



GeoNetwork User Guide

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1. **GENERAL OVERVIEW – Getting Started**

1.1. Using this Guide

1.1.1. Audience

The GeoNetwork User Guide provides a comprehensive guide to understanding and using the metadata catalogue.

It is not a technical guide to GeoNetwork, nor does it discuss GeoNetwork-related software, rather, it provides guidance for users to browse, search, analyse and download GeoNetwork holdings of metadata, data and related materials.

The intended audience for the GeoNetwork User Guide are those with an interest in Marine Science, including academics, scholars, students, as well as industry and management within the Marine Science community and research space.

1.1.2. Navigation and Icons

In addition to the navigation available via the contents pages, throughout the user guide references to other sections of the document will contain links to assist navigation between relevant sections (on the reference select 'CTRL + Click' to follow the link).

Throughout the guide information will be presented that supplements the current discussion. The information will be presented within a grey box.

?	Frequently Asked Questions
i	Important Information
Ý	Hints and Tips
	Warnings/Known Issues/Future Developments

The following icons will provide an indication of the content of the sub-text boxes.

It is possible to navigate directly to the Frequently Asked Questions via the contents page.

1.1.3. Feedback

Feedback and comments are welcome regarding the User Guide. The guide is a living document to be amended with future software releases and implementation of enhancements.

If you would like to submit feedback please contact us via info@aodn.org.au.

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1.2. GeoNetwork

GeoNetwork is an opensource catalogue application to manage spatially referenced resources. It provides powerful metadata editing and search functions as well as an interactive web map viewer. It is currently used in numerous Spatial Data Infrastructure initiatives across the world.

The descriptive information gathered by this tool is based on ISO19115-3 for the development and accurate description of geospatial metadata records.

GeoNetwork offers a range of functions including:

- A searchable catalogue of metadata records describing both geospatial and non-geospatial data and other resources,
- Data files and related ancillary information (including documents) can be directly accessed or downloaded from metadata records,
- Links within metadata records that will display mapped data, and provide various download services (via the AODN Portal)

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1.3. Metadata and the Data Standard

Metadata is commonly known as 'data about data', it is the information pertaining to the entire dataset, describing the name, format, context, content, structure and control of, or over, data. It may also provide information related to the purpose, quality, and location of the data as well as information related to its creation. Although the primary purpose of ISO 19115 is to describe digital information that has a geographic extent, it can be used to describe all types of resources including textual documents, initiatives, software, sensors, non-geographic information, product specifications and repositories, i.e. it can be used to describe information resources that do not have geographic extent. It defines metadata elements, their properties, and the relationships between elements, and establishes a common set of metadata terminology, definitions, and extension procedures.

The metadata profile provides information related to the identification, maintenance and constraints, spatial and temporal extent, spatial representation and reference, quality and distribution of a data set.

What is metadata used for?

The use of metadata includes, providing:

- An adequate description of a dataset, so that someone other than the owner of the data can interpret it, and decide if the dataset may be useful,
- A way for the data to be found using a search tool.

A useful example of metadata would be a library catalogue record. A catalogue record provides information about an article or book, where it is located and its current status. It also contains keywords, title, author and other fields to enable finding the relevant material through a search engine.

What are the benefits to the researcher for submitting their data?

The AODN infrastructure using GeoNetwork, will provide secure, long-term data archiving facilities, a platform for collaboratively using and sharing datasets and datamanipulation processes.

Submitting your metadata/data will:

- Encourage communication and collaboration among researchers.
- Advertise your research.
- Secure your data over the long term.
- Allow you to satisfy requirements associated with the funding of the research, such as data archival and sharing.

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1.4. Data Access

It is not necessary to apply for a user name and password to search and access the publicly available metadata records and public data

2. SEARCH

The following options are available to users of GeoNetwork:

- **Search** a simple free text; filter by Type of Resources, Topics, Keywords, Contact for the Resource, Provided by and Years; or Geographic Search
- Advanced Search can filter results based on Categories, Keywords or Contact for the Resource; and/or filter by Resources and Records creation date ranges.

