



MEASURES Information System (MIS) – Handbook of use

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MEASURES Information System (MIS) – Handbook of use

Draft manual for the beta version of the MIS

Authors: Astrid Schmidt-Kloiber (BOKU) and Ion Grigoras (DDNI)

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MEASURES Information System – general information and entry page

The MEASURES Information System (MIS) can be accessed at:

<https://mis-metadata.ddni.ro>

It is recommended to use the MIS with Mozilla Firefox.

It offers are different levels of access:

- Administrators: Administrators oversee all data of all parts of the MIS, they are allowed to read, edit, download and delete all private, MEASURES partner, MEASURES stakeholder and public data. The administrators have full access to the users' records (add, delete, modify). The administrators are also responsible for approving new users before they can enter data or use the data centre. MIS administrators are located at DDNI, IBRA and BOKU.
- Project partners: Project partners are allowed to read and download all MEASURES partner, MEASURES stakeholder and public data. They are allowed to edit or delete their own data following the "only author of the record has editing rights" policy.
- Stakeholders (public user level S): Selected stakeholders of the MEASURES project are allowed to read and download all MEASURES partner, MEASURES stakeholder and public data.
- Public (public user level A): This is the access level of the public who has access to read and download all public data.

See also "Access rights" in chapter "MIS data entry".

Generally, the MIS website consists of the following parts:

- MIS main entry page
- MIS data search page
- MIS library
- MIS metadatabase
- MIS data centre
- MIS data entry (metadata editor)

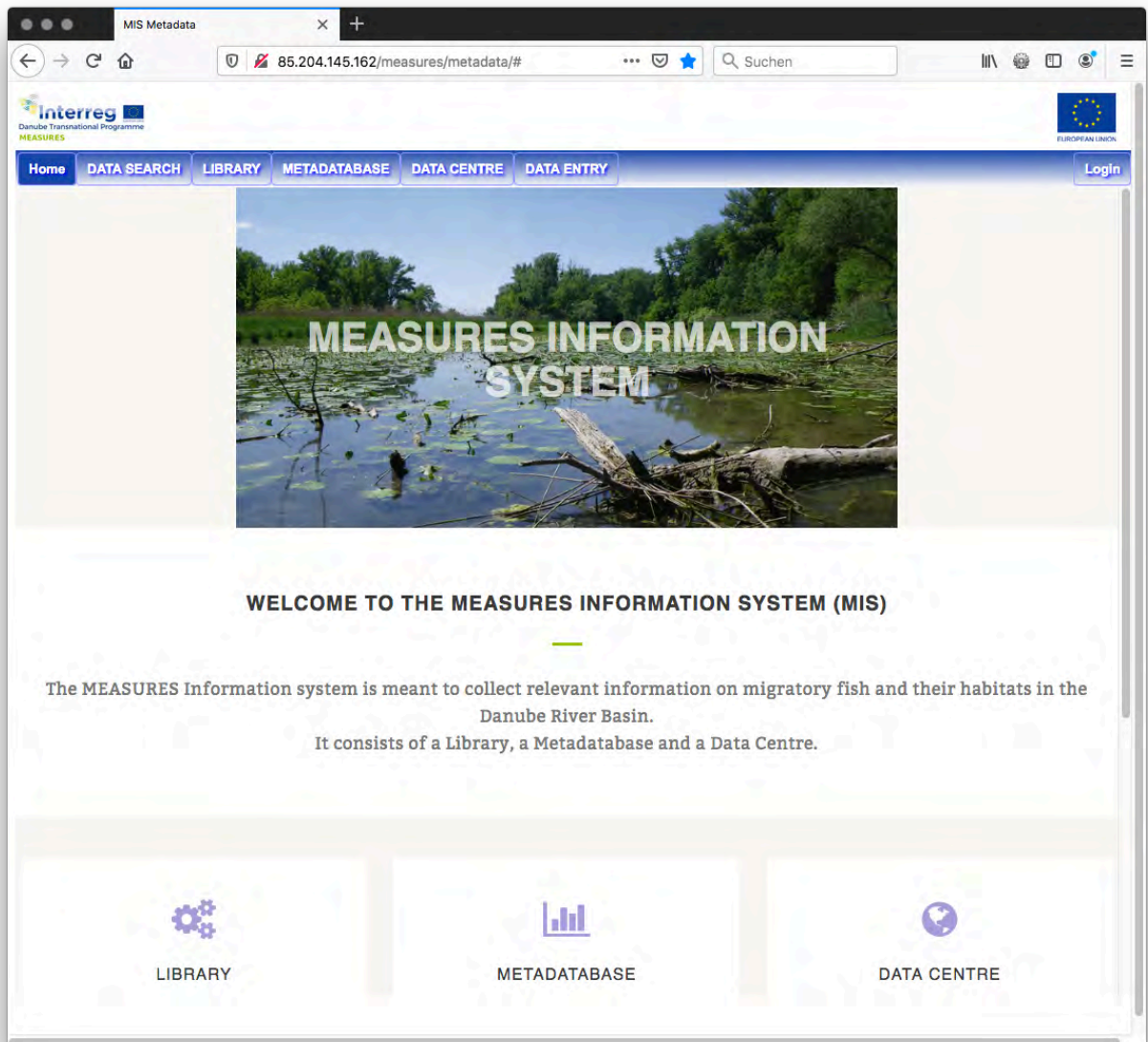


Figure 1: MIS main entry page.



MIS data search page

The data search page was developed to allow users of the MIS to easily find specific information about migratory fish and their habitats contained in the MIS metadatabase. The page allows to make specific choices and will then display only those datasets that corresponds to the requirements.

On the data search page, you can specify your interests and needs regarding the criteria below.

Resource type

Choose an option from the selection list right of each criterium.

Note: you can also select more than one entry by just selecting the relevant entries one after the other.

- spatial resource – options: all, dataset, series, service, other, none
- literature resource – options: all, scientific publication, manual, guidelines, book, other, none
- data resource – options: all, biotic/abiotic data, chemical data, occurrence records, other, none
- media resource – options: all, picture, video, other, none
- other resource – options: all, none

Publication date of resource

- year from: enter a year
- year to: enter a year

Spatial coverage

- extent of area to be searched: to select a specific spatial coverage, click on the “Select extent” button. This opens a map with the borders of the project area (Danube Basin). Hold the Shift-key and draw the area of interest (*Figure 3*). The coordinates of extent will then be updated in the “Selected extent” box.

