APGC Help Documentation

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Version 2.0
23.06.2023

For further assistance please do not hesitate to contact the APGC-team:

apgc@awi.de

SEARCH DATASETS

SIMPLE SEARCH

On the **APGC start page** and on the **APGC dataset page** you can search for data by keyword or by selecting an area of interest on a map. In addition, on the **APGC dataset page** you can search by thematic filters.

Just type your search words or phrases into the search field and use the available filters to refine your search.

The most accurate and cleanest search results are obtained by entering the word or phrase in lower case letters.

Search by keyword

You can type any keyword either in the search area in the upper right corner or in the search area in the center of the page. In addition, popular keywords are listed below the center search bar and can be selected.

Search by map

Click on the icon with the pencil. This allows you to draw a rectangle on the map which includes your area of interest. If you are satisfied, click on the “APPLY” button in the lower right corner.

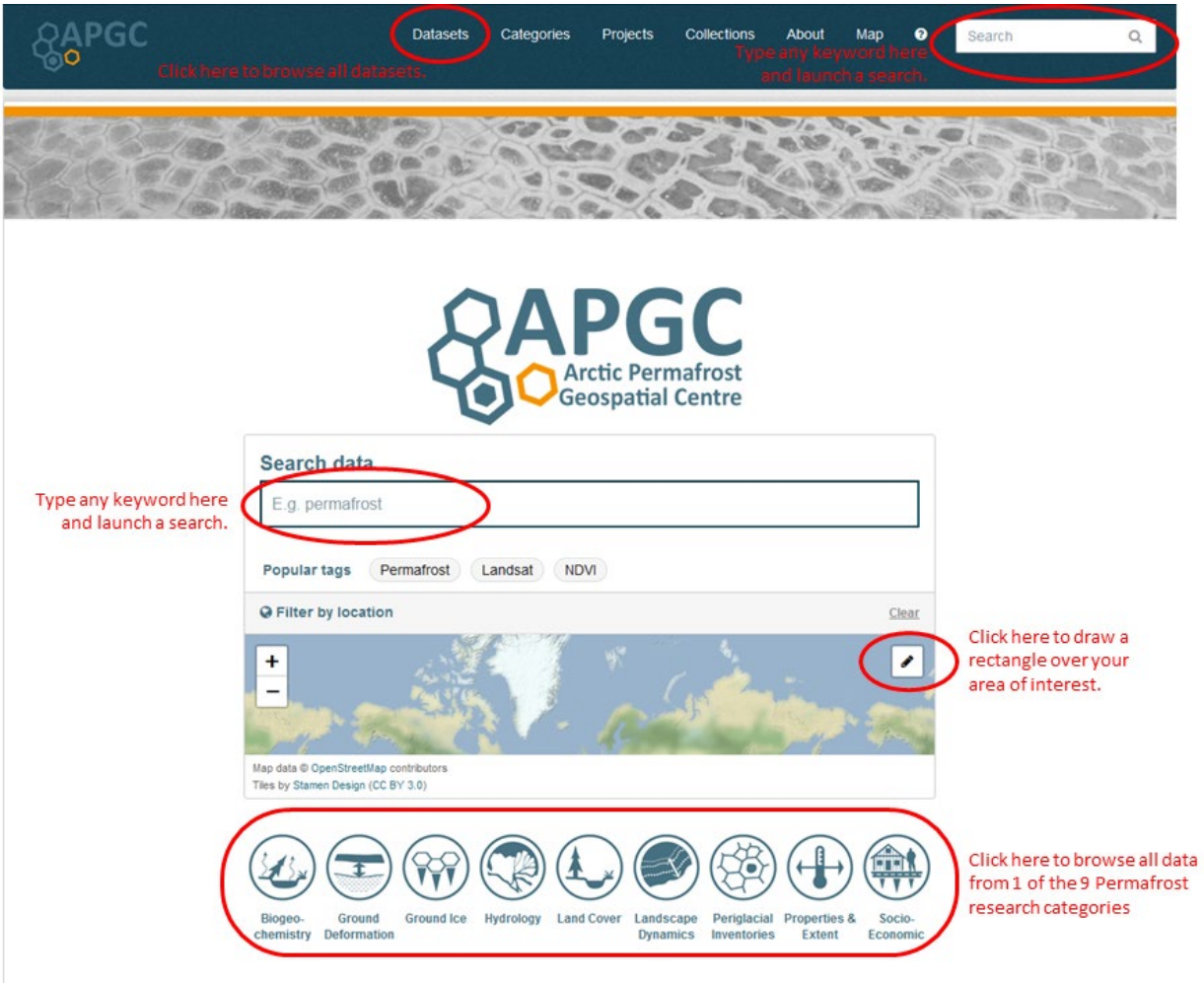
Search by filter

The left menu bar lists thematic filters such as region, products, sensors, resolution etc. Select any filter of interest to you to find specific datasets within that category. To remove the filter, click on the x-button of the selected filter.

