right. The main heading is 'Upload Documents' with an 'Explore Documents' button. Below the heading, it lists 'Allowed document types' with a row of file extensions: .doc, .docx, .gif, .jpg, .jpeg, .ods, .odt, .odp, .pdf, .png, .ppt, .pptx, .rar, .sld, .tif, .tiff, .txt, .xls, .xlsx, .xml, .zip, .gz, .qml. The form has four main input sections: 'Title' (with a placeholder 'name by which the cited resource is known'), 'File' (with a 'Choose File' button and 'No file chosen' text), 'URL' (with a placeholder 'The URL of the document if it is external.'), and 'Link to:' (circled in red). A red arrow points from the word 'important!' to the 'Link to:' field. At the bottom left is an 'Upload' button. On the right, the 'Permissions' section is visible, with 'Who can view it?' set to 'Anyone' (checked).

Select “Upload” to save changes. **Upload**

Step 6 – Edit Document metadata

Navigate to the Document you have uploaded.

Select “Editing Document”, then under Metadata select “Advanced Edit”

Enter all relevant metadata. See [Step 4](#) for guidance.

- Under “Regions” please be sure to include “Caribbean”, as well as the Member State(s) represented in the uploaded data.

Make all other Metadata edits as needed, be sure to select “Upload” to save changes.

The screenshot shows the 'Edit Document' modal window. It has three tabs: 'Metadata', 'Thumbnail', and 'Document'. The 'Metadata' tab is active, showing 'Wizard' and 'Advanced Edit' buttons. A red arrow points from the 'Advanced Edit' button to the 'Edit Document' button in the background document view. The background document view shows the document title 'Digital Elevation Model of Grenada: Procedures, Data Sources, and Analysis (2017)' and a list of regions: Caribbean, Grenada, Saint Vincent and the Grenadines. The 'Edit Document' button is circled in red.

DONE!

Your layer displaying the extents of available elevation data and technical report should now be visible to all CMA users.