Preferred language

- choose all or one specific language

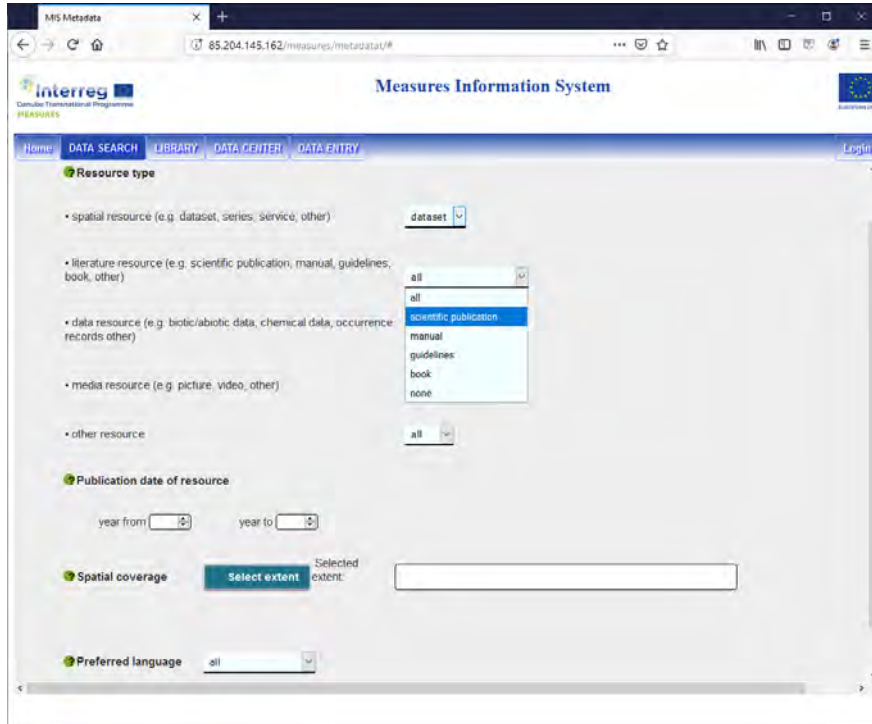


Figure 2: MIS data search page showing one of the available selection lists.

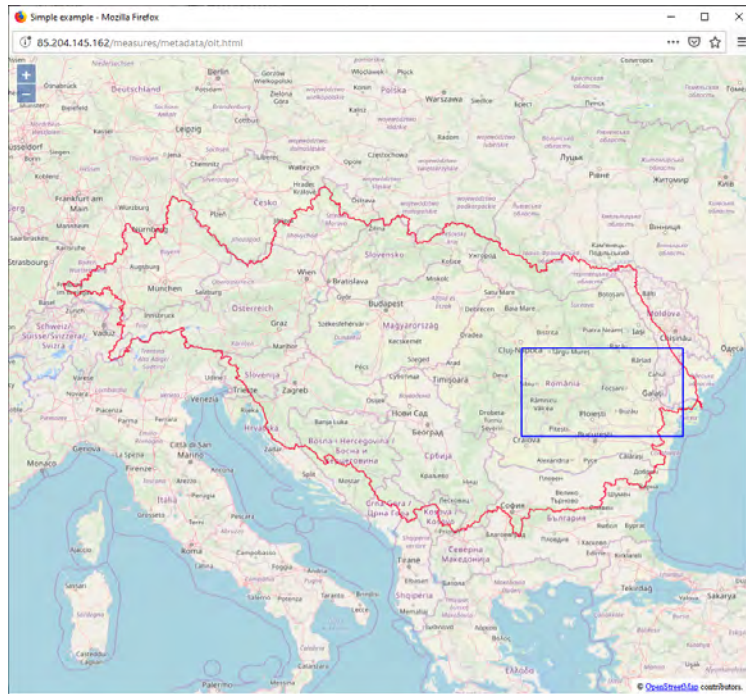


Figure 3: MIS data search page with the option to select the spatial coverage.

After defining the specifications, the metadatabase will be queried accordingly. To start the search, press the “Query metadata” button.

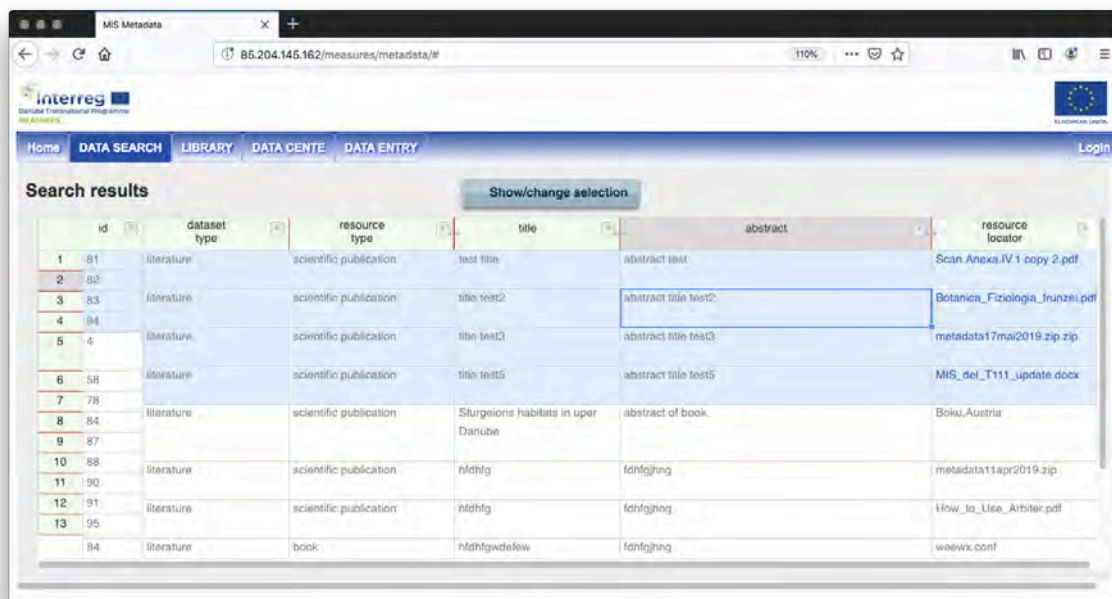
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www.interreg-danube.eu/measures

As a result of the query a table will be displayed that shows all datasets that fulfil the query conditions. Those datasets for which you have access rights (“Access rights” in chapter “MIS data entry”) are highlighted in blue.

Note: For users without login this means that only datasets with public access can be seen, further explored and downloaded. For datasets where the user does not have access rights only part of information is displayed and no download is allowed.

If you want to change your selection criteria, click on the “Show/change selection” button.



	id	dataset type	resource type	title	abstract	resource locator
1	81	literature	scientific publication	test title	abstract test	Scan Anexa.IV.1 copy 2.pdf
2	82					
3	83	literature	scientific publication	title test2	abstract title test2	Botanica_Fiziologia_frunzei.pdf
4	84					
5	4	literature	scientific publication	title test3	abstract title test3	metadata17mai2019.zip.zip
6	58	literature	scientific publication	title test5	abstract title test5	MIS_del_T111_update.docx
7	78					
8	84	literature	scientific publication	Sturgeions habitats in uper Danube	abstract of book.	Boku.Austria
9	87					
10	88	literature	scientific publication	ndhfg	fdhfgjng	metadata11apr2019.zip
11	90					
12	91	literature	scientific publication	ndhfg	fdhfgjng	How_to_Use_Arbitr.pdf
13	95					
	84	literature	book	ndhfgwdekw	fdhfgjng	weewx.conf

Figure 4: MIS result page after using the data search page.

If you want to adapt the result table according to your needs, you can select a cell and click the right mouse button. A context menu will open that allows the following:

- Hide column(s): allows to hide one or more column(s) of the table
- Show all columns: allows to display all columns again
- View record: allows to view a dataset in the metadata form
- Copy selected cell(s) to clipboard: allows to copy the selected cell(s) to the clipboard

MIS library page

The MIS library provides access to datasets in the MIS metadatabase that are related to publications, for example scientific publications, manuals, guidelines, books or other. It refers to information that is publicly available and with no restriction regarding access.

Initially the library page displays only predefined columns (resource type, title, author(s), abstract, resource locator). If you need more/other columns, it is possible to right-mouse-click in any cell and select “Show all columns”. For a more structured view of one library dataset (i.e. in the metadata form), you can select “View record” from the context menu.

