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INTRODUCTION

Scope of this document

How to use this document
This document is a set of operating instructions and ways on how to use SavaGIS Metadata Catalog. It covers a large number of the functionalities of information system and explains how to perform them. Therefore, it is recommended to examine this document before you start working with the system. SavaGIS Metadata catalog represents primary point for accessing geospatial metadata. Its primary function is to manage metadata and provide services for locating, browsing and downloading spatial metadata.

Who should use this document
This document will serve as user manual for SavaGIS Metadata Catalog. It is intended for public users who will only have access to viewing metadata.

Who prepared this document
This document is prepared through the project: Support to the International Sava River Basin Commission in the development of the Sava Geographic Information System which has been implemented in the period 2015-2016 by the Consortium consisting of IN2 Zagreb & IGEA Varaždin.

The document is revised and adopted by the ISRBC Secretariat and the ISRBC Permanent Expert Group for GIS.

Send us your comments
The International Sava River Basin Commission (ISRBC) wants to receive from you all your comments and suggestions related to the quality and usefulness of this release. Your feedback is important for future modifications and improvement of this document.

- Did you find any errors?
- Are the informations clearly presented?
- Do you need something to be better defined? If so, what?
- Are the examples correct and clear? Do you need more examples?
- What do you like most in this document?

If you find any mistakes or have suggestions for improving the documentation, please mark the chapter, section and page (if any). You can send your comments to the following address:

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General architecture of the Geoportal

Technology used for establishment of Sava GIS platform is based on open industry standards and protocols which allows interoperability between various Open Source (PostGIS, PostgreSQL, GeoServer, GeoNetwork) and proprietary software components (ArcGIS Server and ArcGIS desktop). The central geodatabase is created and managed by PostgreSQL/PostGIS DBMS. The PostgreSQL/PostGIS is used to store spatial data, progress, results and enables authentication and authorization of quality control processes.

As seen from the image the GIS server (ArcGIS Server and GeoServer) has four points of communication or flow of spatial information:

§ Towards the Geoportal
§ Towards external users or systems
§ Towards desktop GIS software
§ Towards the underpinning spatial database (SQL Server)

While retrieval and storing of spatial data relies on native SQL Server drivers and communication and communication with the desktop GIS client (ArcGIS Desktop in this case) communication with the Sava GIS system (including Geoportal, Web application for data editing, supporting modules) and external systems is established.

As presented on graphic, two software components used for implementation of GIS server are ArcGIS Server and GeoServer. A GIS server cluster is formed what increased the total capacity of the system with no additional licensing. Since both ArcGIS Server and GeoServer support OGC standards, the work of servers is transparent for the end user.

ArcGIS Server is used for organising and controlling service-based data handling and transfer from/to GeoServer. ArcGIS Server was already in place and file geodatabase format for exchange data between contributors revealed as the most appropriate, because contributor GISs are actually ArcGIS based. ArcGIS Desktop tool was used for migration of data from old to new database, formatting and editing data at contributor side, as well to maintain database model integrity.
Conditions for using the Metadata Catalogue

Sava GIS is as a common platform of the ISRBC community to enable sharing and disseminating of information and knowledge about protection of the water resources and water management activities in the Sava River Basin.

The Sava GIS Metadata Catalogue uses advanced features of HTML5 technology. Functionality of the GIS portal was successfully tested on the following Web browsers:

- Mozilla Firefox 30.0 or higher
- Google Chrome 35.0 or higher
- Internet Explorer 10.0 or higher

The recommended browser to use GIS portal is Google Chrome version 35.0 or higher. To work correctly, the Web browser must have cookies enabled. (Cookie)
General view of the Metadata Catalogue

Home page contains basic information about SavaGIS Metadata catalog. It consists of three main components:

- Header
- Content
- Footer

**Header**

Aside from application logo and name it contains: link to Map Viewer application, language chooser and login button. Additionally it contains information about current user (if present).