2.1. Output Options

• To adjust the presentation of the search results, select the [♥] button to display either 10, 50 or 100 records per page.



• The display of the results can be viewed either as a **List** or **Grid**. Select the box to change between displays.



• Sorted by – arrange results by Relevancy, Modified, Title, Rating, Popularity, Low scale first, and High scale first. Select the box to reveal list of options to select.



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2.2. Tips for Searching

The number of likely hits for a search topic will be determined by the search method and selection criteria, listed below are general tips worth noting.

- Avoid being too specific in the search, start with more general search terms before narrowing the search with very specific terms, e.g. if you are looking for data on coral spawning, start by typing in 'coral' to determine the extent of coral data available.
- Avoid using odd punctuation such as ?, *, ~, etc. (Some symbols are acceptable in certain circumstances: full-stop (.) and comma (,) for search terms like "A.R.C" and "2,000"; single quote (') for words like "owner's"; ampersands (&) and at symbols (@) can be used once in a search term made of letters, such as "email@address.com"; hyphens (-) and underscores (_) can only be used in a search successfully when in terms containing numbers or number-letter combinations).
- A wildcard symbol (*) can be used to truncate terms and expand a search (but only at the end of a partial word, e.g. trunc* not inside a word like trunc*te).
- Text and operators are not case sensitive.

1 Understanding the Search Results

There are a number of situations where the search results are not as expected, in particular when using the free text Simple Search.

Examples include, searching for a particular author or UUID.

- The author may also be referenced within other records as the record contact or within the credit or supplemental information.
- If parent and child records exist each will have a reference to the same UUID.

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2.3. Search

The Search option allows searches to be conducted in three main ways: either a free text search for words or phrases, occurring anywhere in a published metadata record; to filter by Type of Resources, Topics, Keywords, Contact for the Resource, Provided by and Years; or search by geographic location.

2.3.1. To Search – Free Text:

- Q Search 1. From the home page, select the tab.
- 2. Enter the search term, or terms, in the Search.... field.
- Q 3. Press return or select the Search button

2.3.2. To Search – Filter:

- 1. Select any combination of entries under each filterable category.
- 2. Results will be reduced based on selection.



2.3.3. To Search – Geographic Location:

Expand the map, by selecting the MAP tab.



Adjust or move the map to the appropriate scale.

- 1. Select the **DRAW** icon from the top left and select the type of spatial search by selecting either "intersects with" or "within" from the dropdown menu.
- 2. Click on the map and drag across the required location.

Q

3. Select the **Search** button

Geographic Area Selection

Ensure that the **Draw an extent** option is used to apply the search filter. An orange box will indicate that an area of interest has been selected.

Zooming in is not sufficient to define the required search area.

Caution – it is possible to select the area of interest prior to using zoom, this may result in the area boundary lines to be outside of the view.

2.3.4. Reset Search:

Search queries, filters and sorts can be cleared at any time, just select the button.

Refreshing the search page or switching between search options <u>does not</u> reset the search. You must select **Reset** to remove any saved searches.

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2.4. Advanced Search

The **Advanced** search allows the users to be more specific in the search criteria. Users can filter results based on Categories, Keywords or Contact for the Resource; and/or filter by Resources and Records creation date ranges.

2.4.1. How to Use Advanced Search:

1. From the home page, select the	Q Search	tab.	
2. Select the tab.			
Search			
		1 1	

3. Search or select the specific content, or temporal search criteria.

Q

4. Select the **Search** button

Information can be added into one or more field(s) to complete a search. If you do not want to search by a given field simply leave that field blank.

2.4.2. What?

The **What?** section allows searching for metadata that have been assigned either a specific category, or contain metadata content corresponding to Keywords or Contact details.

Search Tips for Keywords and Contact

Search words are selected by choosing from the list presented, when the user selects the empty field, or typing in free text and hitting enter to be presented with result options.