Additionally, information in the table can be filtered by condition or by value. This can be done for each column. To do so click the little triangle in the column heading. The following options are available:

- filter condition: here you can define the condition for the filtering; the following options are available: none, empty, not empty, equal not equal, begins with, ends with, contains, does not contain
- filter by value: here you can enter a free text for a specific value
- checkbox selection of specific datasets: here you can directly select a specific dataset

Once you have defined all filter conditions, press the “OK” button and the filter options will be activated. If you decide otherwise, press “Cancel”.

If a publication is available in the MIS, a link is displayed in the “resource locator” column. You can recognise the link by the text displayed in blue colour. In this case you can download the publication by clicking the link. In other cases, the link leads to the original source of the publication (e.g. a website).

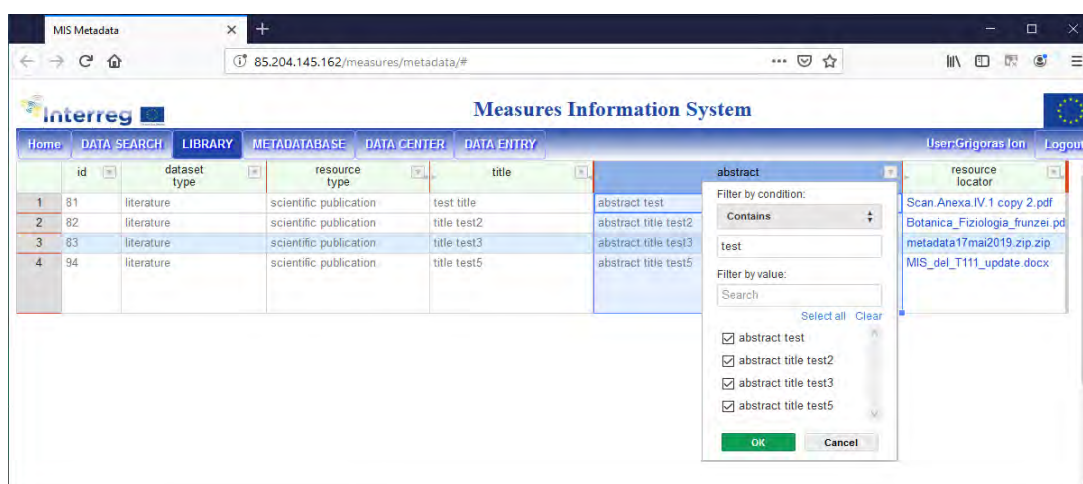


Figure 5: MIS library page including the filter options.

Additionally, it is possible to search for any data in the table by using the text field right of the magnifier icon. Datasets that comprise the search term will be marked in orange.



MIS metadatabase

“Metadata” are generally described as “data about data”. The MIS metadatabase therefore serves to compile information about all available datasets related to migratory fish species in the Danube region in one place. The datasets include literature, spatial data, media data and others. The available metadata characterising the datasets include intellectual property rights, access options as well as keywords or other characteristic features.

If you are **not logged** in the MIS, the metadata page shows all publicly available datasets.

Initially the metadata page displays only predefined columns (resource type, title, author(s), abstract, resource locator). If you need more/other columns, it is possible to right-mouse-click in any cell and select “Show all columns”. For a more structured view of one library dataset (i.e. in the metadata form), you can select “View record” from the context menu.

Additionally, information in the table can be filtered by condition or by value. This can be done for each column. To do so click the little triangle in the column heading. The following options are available:

- filter condition: here you can define the condition for the filtering; the following options are available: none, empty, not empty, equal not equal, begins with, ends with, contains, does not contain
- filter by value: here you can enter a free text for a specific value
- checkbox selection of specific datasets: here you can directly select a specific dataset

Once you have defined all filter conditions, press the “OK” button and the filter options will be activated. If you decide otherwise, press “Cancel”.

If a resource is available in the MIS, a link is displayed in the “resource locator” column. You can recognise the link by the text displayed in blue colour. In this case you can go to the resource by clicking the link.

Additionally, it is possible to search for any data in the table by using the text field right of the magnifier-icon. Datasets that comprise the search term will be marked in orange.

If you **are logged in**, the MIS Metadatabase shows all datasets you have access to or which are owned by you. For the latter, the user has the rights to modify and delete them.

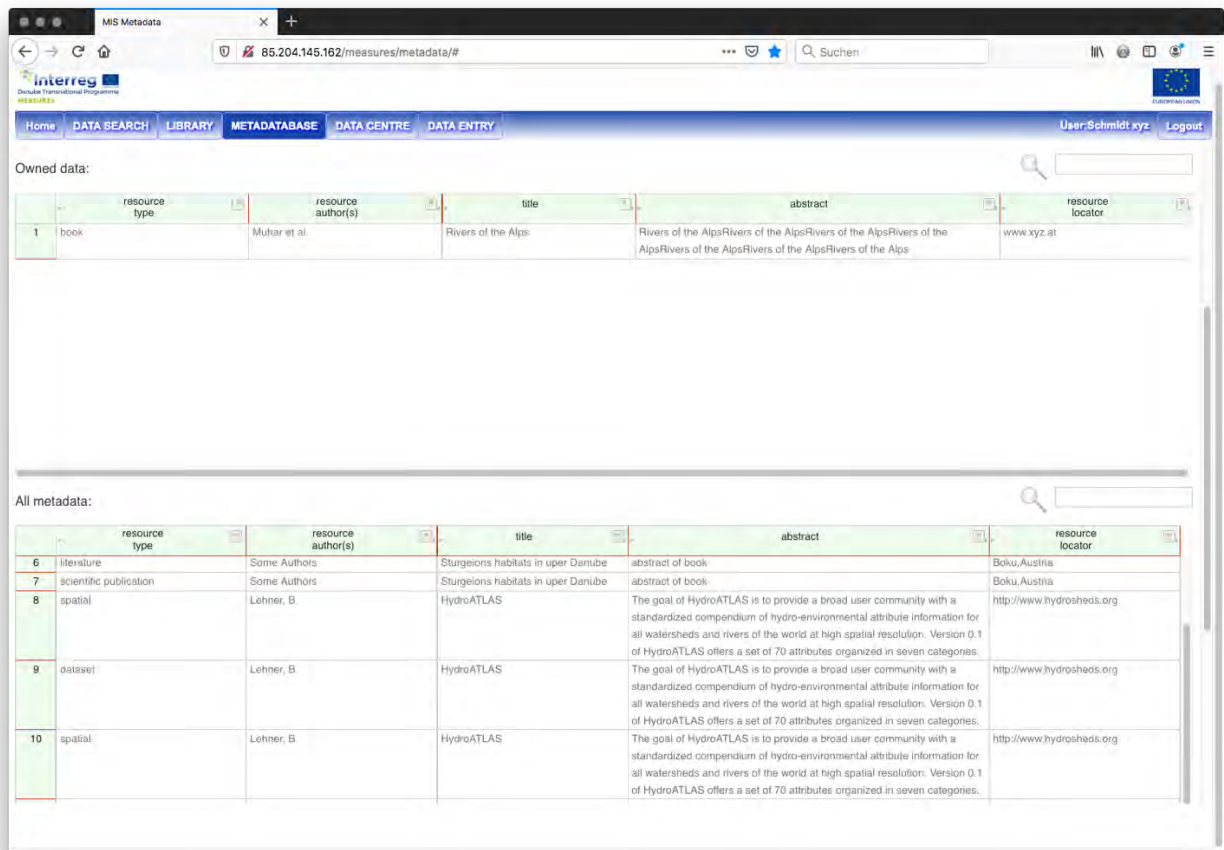
The metadata page is divided into two parts, the upper one showing a table of your own datasets, the lower one showing a table with datasets you have access to (Figure 6). To modify/delete a dataset in the “owned data” table, you can choose any cell from the dataset you want to modify, then right-mouse-click it and a context menu with the following options will be opened (Figure 7):

- Add metadata in db: This can be used to add a new dataset that has many similarities with an already existing dataset to the metadatabase (i.e. to copy and modify a dataset option). To do so click the “Add metadata in db” option of the dataset that should be copied. This will open the MIS metadata editor (Figure 8), where information can be

modified, adjusted and saved. After saving, the table will be updated with the newly created record.