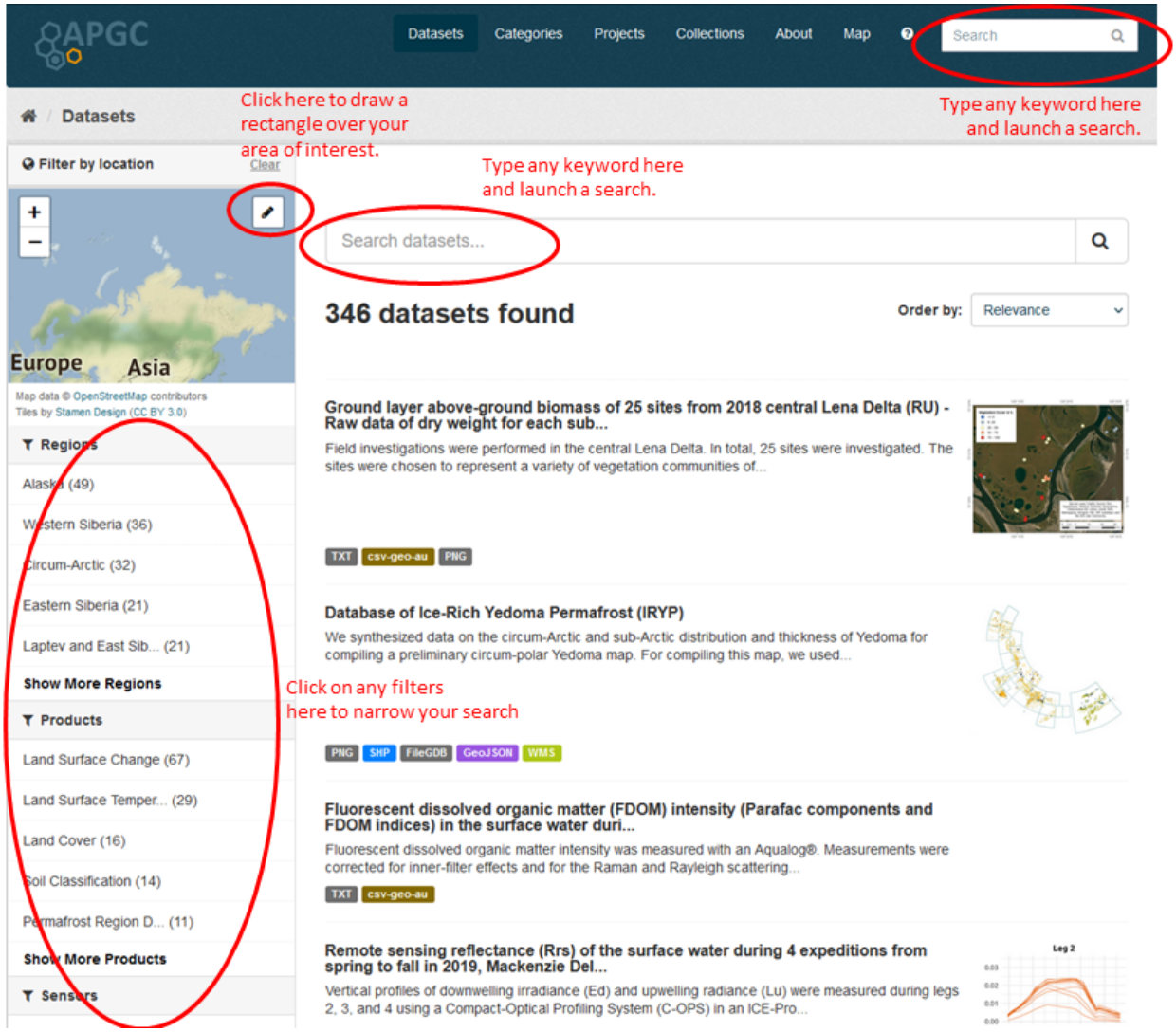
Browse data sets

All data sets can be accessed by the “Dataset” button in the upper menu.

