
CRD userguide

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Welcome to the user guide of the Climate Risk Database. Here you will find general user instructions for the website, but also more specific instructions for data providers and data users.

We hope you will find the information you are looking for. If not, please don't hesitate to contact us via email resilienceacademytz@gmail.com or via messaging the site admin or some of the CRD Data managers here in Climate Risk Database.

We are happy to help!

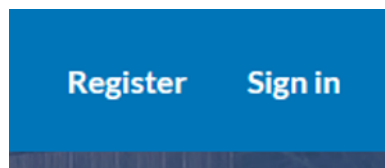
USING CRD

Instructions for basic navigation and usage of the Climate Risk Database. Here you will find guides how to register to the service and how to explore the contents.

1.1 Registering

Join the Climate Risk Database community by registering and updating your profile. As a member, you may access all CRD's features, such as uploading layers and documents, and saving the maps you have created.

1. Click **Register** in the top-right corner.
2. Fill out the form. Enter your email, create username and password.
3. After administration of the CRD validates your account, you will get an email to confirm your account. After confirmation you are good to go and sign into the Climate Risk Database. Welcome aboard!



1.2 Updating profile

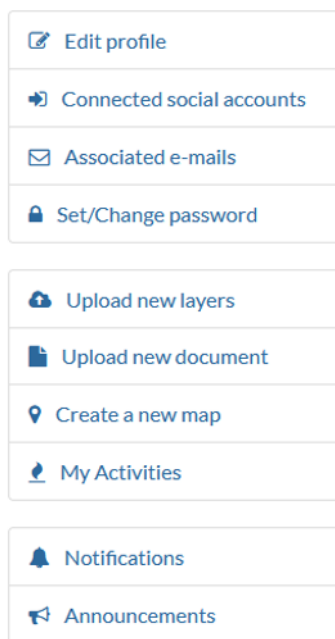
First task after registering for you is to edit your user profile. Share information about you to the community by telling who you are, what your position is and where you are from. You can update this information anytime.

1.2.1 Edit profile information

1. After signing in, go to your Profile page by clicking your username in the top-right corner.
2. From the right-hand side menu, click **Edit profile**.
3. Edit your personal information by adding your name, description of yourself and contact information. You can even edit your avatar.
4. When finished, click **Update profile** at the bottom of the page.

1.2.2 Other settings

From the same right-hand side menu, you can access other user settings as well, such as changing your password and setting your notification preferences. You can find other interesting links and activities from this menu as well, feel free to explore them!



1.3 Community

The Climate Risk Database community is ever expanding when new urban planners, researchers, educators, students, and many others find the database and utilize its content. You can explore the registered members, interact with them, and view the data owners' information.

1.3.1 Explore people

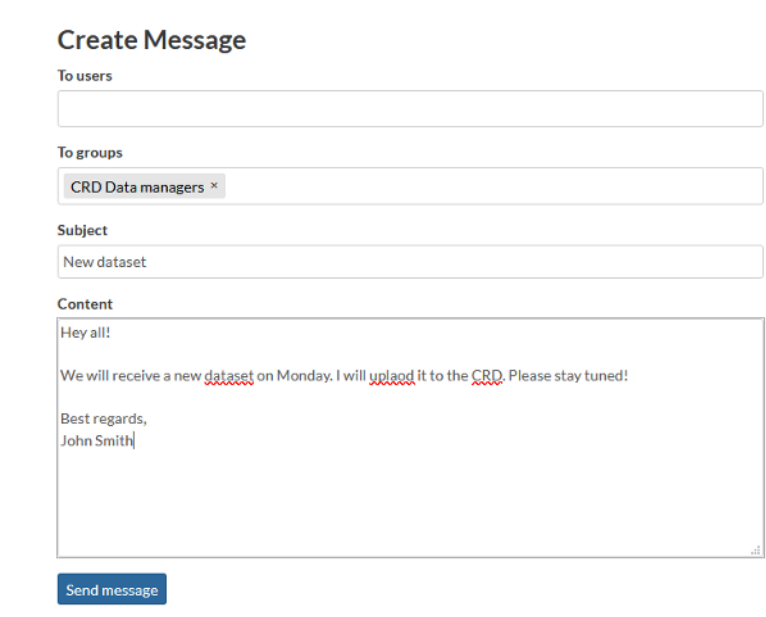
Find out who else is part of the Climate Risk Database community by exploring registered users.