- **Modify metadata in db:** This option allows to modify one of your already existing datasets in the MIS metadata editor that facilitates the modification of the record (Figure 8). After you have edited the record, you can save it and the table will be updated accordingly.
- **Delete metadata from db:** This option allows to delete an entire dataset from the metadatabase.
Note: You need to be the owner of the dataset to edit/delete it.
- **Hide column(s):** allows to reduce the displayed columns.
- **Show all columns:** allows to display all columns again.
- **Copy selected cell(s) to clipboard:** allows to copy the content of a cell to the clipboard for further usage.

Additionally, it is possible to search for any data in the table by using the text field right of the magnifier-icon. Datasets that comprise the search term will be marked in orange.



The screenshot shows a web browser window with the URL 85.204.145.162/measures/metadata/#. The page has a navigation menu with 'Home', 'DATA SEARCH', 'LIBRARY', 'METADATABASE', 'DATA CENTRE', and 'DATA ENTRY'. The user is logged in as 'User:Schmidt xyz'.

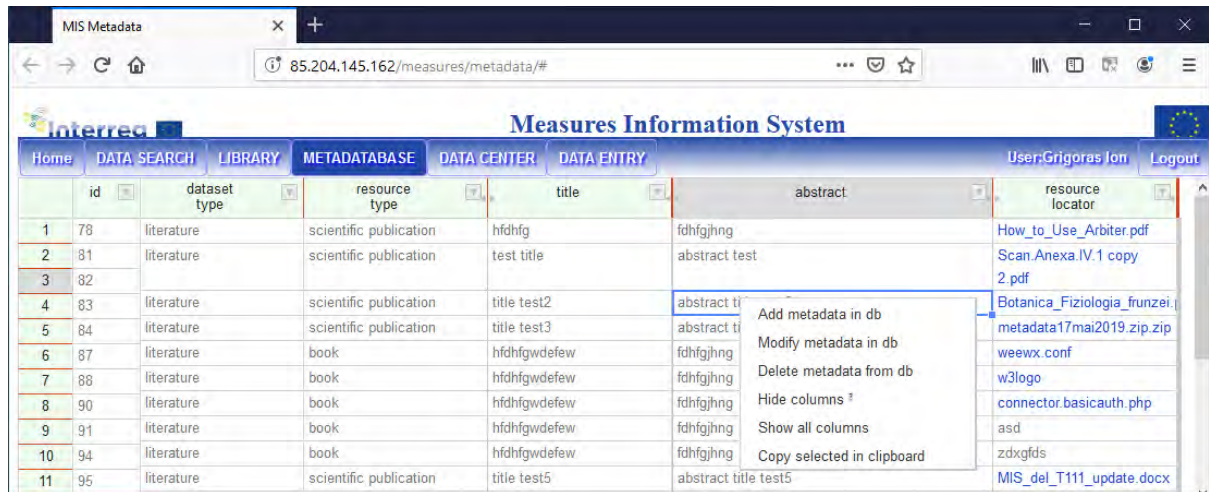
Owned data:

	resource type	resource author(s)	title	abstract	resource locator
1	book	Mutar et al.	Rivers of the Alps	Rivers of the AlpsRivers of the AlpsRivers of the AlpsRivers of the AlpsRivers of the Alps	www.xyz.at

All metadata:

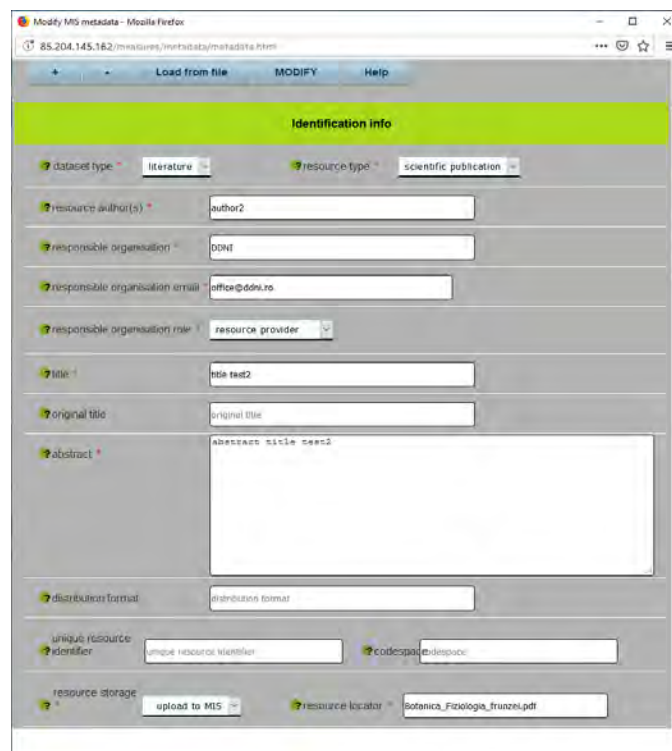
	resource type	resource author(s)	title	abstract	resource locator
6	literature	Some Authors	Sturgeions habitats in uper Danube	abstract of book	Boku.Austria
7	scientific publication	Some Authors	Sturgeions habitats in uper Danube	abstract of book	Boku.Austria
8	spatial	Lehner, B.	HydroATLAS	The goal of HydroATLAS is to provide a broad user community with a standardized compendium of hydro-environmental attribute information for all watersheds and rivers of the world at high spatial resolution. Version 0.1 of HydroATLAS offers a set of 70 attributes organized in seven categories.	http://www.hydrosheds.org
9	dataset	Lehner, B.	HydroATLAS	The goal of HydroATLAS is to provide a broad user community with a standardized compendium of hydro-environmental attribute information for all watersheds and rivers of the world at high spatial resolution. Version 0.1 of HydroATLAS offers a set of 70 attributes organized in seven categories.	http://www.hydrosheds.org
10	spatial	Lehner, B.	HydroATLAS	The goal of HydroATLAS is to provide a broad user community with a standardized compendium of hydro-environmental attribute information for all watersheds and rivers of the world at high spatial resolution. Version 0.1 of HydroATLAS offers a set of 70 attributes organized in seven categories.	http://www.hydrosheds.org

Figure 6: MIS metadata page showing the two tables for “owned data” and “all metadata”.



	id	dataset type	resource type	title	abstract	resource locator
1	78	literature	scientific publication	hfdhfg	fdhfgjhng	How_to_Use_Arbitr.pdf
2	81	literature	scientific publication	test title	abstract test	Scan_Anexa.IV.1 copy 2.pdf
3	82					
4	83	literature	scientific publication	title test2	abstract ti	Botanica_Fiziologia_frunzei
5	84	literature	scientific publication	title test3	abstract ti	metadata17mai2019.zip.zip
6	87	literature	book	hfdhfgwdefew	fdhfgjhng	weewx.conf
7	88	literature	book	hfdhfgwdefew	fdhfgjhng	w3logo
8	90	literature	book	hfdhfgwdefew	fdhfgjhng	connector.basicauth.php
9	91	literature	book	hfdhfgwdefew	fdhfgjhng	asd
10	94	literature	book	hfdhfgwdefew	fdhfgjhng	zdxgfd
11	95	literature	scientific publication	title test5	abstract title test5	MIS_del_T111_update.docx

Figure 7: MIS metadata page with context menu options.