Search options on the APGC start page



Search options on the APGC dataset page

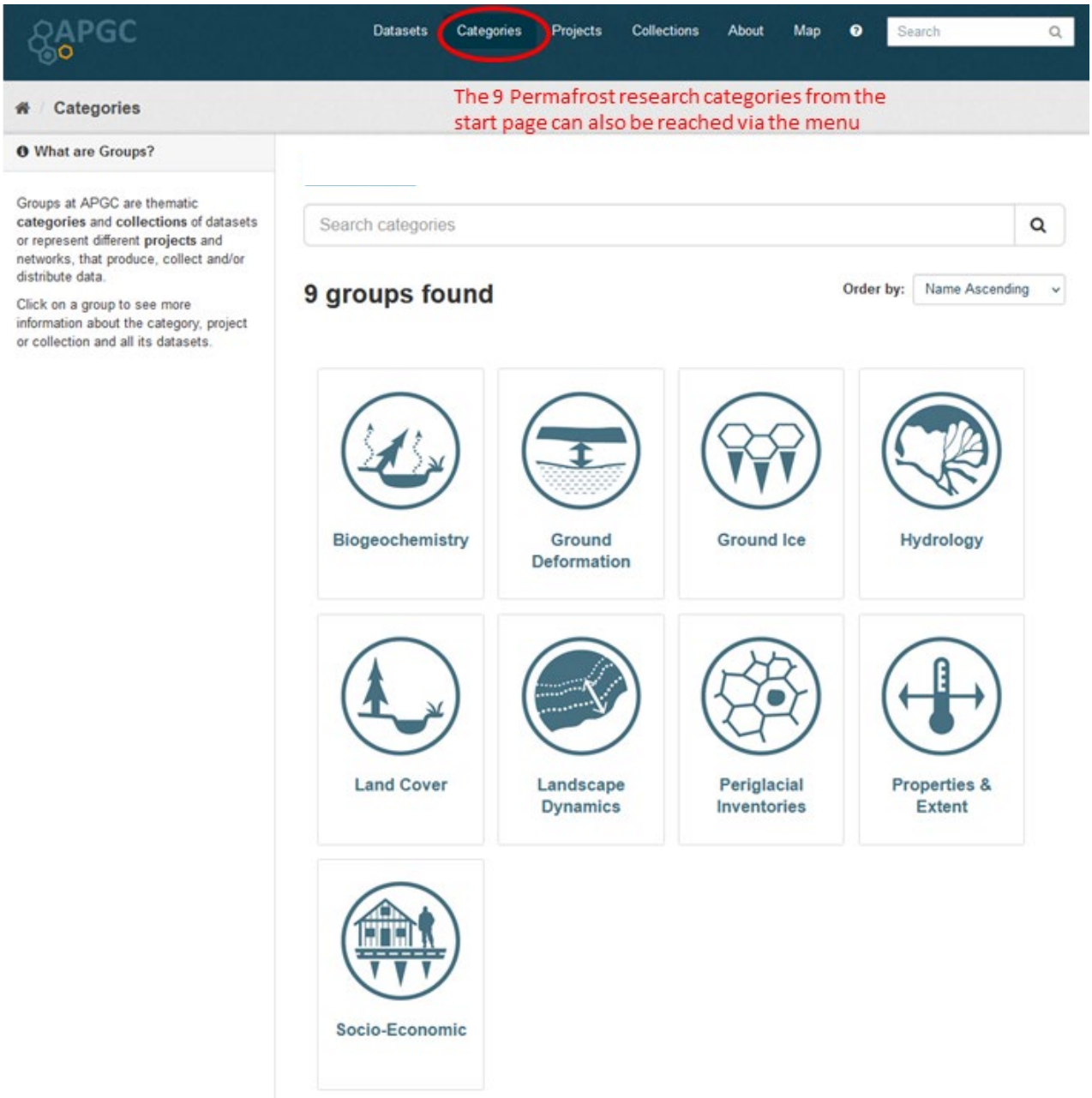


Search by group

Groups are collections of datasets.

Groups at APGC are research categories, thematic or spatial **collections** or represent different **projects** or networks, that produce, collect and/or distribute data.