1. Click **Community** → **Registered Members** from the header menu.
2. Explore people by searching them by their name, sorting the profiles or going through them page by page.
3. Click that member's username whose profile you want to explore.

1.3.2 Contact users

You can view other members' profiles to get to know them more, and even send them messages.

1. When you are in your own, or in someone else's profile page, click **Message User**.
2. Select the user you want to message from the first list. You can select multiple users by holding CTRL from your keyboard and clicking the names, simultaneously.
3. Alternatively, if you want to reach all members of a group, select the group from the second list.
4. Give your message subject and write the message. When ready, click *Send message*.
5. You can view your conversations in your *Inbox*. Access it by clicking your username in the top-right corner and selecting *Inbox*.



The screenshot shows a 'Create Message' form with the following fields and content:

- To users:** An empty text input field.
- To groups:** A dropdown menu with 'CRD Data managers' selected and a close icon (x).
- Subject:** A text input field containing 'New dataset'.
- Content:** A large text area containing the following text:
Hey all!

We will receive a new dataset on Monday. I will upload it to the CRD. Please stay tuned!

Best regards,
John Smith
- Send message:** A blue button at the bottom of the form.

1.3.3 Invite users

If you know someone who would love to be a member of the Climate Risk Database community, or they would have content to contribute with, you can invite them to be a member by sending an email invitation.

1. Invite external users to join Climate Risk Database by clicking **Invite Users** on your own profile page.
2. Write the emails you want to send the invitation to and separate them with semicolon (;).
3. Click **Submit**.
4. **Note:** If this feature is disabled on your profile page, this activity is not currently available for you.

1.3.4 Data owners

All layers uploaded to CRD have an owner, which is an organization that has been part of creating the data and/or owns it. You can explore all the owner organizations and access their profile page through layers that are owned by them. From the profile page, you can find description of the organization, as well as their contact information.

1. Explore data owners by clicking **Community** → **Data Owners** from the header menu.
2. Click the name of an organization you want to explore more closely.
3. If you have questions regarding the datasets owned by the organization, you can click the email address linked to their profile page and send them a message.

1.3.5 Community groups

Climate Risk Database has different community groups for the community members, depending on their role in the Climate Risk Database. Most of the registered members are Data Users. They engage with the data by creating data stories and using the data in different cases. The group of Data Users may consist of smaller groups, for example students of a particular University. Therefore, they can execute activities, such as start conversations, in their own group. Some of the members are CRD Data Managers. They are data experts who validate and approve all layers that are uploaded to CRD. If you would like to join this group and be a Data Manager of the Climate Risk Database, send a message to the email address provided in the CRD Data Managers group description.

1. Explore community groups by clicking **Community** → **Community Groups** from the header menu.
2. Click the header of the group you want to explore more detailed.
3. Read about the activities of the group from the description. Explore sub-groups of that group by scrolling down.

1.4 Layers

Layers, i.e. geospatial datasets are the main content of the Climate Risk Database. The number of high-quality layers is increasing and thus they serve ever growing group of potential users. Browse through the layers, or search for a specific theme. This section provides some hints how to start browsing.

1.4.1 Explore layers

The most important feature of Climate Risk Database is the geospatial data repository. Explore all geospatial datasets published in the CRD, view them on a map and download them to your own use.

1. Explore all geospatial datasets by clicking **Layers** from the header menu.
2. Search layers with free-text words, or filter them by the spatial representation type (vector or raster) and theme categories. You can also sort the layers by clicking the small clock-and-arrow symbol in the right-hand side of the page.
3. Notice that layers are spread on multiple pages! Search through the pages at the bottom of the page.
4. When you find the layer you are looking for, click the title to access more detailed information about that layer.

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1.4.2 Layer page

Layer page contains a preview and metadata of the layer in questions, downloading options and other functions.