**Content**

Provides basic information, metadata statistics, list of latest and popular metadata and popular keywords.
Actors/Users in the Metadata Catalogue

The Sava GIS differentiates the following user groups:

- **Administrator** – administrator can create new or edit existing users, changing them user groups or change the user roles and rights for use of all modules and functionality of Sava GIS and access to data.
- **ISRBC WebGIS Editor** – editor user has rights to view, upload, and download data with the possibility of editing the attribute data within Sava Web GIS module. To WebGIS editor a set of limited and country-specific access can be assigned.
- **ISRBC WebGIS Viewer** – user with rights to view and download data within Sava Web GIS module.
- **ISRBC Metadata User** – metadata editor user has rights to view, add, upload, and download metadata data and within Sava GIS Metadata Management module. To metadata editor a set of limited and country-specific access can be assigned. The exact rights for Metadata User need to be defined through Metadata User Group and Profile selection.
- **Public user** – public user have possibility to view selected Sava GIS information, reports and maps without need to login. Administrator can defining Rules and access to the data and information available for public users.
USERS ADAPTABILITY

Page structure

Home page contains basic information about SavaGIS Metadata catalog. It consists of three main components:

- Header
- Content
- Footer

**Header**

Aside from application logo and name it contains: link to Map Viewer application, language chooser and login button. Additionally it contains information about current user (if present).
Content

Provides basic information, metadata statistics, list of latest and popular metadata and popular keywords.

Footer

Contains contact details.

Navigation principles

Navigation in the Sava GIS Metadata catalog module is very easy and intuitive. Navigation is based on the tabular menu where user can change and work under desired tabs.
Header

Applications header offers important and often used links and is available on top of every page. Initially (before user login) it looks like shown below.

1. **Module name**
   - **Metadata catalog**
     Module name reminds user of part of application he is currently on. So at any time user can make sure that he is still on metadata catalog, and has not switched to Geoportal.

2. **Home page**
   - **HOME**
     Link to main page.

3. **Metadata search**
   - **CATALOG**
     Link to metadata search page.

4. **About this page**
   - **ABOUT**
     Link to short description of Sava GIS metadata catalog.

5. **Sava GIS**
   - **SAVA GIS**
     Link to Sava GIS geoportal application.

6. **Language control**
Highlighted is the currently active language. By pressing county flags we can change page language.

Log in

Sign In

Link to user log in window.

Content

Main pages content consists of four parts:

- keywords - contains all available keywords (different for all users depending on available metadata)
- statistics by county
- latest - most recently edited metadata
- popular - most viewed metadata

Keyword

river (2)

Keyword with number of metadata containing it. Links to search page (catalog) showing those metadata.
2 Metadata overview

Europe_countries

Europe Countries
represents the countries of
Europe including...
Last update: 2015-08-22

Short description of metadata. Clicking anywhere over this description will lead to metadata view (shown further on in chapter Metadata viewer). On right clicking the metadata short menu as shown below is accessed. This menu will be explained later in chapter Metadata actions.

Rivers

3 Popular metadata

Popular
Shows four most popular metadata. Popularity is measured by number of viewing.

4 Latest metadata

Latest
Shows the most recently edited (or added) metadata.
Statistics

Statistics by country

Shows number of metadata available for each county. Number shown may not correlate with metadata accessible to current user, as it shows number of all metadata (not just user available).
Footer

The Footer contains information such as support, legal notes, impressum and information that Sava GIS project was co-funded by European Commission.

Languages

The Sava GIS geoportal is multilingual and user can choose English, Croatian, Bosnian, Slovenian and Serbian language. To change the language, click on the corresponding button on the upper right of the page.
Colors used

The graphical standards defined for SavaGIS application is determined by the use of a darker background in relation to the typography and communication pictograms. As the basis of background color palette was taken defined values: 0, 94 and 140 respectively for the red, green and blue channel (# 005E8C).

The lighter version of the background color is defined by the values: 43, 142 and 195 respectively the red, green, and blue channels (# 2B8EC3) and is used in cases where it is necessary to highlight the elements of the interface (either as a hint to the possibility of action or as a system component separator).