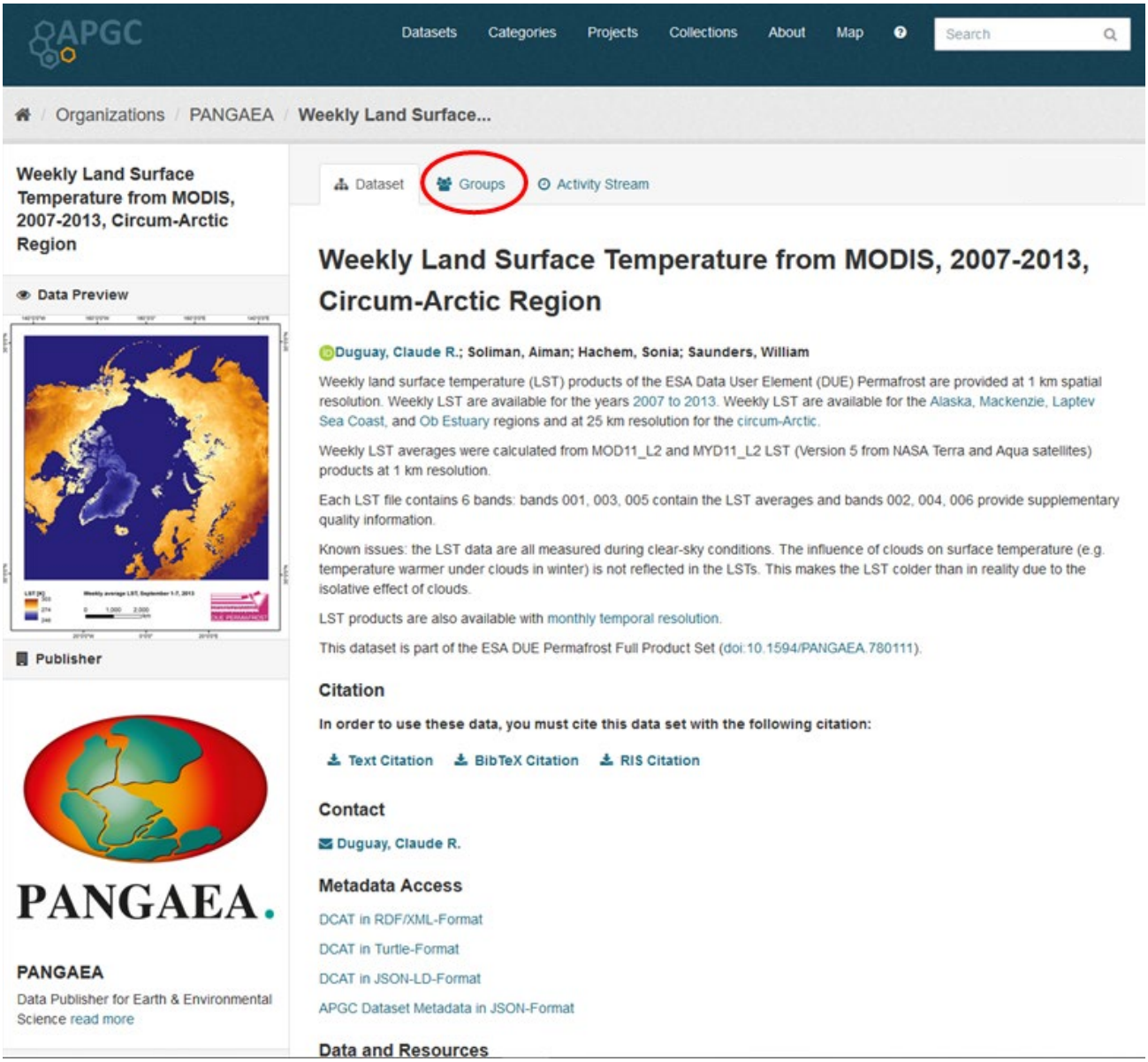
Groups can be accessed via the main menu under the tabs "Categories","Projects" or "Collections". On this pages you can search for groups by entering search terms in the search field.



Click on a group to see more information about the research category, dataset collection or project and all its datasets.

The Permafrost research categories can also be accessed directly from the home page. Open the corresponding accordion tab and select one of the listed groups to get to the descriptions and the corresponding data sets.

If you are on the page of a dataset and want to know which group that dataset is assigned to and which datasets belong to its groups go to the "Groups" tab in the dataset menu.