1. Explore the layer, information and actions attached to it by scrolling the layer page and using the functions.
2. In the map window, you can zoom and pan the layer, and even query the layer objects. Just click any of the layer objects (points, lines, areas or cells) and a pop-up window appears with information about that object.
3. Tabs below the map window hold information of metadata, attributes, as well as social activities. You can share, rate and comment all datasets when you are signed in.
4. The bar in the right holds additional information and actions. You find links to maps where the layer is used, and the documents that are attached to the layer. If there are multiple different styles attached to the layer, you can choose between them to view them in the map window.

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1.4.3 Layer metadata

1. Below the map view of the layer, you find the most important metadata of the layer from the tab **Info**. Scroll down and click **More info** to see additional metadata.
2. To view more detailed metadata, click **Metadata Detail** from the right-hand side of the map window.
3. If you want to save the metadata information to view later, click **Download Metadata** from the right-hand side of the map window. Here, choose the format you want to download the metadata in. If you are not familiar with XML-formats, choose the HTML format, copy and save the link from the search bar.
4. The most important pieces of metadata are the Abstract and Owner of the layer. If you have anything to ask regarding the layer, click the name of the owner organization, and send an email to the address that can be found from their profile page.

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1.4.4 Layer preview

1. You can preview the layer on the layer page, but also in a separate map view. Click **View Layer** on the right-hand side bar.
2. In the new map window that opens up, you can search place names or coordinates by using the search bar in the top-right corner.
3. Change the background map from the bottom-left corner.

If you want to view the layer together with other layers available in CRD, open new layers by clicking the **Layers** symbol in the top-left corner and then **Add layer**. A layer catalog opens up, and you can search and choose the layer(s) you would like to add on the map.

1.5 Thematic Maps

Layers that are uploaded to CRD can be used in various maps, which are made by our community members. (Thematic) maps can be very informative and a powerful way of information communication, and they, for example, represent phenomena, show multiple layers at once to compare, and act as a tool to evaluate risks.

1.5.1 Explore maps

1. Click **Thematic Maps** from the top navigation bar.
2. Filter the maps by categories or words, and arrange them by various different options.
3. Scroll through the pages by clicking the page numbers at the bottom of the page.

1.5.2 View maps

1. Click the title of a map that sounds interesting.
2. Information page of that map opens up. Here you find metadata and a preview of the map. You can leave comments or ratings and share the map in your social media networks by browsing the tabs below the map window.
3. For more detailed exploration, click **View Map** from the right-hand side menu. Map view opens up where you can pan, zoom and query the map, search locations, choose which layers are visible and even measure distances on the map. Explore the functions and have fun with the maps!

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1.6 Documents

In addition to spatial datasets, different kinds of documents can be uploaded to CRD. Documents can be, for example, project reports related to the datasets that are published in CRD, protocols, and instructive documents.

1.6.1 Explore documents

1. Navigate to **Resources** → **Document** in the top navigation bar.
2. Filter the documents by choosing desired categories. For example, all instructive documents are categorized as “Education”. You can also use free-text search words and sort the documents alphabetically or by date.
3. Click the title of the document you are interested in. On the document page, you can read the metadata of the document, and comment, rate and share it.
4. Download and open the document by clicking the title or **Download document**.

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DATA PROVIDERS

Do you have datasets that would be suitable to be published in the CRD? Or are you starting a new data collection process with the final data product being uploaded to the CRD? Please take a look at this section's content to guide your work.

2.1 Data quality standards

All datasets published via the CRD must meet **CRD Data quality requirements and standards**. This ensures the consistency of high quality and reliability of each dataset, which serves the future data users. High-quality datasets can be used for reliable decision making, education and research.

Download data quality requirements and checklist of the standards applied in the Climate Risk Database through the CRD:

- [Data quality requirements and standards](#)
- [Data quality requirements and standards \(TURP\)](#) - this version is for data acquisition projects under the TURP program.

The elements of these documents are highlighted below.

2.1.1 Metadata

Metadata describes the dataset and its lineage, and therefore it is as crucial an element as the geospatial dataset itself. All datasets published in the Climate Risk Database must have metadata in a standardized format.

The Climate Risk Database follows the International Organization for Standardization's metadata standards. More detailed, the ISO 19115 Geographic Information - Metadata standard.

Example: [Nungwi Trees](#) dataset has a great set of metadata. The dataset, the collection process and the project behind it has been clearly explained, as well as the consistency and completeness of the data.