Keywords

These words are resultant of words that have been entered into existing metadata records; including parameter keywords, GCMD keywords, Geographic Extents.

Contact for the resource

This information is pulled from organisation from the following fields: Point of Contact and Metadata Contact.

2.4.3. When?

The **When?** section allows searching for metadata describing a resource (typically a dataset) by the **metadata creation date (Records created)** or by the particular time coverage of the resource (**Resources created**), e.g. sampling start and end dates.

Users can either select from text search features (by selecting the down arrow) or designate start and/or end dates.

When?		
Resources created in the las	t .	
Today	То	##
Yesterday		
This week	То	<u>60</u>
This month		
In the last 3 months		
In the last 6 months		
This year		

To select a **From** and **To** date, click on the calendar icons. Refer to the below diagram for guidelines on how to select a date and time using a calendar.

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3. VIEWING AND DOWNLOADING

3.1. Search Results

Once the search is complete the output will be a list (or grid) of metadata results matching the search criteria. Each metadata record listed in the output will detail the **Title**, a section of the **Abstract**, **Point of Contact** organisation, and if applicable a thumbnail displaying a relevant picture or map of the associated location. Metadata records in some instances may also contain links to relevant resources, or downloads available.

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3.2. Output Display

The metadata records within the output list can be viewed and sorted in a number of ways.

3.2.1. Display Options

• To adjust the presentation of the search results, select the [♥] button to display either 10, 50 or 100 records per page.

• The display of the results can be viewed either as a List or Grid. Select the box to change between displays.

3.2.2. Sort Output List

If the search criteria have returned multiple metadata records it is possible to sort the output results. The sort options are –

- **Relevance** based on the relevance score that the Lucene search engine gives to each item in the search results. However it is not shown to the user what the relevance score for each result *is* or how they compare between each other.
- **Modified** displayed in order of metadata with the most recent revision date (the revision date is updated automatically during the edit process)
- Title
- **Rating** displayed in the order of rating (local rating by users)
- **Popularity** displayed in the order of the number of times viewed
- Low scale first
- High scale first

3.2.1. Refine Output List

The output list can be refined by altering the search criteria, refer to **Tips for Searching**. The number of metadata records shown in the output list can also be reduced by performing the following steps –

1. Select a record(s) by placing a 'tick' in the box preceding the **Title**.

2. View the available options from the **selected** drop down menu.

3. Select Selection only.

Only the metadata records selected will be listed in the output.

3.2.2. Export List

1. Select a record(s) by placing a 'tick' in the box preceding the **Title**.

SRFME Coastal - HPLC Pigment Ocean Colour data

2. View the available options from the **selected** drop down menu.

The following are the available selections;

- Export (ZIP) Save selected results as xml files in a ZIP file
- Export (PDF) Save selected results as PDF
- Export (CSV) Save selected results as a csv file

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3.3. View Results

The metadata profile is organised into a collection of elements and fields (sections or sub-sets of the metadata), the elements and fields available for view will be dependent on the view option selected. For further information about each group see the section view results Error! Reference source not found. View.

3.3.1. View Record

Once the metadata record is identified,

1. The record can be viewed by selecting the title for the relevant result

CSIRO	Categories 🕹
	SRFME Coastal - HPLC Pigment Ocean Colour data
	Samples were collected from the locations Two Rocks (Feb 2002 - Dec 2004), Bunbury and Jurien Bay (March 2003 - Feb 2005) and analysed for total suspended matter, absorption coefficients for dissolved and particulate matter and pigment concentration and composition. Microphytobenthos samples were collected at sites where Martin Lourey worked. The T more
	CSIRO Oceans & Atmosphere - Hobart
	S links ▼

Once the metadata record is open, there are three viewing options available. To switch view options, select the option from the drop down menu on the right hand side. The view in **bold** is the default view displayed.

The three view options -

- Default view
- Full view
- XML view

3.3.2. Full View

The **Tabs** display a sub-set or section of the metadata record.