Modify MIS metadata - Mozilla Firefox

85.204.145.162/measures/metadata/metadata.html

Load from file MODIFY Help

Identification info

dataset type: literature resource type: scientific publication

resource author(s): author2

responsible organisation: DDNI

responsible organisation email: office@ddni.ro

responsible organisation role: resource provider

title: title test2

original title: original title

abstract: ABSTRACT title test2

distribution format: distribution format

unique resource identifier: unique resource identifier code space: code space

resource storage: upload to MIS resource locator: Botanica_Fiziologia_frunzei.pdf

Figure 8: MIS metadata editor.

MIS data centre

The MIS data centre page showing spatial information from the MEASURES project, is currently only visible for logged in users.

The starting page of the MIS data centre shows the map of the Danube Basin. On the left there is a menu bar that offers different options to modify the base layer map as well as the display of fish

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monitoring sites. Further, the borders of the project area can be displayed or hidden (tick the checkbox “Project area”).

Double-click on Base Map to get background map specifications that can be activated/deactivated by clicking the radio buttons:

- Simple OSM Map (Open Street Map)
- Satellite
- Roads
- Satellite with roads

Regarding fish monitoring the following additional layers can be selected.

- Danube basin
- Rivers
- Fish habitats

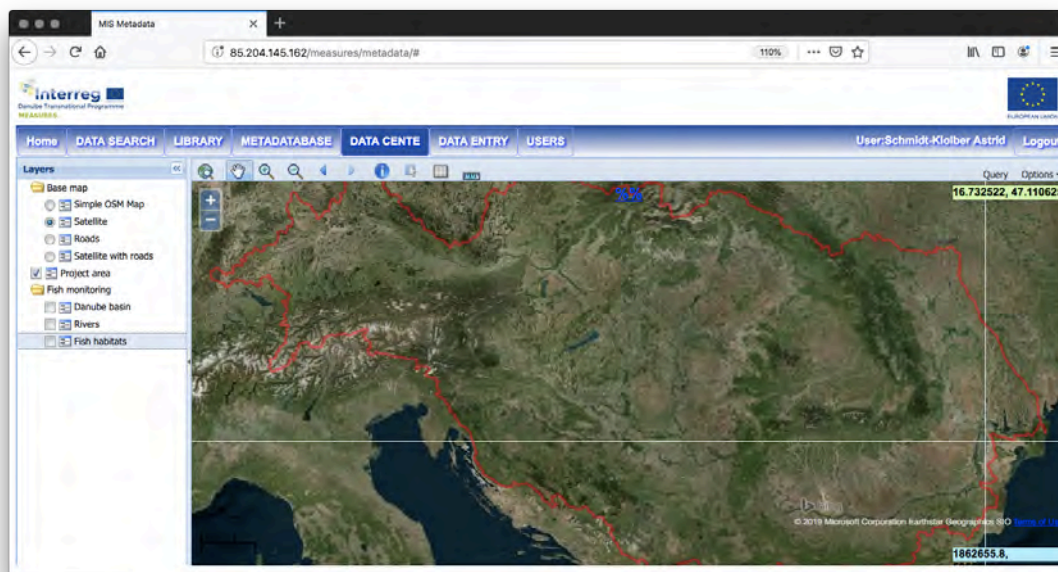


Figure 9: Starting page of the MIS data centre with the Danube Basin shown as satellite map. Options for the base layers on the left.

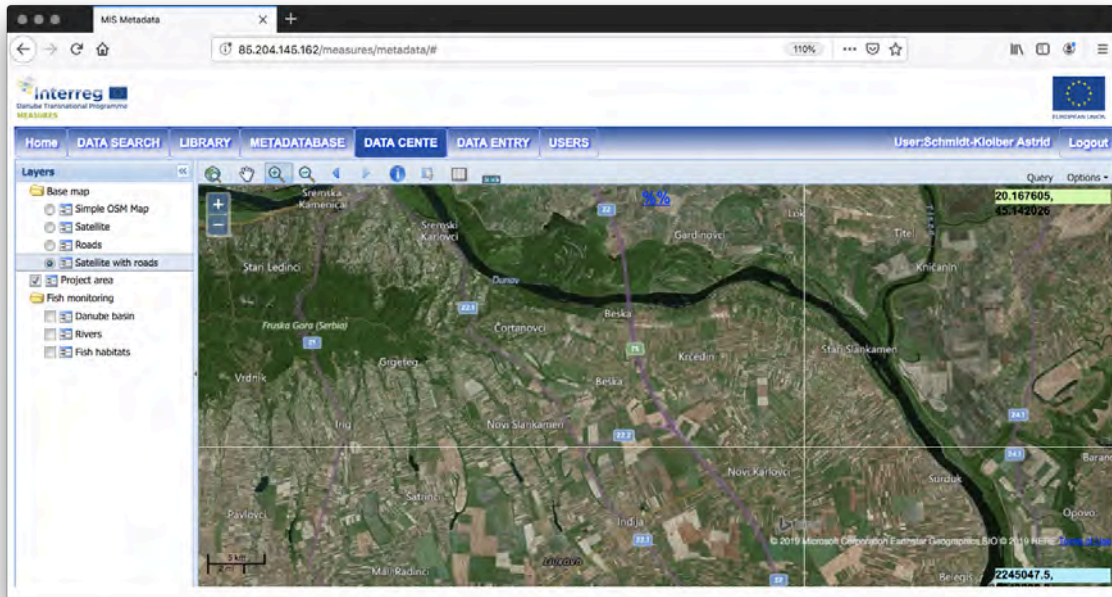


Figure 10: Zoomed-in map within the MIS data centre.