Download the metadata instruction through the CRD: [Metadata instruction](#)

2.1.2 Attribute metadata

Attribute metadata describes the attributes of **vector** datasets. Attribute metadata must be created for all vector datasets - the information about attribute names, their description, value type and value range helps the data user to understand what the attributes mean and how they can be used.

The Climate Risk Database follows the International Organization for Standardization's metadata standards (ISO 19115 Geographic Information - Metadata) with minor modifications.

Example: [Dar es Salaam Historical Flood Depths](#) has a great set of attribute metadata (click **Attributes** under the map).

Download the attribute metadata instruction through the CRD: - [Attribute metadata instruction](#)

2.1.3 Spatial geometry and connectivity

Good geometrical quality/topological connectivity for vector datasets means that the vector objects have been created carefully, and no unintentional errors are tolerated. This is case-specific for different datasets, and the data provider must be aware of the best practices in their field.

For example:

- Geometric lines representing a two-way road can be drawn from either direction, whereas in drainage network data the direction of the geometry lines should be parallel with the flow of water in the drainage segment. All lines in road network dataset must be connected (since all roads are connected in the real world as well), but some drainage segments might be independent compared to other segments in the same area.
- A polygon data representing Wards in Dar es Salaam region must not have any gaps or overlappings between each other, but polygon data representing only forested areas can have independent polygons with gaps around them.

GIS software has tools or plugins to check the most general connectivity rules. In case of more specific connectivity rules (such as drainage lines), independent software or algorithms may be used. Check the geometric quality of your dataset by using those connectivity rules that can be applied to your case.

CRD provides a quick instruction how to use the QGIS Topology Fix tool to check the connectivity:

- Tool: [Check and Fix Geometries, QGIS](#)
- Tool: [Check and Fix Geometries, ArcGIS Pro](#)

2.1.4 Attributes and values

The attributes and values of datasets must be relevant for the phenomenon the dataset represents. Relevant attributes are always case-specific, and recognizing them is easiest when the goal of the data acquisition process is clear. To make sure all values are recorded correctly, all individuals taking part in the acquisition process must understand what the attributes and values mean and how they should be recorded. Training is crucial part to minimize the human errors and uneven quality of the dataset.

In the final data product, the values should be consistent (e.g. no "type = football" and "type = Football"), be of appropriate format (e.g. numbers in Integer or Decimal format and texts in String format) and all attributes should be complete (i.e. no empty observations). In case of empty observations, "NA" should be recorded, and the reasons of the "NA" should be carefully explained in the metadata. See an example of this in the metadata section Data Quality Statement of [Nungwi Buildings](#) dataset.

2.1.5 Visualisation

Good visualisation is at the core of impactful and truthful geospatial data. In case you want the dataset to have a specific visualisation when it is displayed in the Climate Risk Database, make sure you send a visualisation file with the data. Visualisations can be saved to an .SLD file (Styled Layer Descriptor) for example in QGIS, which then can be uploaded to the CRD as such.

Download an instruction for creating SLD files in QGIS from the CRD: - [Instruction: Creating SLD in QGIS](#)

2.1.6 File format

To ensure accessibility, all files - the dataset and metadata - must be in machine readable formats. Approved file formats are the following:

- Vector datasets: ESRI shapefile, Zipped shapefile, Geopackage, GeoJSON, or CSV with coordinates
- Raster datasets: TIFF, GZIP
- Metadata and attribute metadata: Excel-sheets
- Visualisation: SLD format

2.1.7 License

All datasets must be shared under a license. License tells data users how they can use the data without violating data owner's rights. License can determine for example whether the data can be modified, re-shared or used for commercial purposes and how the owner should be acknowledged.