ADVANCED SEARCH

The APGC uses the search platform "Solr" in the back for handling your search queries. So if you want to do some advanced searches on the datasets you have to use the query syntax of the Solr standard query parser.

Example Search Queries

Search for words and phrases

Show all datasets where the keyword "trends" is in the title:

```
title:trends
```

Show all datasets with the word "moisture" and without the word "2010" in the title:

```
title:moisture -title:2010
```

Show all datasets with a resource "Product Guide":

```
res_name:"Product Guide"
```

Combine searches for multiple phrases or words using operators such as AND or OR:

```
(title:"lake ice" OR notes:"lake ice") AND title:Mackenzie
```

Show all datasets where the word "from" is NOT in the title:

```
-title:from
```

Searching using wildcards

All datasets with a word beginning with "per" in the title:

```
title:per*
```

All datasets with a link to a WebGIS view:

```
WebGIS-Link:*
```

Search for values in a specified range

Show all datasets where the temporal coverage is between 2008 and later:

```
temp_coverage:[2008 TO *]
```

Or show all datasets where the temporal coverage described in the title is between 2008 and 2014:

```
title:[2008 TO 2014]
```

Searching using additional search options

Assigning a boost factor for to give certain search terms more relevance:

```
(title:2005)^1.5 (notes:sensor)
```

To search for terms within a specific distance (number of words) from one another you can use a proximity search.

Add the tilde character (~) and a numeric value to the end of a search phrase.

For example, to search for a "surface" and "moisture" within 1 word of each other, use the search:

```
title:"surface moisture"~1
```

Field Names

Search queries can be made on all defined metadata fields.

But the visible field labels in the catalog are not necessarily the same real field names that need to be used for the search query.

The following overview of the most important metadata fields and the corresponding field names will help you.

FIELD LABEL	FIELD NAME (you have to use in a query)
Title	title
URL	name
Identifier	identifier
First Author	first_author
Author Email	author_email
Co-Authors	co_authors
Maintainer	maintainer
Maintainer Email	maintainer_email
Description	notes
Science Keywords	tag_string
Project(s)	projects
Institute	institute
License	license_id
Organization	owner_org

Source	url
Publication Date	PublicationYear
Version	version
Product group	product_group
Product	product
Sensor	sensor
Files	bands
Variables [Units]	variables
Region	region
Spatial Reference	s_reference
Spatial Resolution	s_resolution
Spatial Coverage	s_coverage
Temporal Coverage	temp_coverage
Temporal Resolution	temp_resolution
Format	format
Dataset extent	spatial
Data Preview	preview
Detailed WebGIS View	WebGIS-Link
Data Formats (*of resources*)	res_format
Groups	groups