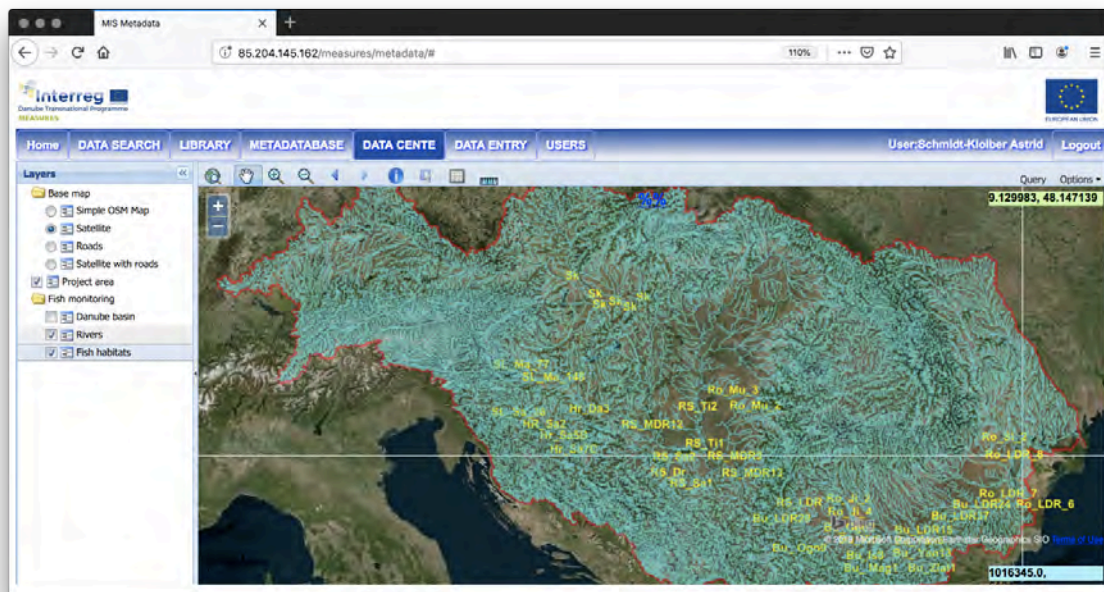










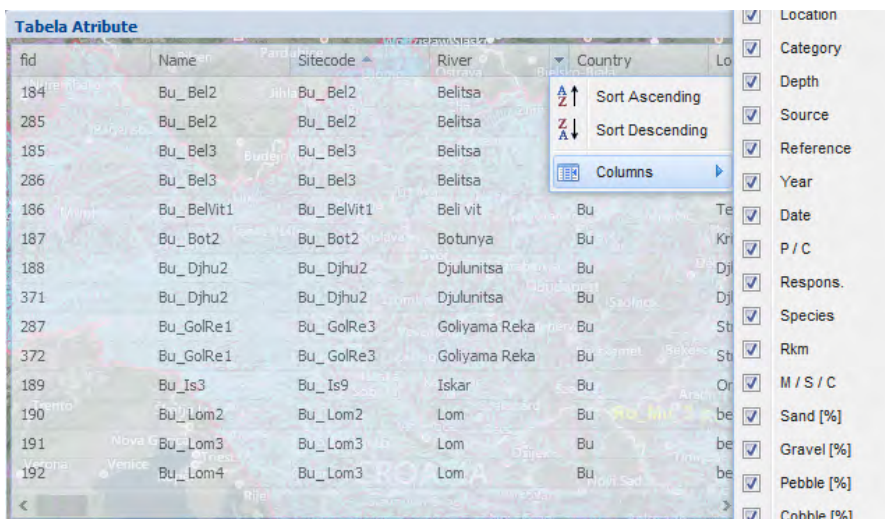


Figure 11: MIS data centre: base map with additional layers of rivers and fish habitats.

The map interface includes a variety of options to explore the content of the map, indicated through icons on top of the map:

-  zoom to full extent of the map
-  navigate the map: keep the left mouse button pressed and drag the map
-  zoom into the selected area: click the left mouse button and draw a rectangle to select the area you want to zoom in
-  zoom out: click the left mouse button and draw a rectangle to zoom out
-  previous map - history display
-  next map - history display
-  information: works just for the selected layer and can be used by clicking on the map to see the value corresponding to the layer in that location
-  select the polygons: works just for the selected vector layer and can be used while holding the Shift key and drawing a rectangle to select the polygons of interest. The attribute table for selected polygons will be displayed (Figure 12). By double-clicking one table row the map will be zoomed to the corresponding polygon.
-  table display: works just for the selected vector layer and generates the attribute table (Figure 12) for the selected layer. By double-clicking one table row the map will be zoomed to the corresponding polygon. The attribute table can be sorted and fields can be displayed or hidden.
-  length measurement: a line to measure can be drawn on the map

The attribute table can be sorted by clicking on the small triangle in the heading. Further, columns can be displayed or hidden.



fid	Name	Sitecode	River	Country	Location
184	Bu_Bel2	Bu_Bel2	Belitsa		
285	Bu_Bel2	Bu_Bel2	Belitsa		
185	Bu_Bel3	Bu_Bel3	Belitsa		
286	Bu_Bel3	Bu_Bel3	Belitsa		
186	Bu_BelVit1	Bu_BelVit1	Beli vit	Bu	Te
187	Bu_Bot2	Bu_Bot2	Botunya	Bu	Kr
188	Bu_Djhu2	Bu_Djhu2	Djulunitsa	Bu	Dj
371	Bu_Djhu2	Bu_Djhu2	Djulunitsa	Bu	Dj
287	Bu_GolRe1	Bu_GolRe3	Goliyama Reka	Bu	St
372	Bu_GolRe1	Bu_GolRe3	Goliyama Reka	Bu	St
189	Bu_Is3	Bu_Is9	Iskar	Bu	Or
190	Bu_Lom2	Bu_Lom2	Lom	Bu	be
191	Bu_Lom3	Bu_Lom3	Lom	Bu	be
192	Bu_Lom4	Bu_Lom3	Lom	Bu	be

Figure 12: Data centre attribute table with sorting and display options.

Further there is a query-option available: This works just for the selected vector layer and generates a query form. Selection criteria can be defined and only those polygons will be selected from the attribute table that match the query criteria. Results are displayed in a table. By double-clicking one table row the map will be zoomed to the corresponding polygon.

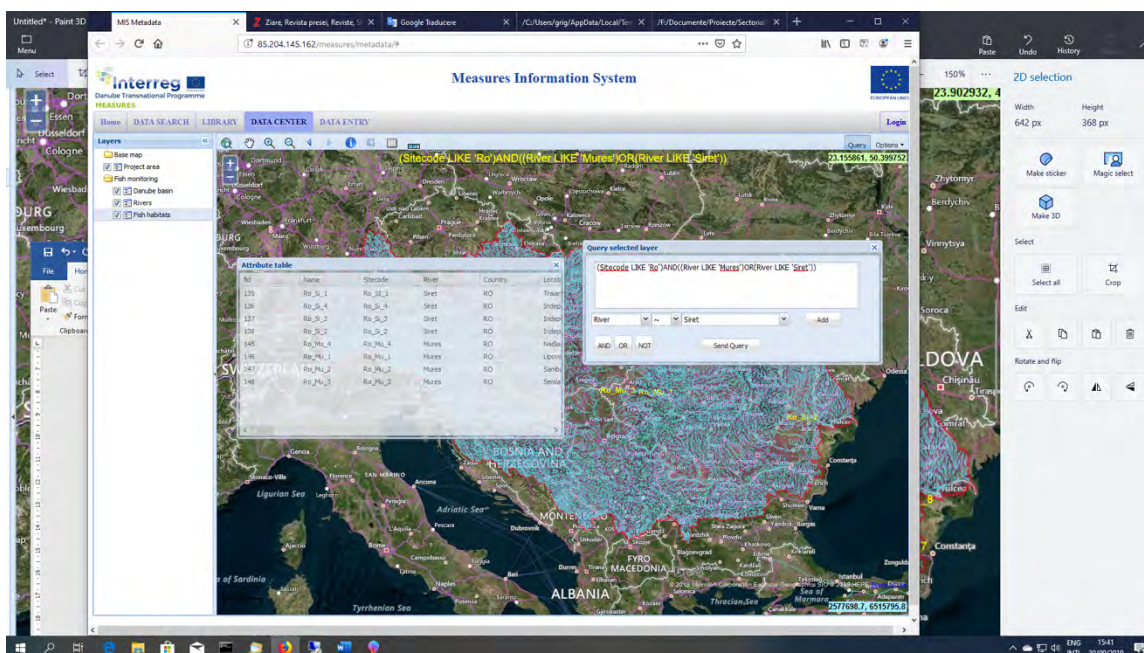
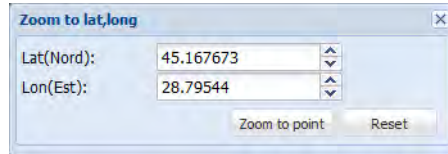


Figure 13: Data centre query option.