Climate Risk Database and Resilience Academy are advocates for open data and information sharing. This means the data users have open access to the datasets and they are free to download and use them for their own purposes. Therefore, CRD recommends an open license for the publishable datasets. Most common open licenses are, for example:

- Open Data Commons Open Database License (ODbL)
- Creative Commons Attribution 4.0
- Creative Commons Attribution Share-Alike 4.0
- Creative Commons Attribution Share-Alike Non-Commercial 4.0
- Other Creative Commons 4.0 variations

For example: All World Bank owned datasets published in the CRD are licensed under Creative Commons Attribution 4.0 (CC-BY 4.0), which means the users are allowed to copy, modify and distribute data in any format for any purpose, including commercial use. Users are only obligated to give appropriate credit (attribution) and indicate if they have made any changes, including translations. [Read more about Creative Commons licenses](#): All OpenStreetMap related datasets must follow the terms of licenses of OpenStreetMap Foundation. OpenStreetMap licenses their data under Open Data Commons Open Database License (ODbL). Read more: <https://www.openstreetmap.org/copyright>

2.2 Submitting data

If you have geospatial data that would be great for sharing in the Climate Risk Database, kindly contact the CRD Data managers' team first. Agree how you will submit the datasets: via sending the files to the CRD Data managers' team, or by uploading them directly to the Climate Risk Database. In case of uploading data yourself requires registration and updating your profile information. See instructions for registering from the section above. If you would prefer the CRD Data managers' team to upload the data, that is also possible.

Thank you for contributing to our community by providing your data to the Climate Risk Database!

2.2.1 Upload layer

Download visual instructions: [Instruction: Upload layers to CRD](#).

1. Click **Layers** in the top navigation bar, and then click **Upload layers** from the top-right corner.
2. Follow the instructions of the upload page. Files needed for vector datasets in Shapefile format are: .shp .shx .dbf .prj. File needed for raster datasets in TIFF format is: .tif.
3. Click **Upload files** and wait until they have been successfully loaded.
4. Change the permission settings, if relevant. The permissions can be changed afterwards, too.
5. Click **Edit metadata**. See the next section.

2.2.2 Edit metadata

Download visual instructions: [Instruction: CRD Metadata Wizard](#).

1. Fill in all metadata fields of the **Metadata Wizard** that opens up. Use the visual instructions as a guideline, if needed. Don't forget to fill in attribute metadata for vector layers!
2. When you are ready, click **Update**. You are redirected to the layer page.
3. If you want to edit the metadata later, click **Editing tools** from the right-hand side menu, and choose Wizard under the Metadata section.
4. If you want to edit layer permissions, scroll the page down and click **Change Layer Permission** from the right-hand side menu.

2.2.3 Upload style

Custom styles can (and should!) be uploaded to CRD to override the default styling that is created automatically when a layer is uploaded to CRD. The style must be a SLD (Styled Layer Descriptor) file, which can be exported from QGIS. Find instructions for creating a SLD file from the document [Instruction: Creating SLD in QGIS](#).

1. Go to the layer page of that specific layer of which you want to style with the SLD file you have created. **Note:** you must be signed in, and have permissions to edit the layer in order to edit its style!
2. Click **Editing Tools**. Choose **Upload** from the Styles section of the pop-up-window.
3. Drag-and-drop or choose the SLD file and click **Upload files**.
4. Click **Layer info** to view the new style in action!
5. If you encounter any problems, please contact the CRD Data managers. Sometimes the GeoNode-platform can be a bit tricky when updating styles.

2.2.4 Upload layer through command line

Download instructions: [Instruction: Upload data using command line](#).

You can upload data to CRD through the command line. This is useful, for example, when

- The dataset is simply too big to be uploaded through a web interface,
- You would like to import some data from the mass storage programmatically,
- You would like to import some tables from a DataBase or
- You need to process the data first and, maybe, transform it to another format.

2.2.5 Upload documents

In case you have documents, such as reports, additional information or map images you would like to attach to your dataset, they can be also uploaded to the Climate Risk Database and linked to your data. To upload documents you must be a registered member of Climate Risk Database, and you must be signed in. In case you would like the CRD Data managers' team to upload the documents, please submit the documents to them with relevant metadata (*see point 5 below*).

1. Navigate to **Resources** → **Document** in the top navigation bar.
2. Click **Upload Documents** from the top-right corner.
3. Choose the file you want to upload, and give it a title. If the document is attached to a dataset, choose the dataset from the drop-down menu. Set the permissions for the dataset (this can be done later as well).
4. Click **Upload**.
5. Fill in the metadata for the dataset. Note that not all of the metadata fields are relevant for all documents. Fill in at least the Title, Abstract, Keywords, Date, License, Language and Purpose.
6. Click Update when you are finished.
7. Check that everything looks good on the document's page. If you want to edit the metadata, click **Edit Document** → **Wizard or Change Permissions** if you want to change the permissions of the document.