Table 1

PREVIEW DATA

Image preview

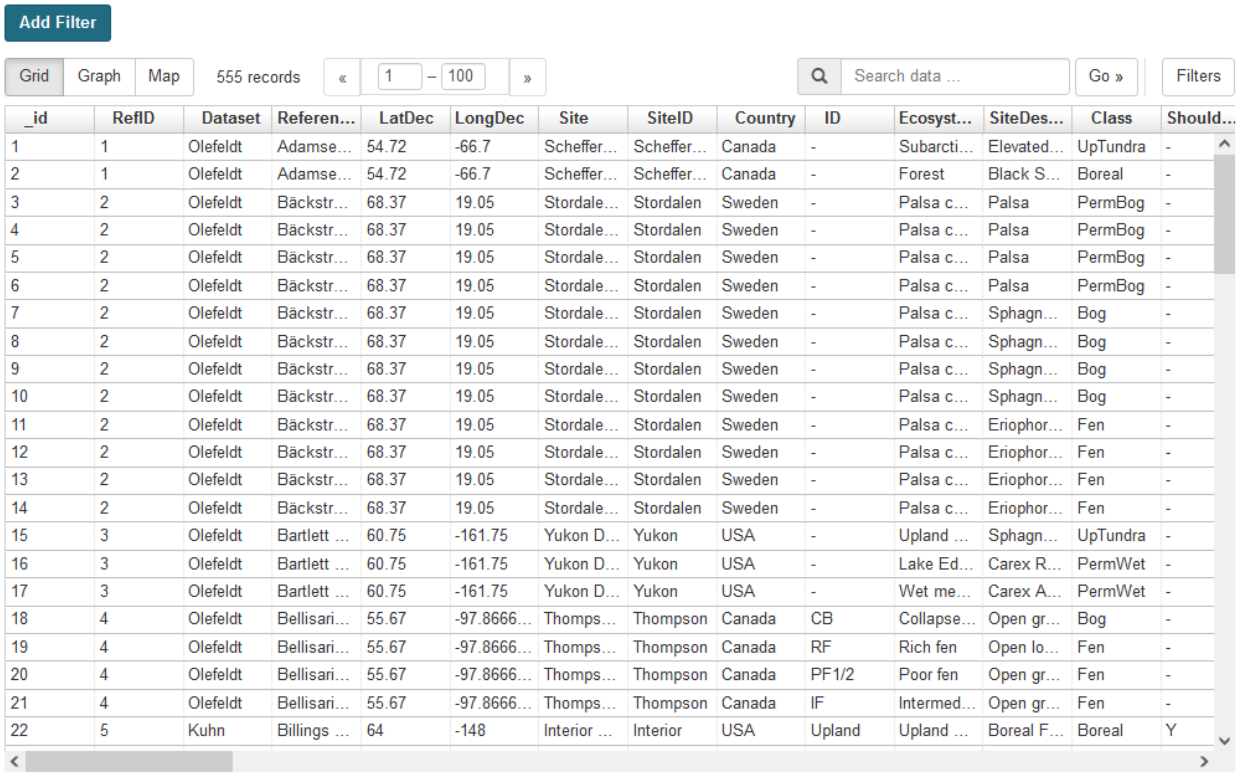
For almost every dataset in APGC, there is a visual preview of the data. This preview can be implemented as a map view, plot or other visualization. The previews in PNG or JPG format have either been created by the APGC team or come from publications related to the datasets.

When using these previews, please be aware of any usage licenses that may differ from the datasets.

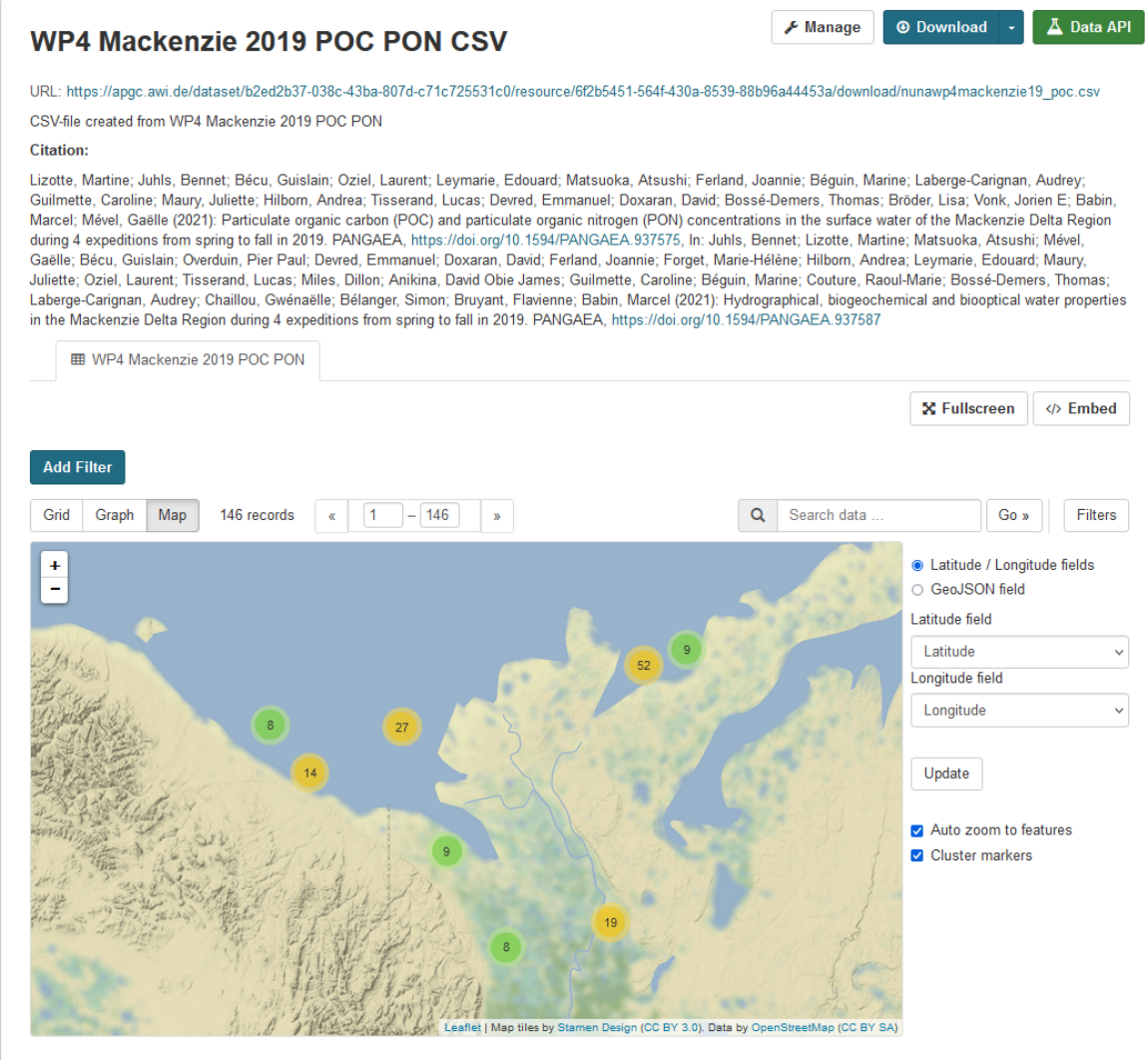
A first preview of the preview is already offered in the dataset list (at: https://apgc.awi.de/dataset). In addition, the preview is located on the respective dataset page. In both cases, the preview can be hovered over with the mouse and a click on the hover image leads to a view in the actual pixel dimensions. Often you will find the preview under "Data and Resources", where often image titles or citation information are listed in the description.