Most common sections with content

- Identification
- Content
- Distribution

- Lineage
- Acquisition info
- Metadata

Identification (Data Identification) -

The identification info contains basic information about the resource, including -

- Abstract,
- Credit to contributors,
- Status of the resource,
- **Maintenance details** (any maintenance details are relating to the resource, metadata maintenance details are listed within the Maintenance group),
- Descriptive keywords (which includes data parameters),
- Licence (and other) constraints on the resource/data. Constraints on the metadata are listed within the Metadata group,
- Suggested citation of the resource,
- Topic Category of the resource,
- Temporal, Vertical and spatial extent of the resource.

The extent element of data identification is conditional, either the bounding box or the description subclass of extent's geographic element role shall be included if the resource is a dataset. Both bounding box and description can be used.

Content (for IMOS metadata) -

Data parameters (replicated from parameter keywords list under Identification) are bundled together with other associated parameter information such as units of measure ("Base unit").

Distribution -

The distribution information contains the distributor of, and options for obtaining, a resource. The distribution element allows for on-line access to resources by using a URL address.

The distribution information is an aggregate of the -

- format for distribution,
- identification of the distributor, and
- digital distribution (i.e. **Online** resource in the Transfer Options section).

In some cases the resource is a data file or related file, which can be downloaded directly from the MEST via a link in this section.

Lineage -

This information helps the user decide on the quality of the resource described, e.g. sampling protocols, calibration information, equipment model information, degree of accuracy, details of any QA/QC procedures.

A lineage statement (general explanation of the production process used for creating the data) would be created for most metadata records within this section. However, more advanced users may enter a substantial amount of detail in this area.

Acquisition info (for IMOS metadata) -

Platform and Instrument information is bundled together (replicated from both platform and instrument keywords list under Identification)

Metadata -

The metadata section contains information about the metadata record itself, including

- Unique Metadata identifier,
- Contact details for record author and resource contact,
- Hierarchy Level,
- Date Stamp of when the metadata record was created and revised,
- Metadata Standard Name and Version.

3.3.3. Landing Page View

When resolving a metadata URL from outside the catalogue, users are presented with a view which is a subset of the default view, with elements displayed in different positions and ways.

e.g. https://catalogue-imos.aodn.org.au:443/geonetwork/srv/api/records/a681fdbac6d9-44ab-90b9-113b0ed03536

To access the default view as viewed from records in the catalogue (and then to be able to access Full view), users need to select the

Seccess to the portal

button.

This is presented at the bottom of the content on the right hand side of the display.

3.3.4. XML view

This **XML view** is for those users familiar with the encoding language, XML (Extensible Markup Language). The **XML view** shows the entire content of the metadata in the original hierarchical structure. XML can be used to import records into the catalogue.

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3.4. Access Data Set(s)

Data if available, is accessible via a combination of three mechanisms (where option is available):

- Data files being attached to the record
- A link provided from the record
- A link to the AODN Portal (where users can view, subset and download data), identified as "View and download data through the AODN Portal"

There are two available ways to download/access data via the various mechanisms above:

- From the search output, or
- Within the metadata record, from the **Distribution** group

3.4.1. Search Output

- 1. Find the record from one of the **SEARCH** options.
- 2. Expand the link dropdown, to view "link" options

3. Expand the download dropdown, to view "download" options

Summary of biological and nutrient data collected from each station. - text/html Explanation of column headings in excel summary document. Picophytoplankton processed data - text/html Explanation of Picophytoplankton file names (fcs files) Bacteria/Virus Processed data - text/html Explanation of bacteria/virus file names (fcs files) Chlorophyll pigment processed data - text/html

3.4.2. Metadata Record

- 4. Find the record from one of the **SEARCH** options.
- 5. Open the record.
- 6. From the **Default View**, the distribution section is displayed towards the top of the record
- 7. Select either "Download" or "Open Link" to access the relevant item.

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									See See	all feedback	Ad	d your review
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8. From the **Full View**, the distribution section is also displayed towards the top of the record, but can also be viewed under the **Distribution** tab.

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