The option section offers two features:

- Help: This will open a window with the description of the web map application.
- Zoom to Lat Long: This offers the option to go to a specific GPS location. Just write GPS coordinates into the according fields, then click the “Zoom to map” button.



Zoom to lat, long	
Lat(Nord):	45.167673
Lon(Est):	28.79544
Zoom to point Reset	

Figure 14: Data centre option to zoom to a specific location.

MIS data entry (MIS metadata editor)

The MIS data entry page is only visible for logged in users.

Information blocks

To easily enter dataset information, the data entry page (metadata editor) is organised in “information blocks” (Figure 15):

- identification information
- access rights
- temporal reference
- additional information for literature resources
- additional information for spatial resources
- MEASURES-specific information
- metadata provider for this resource (contact point)
- comments



Figure 15: MIS metadata editor showing the different information blocks.

For quick access the details of the specific information blocks can be folded away using the “-” button and unfolded by using “+” button (Figure 15). Click on a specific headline to open the according section.

Note: Some of these sections will disappear depending on which “dataset type” you choose in the “identification information” section.

Each section has a number of fields to be filled. Each field has a label with the name of information requested. Explanations on which kind of information is needed, can be found by using the tooltips (Figure 16). To see the tooltip, move your mouse over the “?”.

Mandatory fields are marked with a red asterisk. Fields that are automatically filled have a grey background.

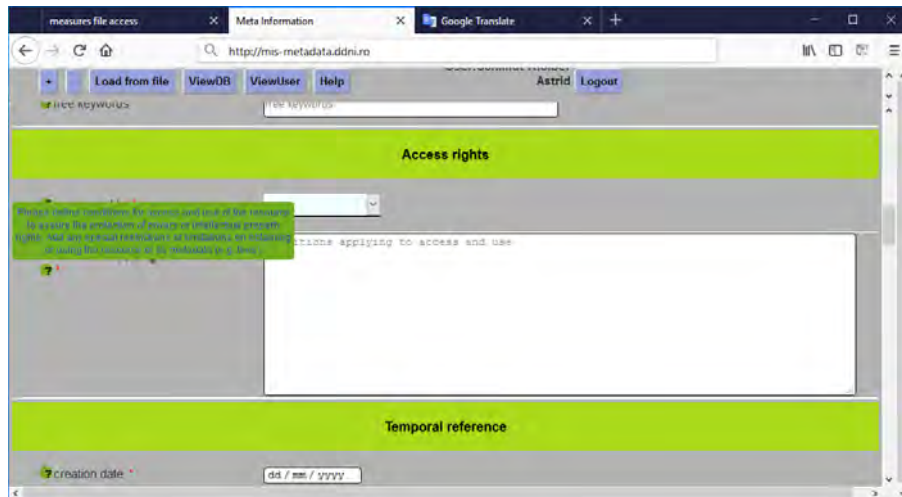


Figure 16: Data entry page showing the tooltip for the field “conditions applying to access and use”.

Available field types

In the metadata editor there are several field types available (Figure 15):

- text field (e.g. “resource author(s)”): regular text limited to up to 256 characters
- text area (e.g. “abstract”): regular text limited to up to 10,000 characters
- selection list with light blue background (e.g. “resource type”): one value can be selected from the list
- multiple selection list (e.g. “topic category”): more than one value can be selected from the list; choose the first value from the selection list, then add the next by simply clicking into the list again; to delete a value, press “del” or “esc” or “back space” on your keyboard
- numeric field (e.g. “bounding coordinates”): numeric values are possible, limited in accordance with the field (e.g. North coordinate will allow only values between 0 and 90; West coordinate will allow values between 0 and 180)
- date field (e.g. “creation date”): a date can be selected from the date picker or entered in the format dd.mm.yyyy.

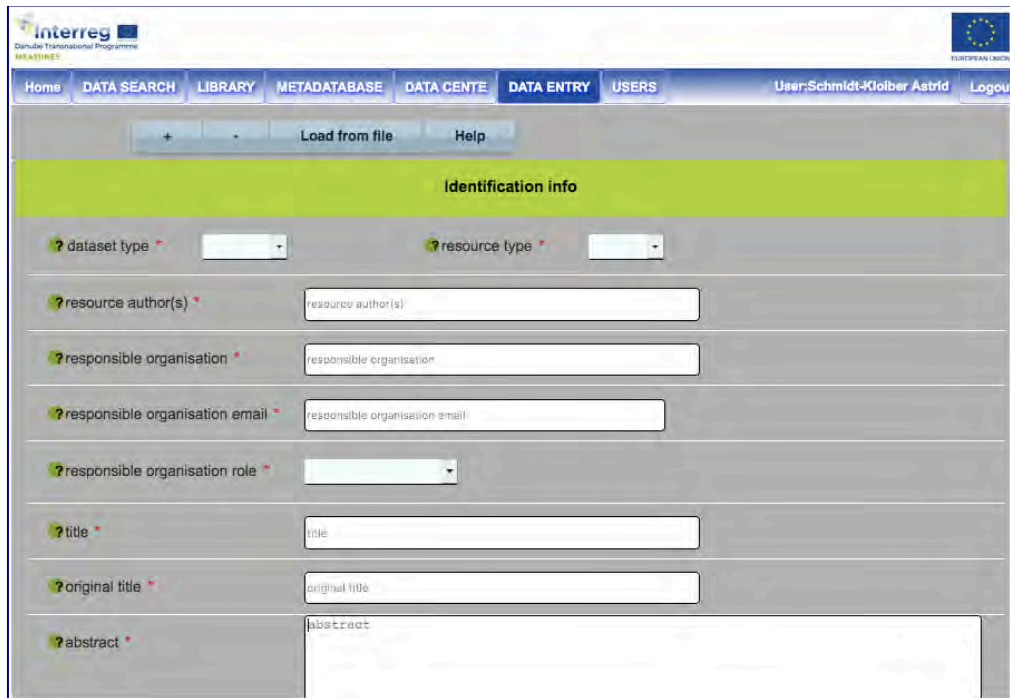


Figure 17: MIS metadata editor showing the different field types.

How to enter data into the metadata editor

Before you can enter data into the metadata editor, please create a login (see section “MIS login” below). Once you have registered, please make sure that you are logged in whenever you use the metadata editor.

Note: Information from the registration table will be used to auto-fill parts of the metadata (i.e. metadata provider for this resource, see Figure 18).

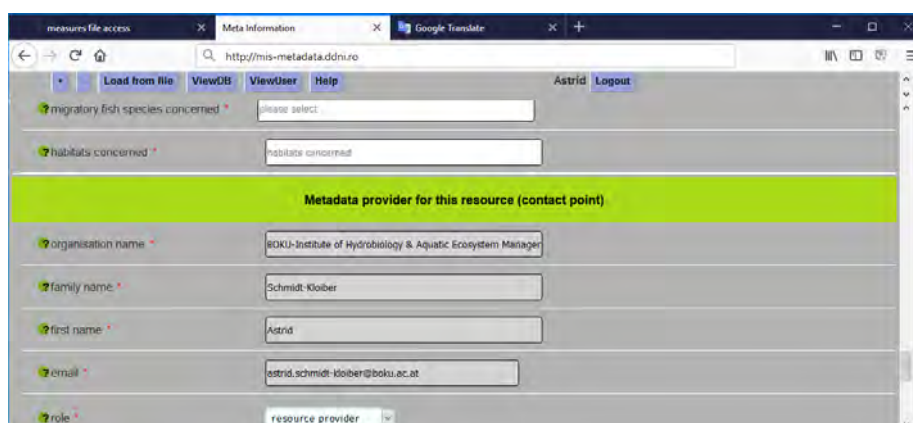


Figure 18: Data entry page showing user-specific data that are pre-filled after login.