All typography and icons are made in white due to a combination of these colors with any color from a palette of background color ensures smooth readability and transparent interface.
METADATA SEARCH

General overview
Metadata Search is one of the three basic functionalities of Metadata Catalog. It can be accessed from "Catalog" link from main page. There are two types of search:

- basic
- advanced

Search is available for all users but basing on user privileges some data will be hidden (both metadata in search result and values in some of the search fields).

Basic search
With basic search users can find metadata with entering arbitrary text. Result shows metadata containing entered expression in one of the more important elements (title, abstract, keyword...). Special characters that can be used for search:

- * replaces multiple letters
- ? replaces exactly one letter

Below is shown example of basic search with search results.
1. **Search field**

   ![Search Field Image]

   Arbitrary Search text. It is required to enter full word or part of the word with one of the special characters to get wanted results. Example: "Sava" will find (among others) currently shown record while "Sava Wat" won't find shown record (because words doesn’t match, and we are not using special character *)

2. **Show advanced options**

   ![Show Advanced Options Button]

   Opens advanced search fields.

3. **Web services**

   ![Web Services Checkbox]

   When checked only metadata with dataset="service" are shown.

4. **Data available for download**

   ![Data Available Checkbox]

   Shows only metadata that offers additional data for download. Data can be downloaded by pressing button shown in search results. Data for download is defined in On line resource element of metadata:

   ![Data Download Image]

5. **Additional filter**

   ![Additional Filter Image]

   Offers options for further narrowing down search.
Search results

Search

Clicking the Search button search result are shown on the page. Each entry in the results can be independently viewed, edited, deleted or downloaded in any of the supported formats.

Advanced search

Advanced search can be accessed from Catalog page via "Show advanced options" button as showed previously. It allows additional filtering of results by several criteria:

- what - filtering by keyword, organization, category and validation status
- when - filtering by temporal data
Keyword
Keyword:  
Offers list of all available keywords (depends on currently available metadata). User can choose single or multiple values.

Organisation
Organisation:  
Offers a list of all available organisations responsible for metadata. User can choose single or multiple values.

Category
Category:  
Offers a list of all available categories of metadata:
- Dataset
- Service

Validation status
Validation status:  
Offers a list of all validation statuses:
- valid - metadata that has passed validation
- not valid - metadata with validation errors
- not determined - metadata that has not yet been validated

Filter by time frame
Anytime:  
When this option is checked all other date search field are disabled.

Filter by change date
Metadata change date
From:  
To:  
Search results will be limited to those with change date between From and To dates. It is possible to choose only one of the dates.
Filter by temporal extent

Search results will be limited to those with temporal extend dates between From and To dates. It is possible to choose only one of the dates. Temporal extend dates are optional values for metadata:

Advanced date filter

Filter by any of the following dates:

- creation date
- modification date
- publication date

Reset form

Resets filled form fields.

Hide advanced options

Hides advanced options, but chosen search parameters are still taken into account (it does not reset search form)
Filter

All search results can be further narrowed down by filters. Available filters are: keywords, types and years.

Applied filter
 waterti

Currently applied filter. On clicking on keyword following menu is shown. This way user can remove any active filters, or replace it with another.
**Additional filters**

**Organizations**
- International Sava River Basin Commission (2)

**Keywords**
- Hydro (2)
- Sava (2)
- processed data (1)
- historical data (1)

**Types**
- Service (2)

**Service types**
Additional filters that can be applied.

### Search results

Search results can be seen on Catalog page after pressing Search button.

The screen consists of two main components:

- **search toolbar** - contains tool for sorting results, changing view and different actions over metadata
- **search results** - a list of metadata that meets the criteria

![Search results screenshot]

**Number of results**

1-10 result(s) / 10 >>

Shows number of found results. If more then 20 metadata records are found only first 20 are shown. The rest can be accessed by navigating with >> to second page.
Sort

Choose one of the following to sort results by:

- Relevance - metadata that are closer to search criteria (closer match) are on top
- Title - alphabetical order
- Change date - most recently edited metadata are on top
- Rating - from higher to lower rating
- Popularity - based on number of views of metadata, most viewed are on top
- Scale (desc)
- Scale (asc)

View style

Show search results in:

- simple
- complex
- full - active by default

Number of selected metadata

Number of currently selected records. Offers option of selecting all metadata.
Other actions

Offers Group actions over selected metadata. Users can download selected metadata in ZIP, CSV and PDF format.