2.3 Quality control

Before the dataset can be published for the wider audience, the CRD Data managers' team will quality check it and make sure the data meets CRD's data quality requirements and standards. To read more about these, please see the section above "**Data quality standards**".

The CRD Data managers' team will use the following instructions to run a systematic quality control for the data. These quality control instructions are created to match the data quality requirements and standards discussed above. You as a data provider are also free to use these documents to guide your work.

- [Quality control instructions \(vector\)](#)
- [Quality control instructions \(raster\)](#)

In case of quality issues or further questions, the CRD Data managers' team will contact you. Usually questions are related to metadata which needs additional information. When the quality check is done and the CRD Data managers' team has approved your dataset, it will be published. You will be informed when the data is up and running and ready to be downloaded

2.4 Contacting

2.4.1 Resilience Academy

Contact Resilience Academy in general inquiries by emailing to “resilienceacademytz@gmail.com”.

2.4.2 CRD Data managers

Contact the Climate Risk Database data management team in matters of discussing datasets that could be uploaded to CRD, the details of quality standards, or when other advice related to data is needed. CRD Data managers’ team members can be found from **Community** → **Community groups** → **Data Managers** → **Click the group icon**. Here you can see the CRD Data Managers and their contact information. Contact one or all of them via sending email. They are happy to help!

2.5 Training

2.5.1 Open online learning courses

To learn more about Resilience Academy / CRD data curation protocols, to enhance data curation skills, to learn more about geospatial data management, complete this open-access Data curation skills learning module, developed by the Resilience Academy. The course platform requires a Gmail-registration.

- Mini-module: [Data curation skills](#)

Resilience Academy has also developed eight geospatial data related online learning courses, open for everyone. The courses are aimed for university students, but also experts in the field and they contain useful content for everyone working with geospatial data. Find descriptions and links for all courses from [Resilience Academy website](#): . Course platform requires a Gmail-registration. Relevant content for data providers are for example on these courses:

- [Module 2: Geospatial data quality & management](#)
- [Module 3: Geospatial data visualisation](#)
- [Module 6: Community mapping for improved resilience planning](#)

2.5.2 Tool instructions

A list of useful tools for geospatial data management can be found in the CRD, just navigate to **Resources** → **Tools**. The Resilience Academy has created instructions for using these tools and they can be downloaded via the CRD as well.

2.5.3 Events and trainings

Resilience Academy has hosted a number of events to train geospatial experts in data management related issues. Some of these events has been recorded and the recordings can be found from the Resilience Academy YouTube-channel, under the playlist [Data quality, data management, data sharing online training](#).

Resilience Academy might host open training sessions for all in the future as well. Keep an eye on the Resilience Academy's social media channels, such as Twitter ([@Tanzania_RA](#)) to hear more about them.

DATA USERS

Would you like to use our geospatial datasets? They are freely available for the whole disaster risk management community that might need them in planning, research, education, or other activities. Please read this section to get more information about downloading data and using them under the determined license terms.

3.1 Using data

3.1.1 Downloading

You may download individual layers through the Climate Risk Database by following steps below. Visual instructions can be downloaded from here: [Instruction: Downloading data from CRD](#).






1. Navigate to the layer page of the desired layer.
2. Click **Download Layer** from the right-hand side menu.
3. Go to **Data** tab.
4. Download the layer in the format of your choosing. Vector layers are suggested to download as **Zipped shapefile** or **Original dataset**. Also, some tabular formats are usually available, such as Excel and CSV. Raster layers are suggested to download as **GZIP**, **GeoTIFF** or **Original dataset**.
5. **Note:** If the file size is very big, the option Original dataset redirects you to a Seafiler folder from where you can download the data in the given format.
6. If you downloaded the data in zipped format (Zipped shapefile or GZIP), extract the files to a desired folder by right-clicking the zipped folder and choosing Extract all... (or similar).


3.1.2 WFS/WMS

An easy way to access all layers in the Climate Risk Database is via GIS software, such as QGIS. Layers can be accessed by using Web Feature Service or Web Map Service. Download visual instructions here: [Instruction: Open layers in QGIS via WFS/WMS](#).