To start editing metadata you first need to define the dataset type of your resource:

- spatial dataset: e.g. GIS file
- literature dataset: e.g. scientific publication, manual, guidelines, book, etc.
- data: e.g. table with occurrence data, chemical, biotic/abiotic data
- media: e.g. picture, video, etc.
- other

Please fill all mandatory fields of the metadata editor. In terms you cannot fill all the fields in one go, it is recommended to save your data to your local computer (see “Options of the metadata editor” below).

At the very end of the metadata editor you will find a “Comments” field (Figure 19). It is recommended to use this field to enter all relevant information concerning your dataset that should be shared with MIS users here.

Note: If you are not sure what to enter into a specific field, please move your mouse over the “?”. If you still do not know what to enter contact the MIS helpline at ask@boku.ac.at.

Access rights

In the section “access rights” you define who and under which conditions a dataset is available in the MIS. The following fields need to be filled:

- access rights: please choose one of the listed Creative Common Licenses. For more information on the licenses see: <https://creativecommons.org/licenses/> or https://en.wikipedia.org/wiki/Creative_Commons_license
- access type: please specify the availability of your dataset:
 - publicly: dataset will be visible/available to MEASURES partners and the public
 - MEASURES partners: dataset will only be visible/available to MEASURES partners
 - MEASURES stakeholders: dataset will be visible/available to MEASURES partners and selected MEASURES stakeholders
 - private: dataset will dataset only be visible/available to dataset provider
- conditions applying to access and use: please specify any other/additional conditions for the use of this dataset (e.g. “dataset may only be used in scientific publications if the dataset author is offered co-authorship”)

Note: Access type “private” is only meant for further editing of a dataset; after finalisation of the metadata entry a dataset should be allocated to one of the other categories in any case!

Options of the metadata editor

Data entered into the MIS metadata editor can either be saved to the local computer (for later completion) or can be uploaded to the MIS database (Figure 19):

The following options are available in the metadata editor at the very end of the form.

- Write to MIS database: will save the dataset in the MIS metadatabase
- New Form: will create a new empty form to enter a new dataset
- Save xml to local computer: will save the dataset as xml on your local computer
- Save to local computer: will save the dataset as txt on your local computer

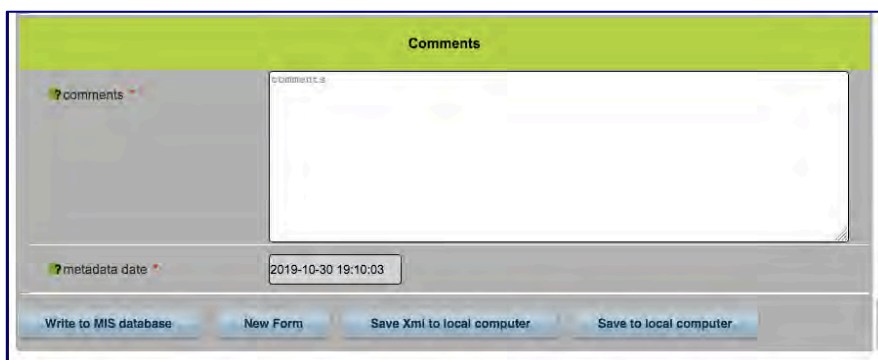


Figure 19: Options within the metadata editor at the very end of the form.

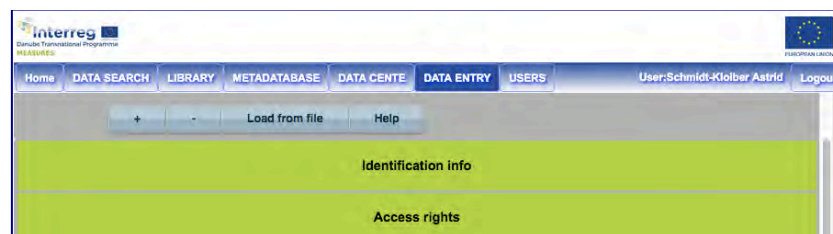


Figure 20: Options within the metadata editor at the top of the form.

At the top of the metadata editor form the following options are available (Figure 20):

- +: will fold out all fields of the different information blocks
- -: will fold away all fields of the different information blocks for quick access and better overview
- Load from file: will load data previously saved to your local computer into the metadata editor form to further edit them
- Help: will open the MIS manual

MIS login

To enter dataset information into the MIS database or to explore the data centre a login is required. Before the first login a registration is necessary. Both login and registration can be found on the top right of the MIS webpage.

For registration the following details are required: user info, organisation info and contact.



Figure 21: Login window.

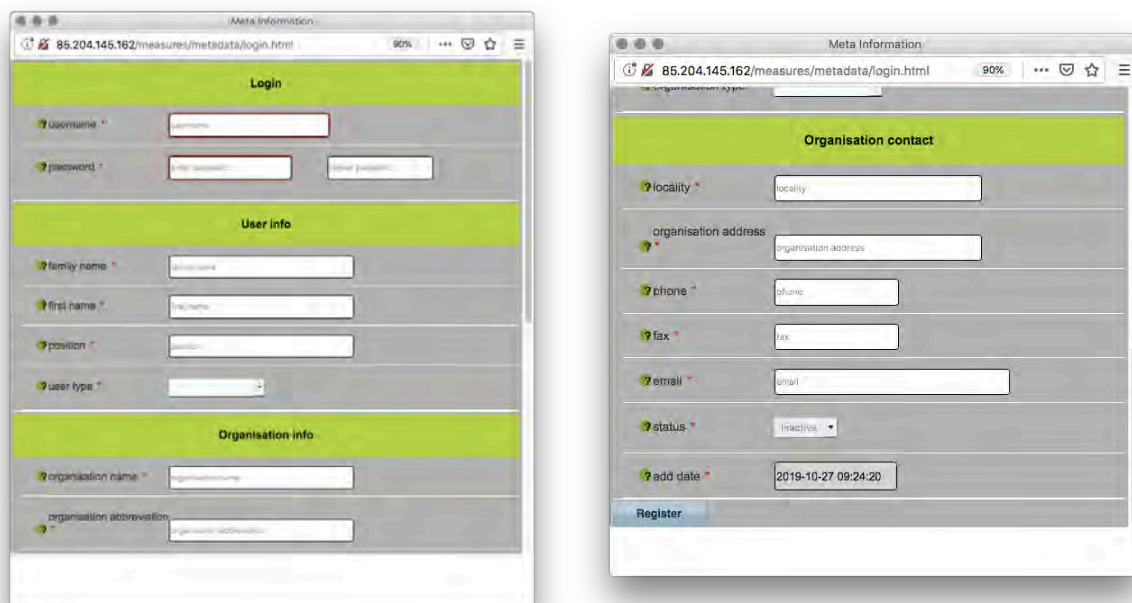


Figure 22: Registration window.