Get link

Gets link for current search.

Choose metadata

Checked metadata will be affected by actions from "Other actions" menu.

Bookmark

Offers link to current metadata.

Download data

Downloads file defined in On line resource element of metadata.

Validation failed

Metadata is not valid.

Schema

Name of metadata schema.
Metadata rating

Current metadata rating.

Last edited

Information about user and time of last edit.

Valid metadata

Metadata has passed validation.

Metadata link

Link to metadata details (leads to page described in chapter Metadata viewer).

Keywords

Sava, Waterway, River, Downloadable Data, InlandWaters

Metadata keywords.

Metadata abstract

Sava Waterway

Metadata abstract extracted from metadata record.

Metadata actions

There are certain actions over metadata available for search results. The availability of action depends on current user privileges, not all user will be able to edit or delete metadata.

We offer three types of actions:

• individual actions - affects single metadata, can be accessed by right clicking on metadata from search results
• group actions - affects multiple metadata, can be accessed from the search toolbar (menu Other actions)
Individual actions

Individual actions affect single metadata from search results list. Some of the actions are not available for users without certain privileges.

1. View metadata
   Opens view described in Metadata viewer. Users can only view data, no changes are allowed.

2. Save as XML
   Saves metadata record in XML format to local computer.

3. Save as RDF
   Saves metadata record in XML format to local computer.

4. Export to PDF
   Exports metadata in PDF format and saves to local computer.
5. **Export to ZIP**

Exports metadata in ZIP format and saves to local computer.

6. **Rate metadata**

Users can rate metadata information. This information will be used for sorting by rating as described previously.

---

**Group actions**

Group actions will affect multiple metadata. They can be accessed from search toolbar by clicking "Other options". Most of the actions are the same as individual actions previously explained.

1. **Export to ZIP**

Exports selected metadata to zip format and saves to local computer.

2. **Export to CSV**

Exports selected metadata to CSV format.

3. **Export to PDF**

Exports selected metadata to PDF format.
Metadata viewer

Sava GIS Metadata catalog offers public users with possibilities of viewing metadata. Any user (even public) can view any metadata shown in search results.

Viewing metadata

Metadata viewer can be used by any user for any of the visible metadata. It can be accessed from multiple locations:

- from search results by clicking on metadata name
- from search results from actions menu opened with right click of mouse button
- from home page via popular or latest metadata

Below are described important elements of view window.
1 Print

Open a new window with format suitable for print.

2 Permalink

Shows direct link to shown metadata which can then be send over email, message etc.

3 View mode

Offers choosing of view mode for metadata, default mode is "Simple view" which shows basic information.
Supported views are:

- Simple view - view of basic information
- Default view - view of all available info
- By group - view of metadata by three groups (in tabs): ISO Minimum, ISO Core and ISO All (some information is shown in multiple tabs)
- By package - view of metadata by ISO defined packages (such as Identification, Distribution, Content info etc.). Packages are equivalent to main elements in xml format.
- XML view - view of metadata in xml format (only for advanced users)

4 Tooltips

Enables and disables tooltips to get more information about each field. Enabled by default. Tooltips are visible for field names on mouse over.

5 Actions

Offers different action over shown metadata. Actions menu is equal to one shown on Catalog page (metadata search) when clicking right move button on metadata record.
Bookmark

Bookmarks this page.

Bounding box

Shows metadata bounding box and offers view in two coordinate systems.

Element group

Information about the dataset

Contains group of metadata elements.

Field name

Reference date

Localized element name.

Field value

2015-06-03 (Publication: Date identifies when the resource was issued)

Element value.