3.2 Terms

Always remember to comply with the license the data is shared under. Each layer has a license that determines how it can be used. Most of the layers in CRD have an open license which allows any kind of use of the data, but requires the user to attribute the data owner and the Climate Risk Database. Check the license and how the attribution should be done from the dataset's metadata. Clicking the info-symbol reveals more information about the license and an attribution example.

 Info
 Attributes
 Share
 Ratings
 Comments

Title	Dar es Salaam Tree Mapping
License	CC-BY 4.0 International (CC-BY 4.0) 

+ Attribution: <Title of the data layer> by <the owner> via Climate Risk Database, <date of layer creation>, shared under license CC-BY 4.0.

+ Example: Dar es Salaam Buildings by The World Bank via Climate Risk Database, 23/09/2019, shared under license CC-BY 4.0.

+ Remember to add hyperlinks to the layer title and license.

+

+ You are free to share and adapt the material for any purpose, even commercially, under the attribution condition. You must give appropriate credit, provide link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or by your use. If the author of this dataset has set any other conditions, see more details from the dataset's supplemental information.

+ For more info see <https://creativecommons.org/licenses/by/4.0/>.

3.3 Inspiration

The [Thematic Maps](#) section provides some examples of analysis and visualisation for geospatial datasets downloadable via the Climate Risk Database. These might serve as an inspiration of how to utilize the available data in planning, research, education and information dissemination.

3.4 Other databases and map services

Here we have gathered links to other interesting geospatial databases that touch the themes of environment, climate change and disaster risk management. We cannot ensure the quality of the datasets derived from these sources. If you know other databases that could be added to this list, please let us know!

- **WaPOR** - The FAO portal to monitor water productivity through open access of remotely sensed derived data. This database collects open-source derived data in continental, national and sub-national levels from different data providers. Themes cover e.g. precipitation, evapotranspiration and biomass productivity. **Downloading requires registration, map-viewing is open for visitors.**

- [Protected planet](#) - Protected Planet is the most up to date and complete source of data on protected areas and other effective area-based conservation measures (OECMs), updated monthly with submissions from governments, non-governmental organizations, landowners and communities. **Data downloading is possible for all.**
- [IUCN Red list](#) - The world's most comprehensive information source on the global conservation status of animal, fungi and plant species. IUCN Red list website provides information of endangered species, reports, news, statistics and a map function that can be used to download spatial data about almost any species. **Downloading is open for all.**
- [Infrapedia](#) - Infrapedia is the most complete and versatile interactive infrastructure map of the Internet that gathers information of Internet cables and network locations. **Data downloading is not possible from the site itself**, but Infrapedia can connect users with data provider parties by request.
- [Landportal](#) - Geodata portal mainly about indigenous communities' lands and resources. Landportal gathers openly available datasets from different data providers, and thus **all data is downloadable by all.**
- [Landscape Portal](#) - The Landscape Portal is World Agroforestry's interactive online spatial data storage and visualization platform for landscape data from all over Africa. It comes with a rich set of features to store, document, search and retrieve, and visualize spatial data and maps. Data quality varies significantly between different datasets. **All data is downloadable for visitors.**

CRD DATA MANAGERS

CRD Data managers' team oversees the data inflow, updates the content, quality controls layers, communicates with data providers, and disseminates the datasets to a wider audience. They are in the key role of curating and managing all geospatial data that is published in the Climate Risk Database, and thus secures the high quality of the datasets for further usage.

CRD Data managers are a team of geospatial data experts and skilled students.

4.1 Join the team

Would you be interested in joining the CRD Data managers' team? There might be room for enthusiastic geospatial experts to help with the data management issues. Do not hesitate to ask, please contact the overseeing CRD Data manager. Find the contact information from **Community** → **Community groups** → **Data managers** → **Click the group**.

4.2 Training

All training materials for the CRD Data managers are gathered to the Digicampus platform. Detailed list of activities, instructions for several data management operations, and important documents are saved there. The materials are available for use any time. Digicampus platform requires a Gmail registration. - Digicampus online mini-course: [CRD Data management](#) (only for CRD Data managers) - Digicampus online mini-course: [Data curation skills](#) (for everyone interested in data curation skills)