Data Explorer for CSV files

If data is available in valid CSV format, it can be stored in APGC in a data store, i.e. a database that allows querying, filtering and visualization of the data.
Up to 4 options are available for visualizing the CSV data. If you click on a data resource in CSV format on a data set page under "Data and Resources", the resource page opens. The Data Explorer there offers 3 visualization tabs: "Grid" shows the first 100 rows of the data in a table. The number of displayed rows can be changed by the user, filters can be set and the sorting can be changed. The second tab "Graph" allows the user to generate dot, line or bar charts from the data. Filters can be set here as well. If the data contains decimal latitude and longitude values of point data, they can be displayed in a map under tab "Map". Here, in addition to the filter options, the point markers can also be clustered.



_id	RefID	Dataset	Referen...	LatDec	LongDec	Site	SiteID	Country	ID	Ecosyst...	SiteDes...	Class	Should...
1	1	Olefeldt	Adamse...	54.72	-66.7	Scheffer...	Scheffer...	Canada	-	Subarcti...	Elevated...	UpTundra	-
2	1	Olefeldt	Adamse...	54.72	-66.7	Scheffer...	Scheffer...	Canada	-	Forest	Black S...	Boreal	-
3	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Palsa	PermBog	-
4	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Palsa	PermBog	-
5	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Palsa	PermBog	-
6	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Palsa	PermBog	-
7	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Sphagn...	Bog	-
8	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Sphagn...	Bog	-
9	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Sphagn...	Bog	-
10	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Sphagn...	Bog	-
11	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Eriophor...	Fen	-
12	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Eriophor...	Fen	-
13	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Eriophor...	Fen	-
14	2	Olefeldt	Bäckstr...	68.37	19.05	Stordale...	Stordalen	Sweden	-	Palsa c...	Eriophor...	Fen	-
15	3	Olefeldt	Bartlett ...	60.75	-161.75	Yukon D...	Yukon	USA	-	Upland ...	Sphagn...	UpTundra	-
16	3	Olefeldt	Bartlett ...	60.75	-161.75	Yukon D...	Yukon	USA	-	Lake Ed...	Carex R...	PermWet	-
17	3	Olefeldt	Bartlett ...	60.75	-161.75	Yukon D...	Yukon	USA	-	Wet me...	Carex A...	PermWet	-
18	4	Olefeldt	Bellisari...	55.67	-97.8666...	Thomps...	Thompson	Canada	CB	Collapse...	Open gr...	Bog	-
19	4	Olefeldt	Bellisari...	55.67	-97.8666...	Thomps...	Thompson	Canada	RF	Rich fen	Open lo...	Fen	-
20	4	Olefeldt	Bellisari...	55.67	-97.8666...	Thomps...	Thompson	Canada	PF1/2	Poor fen	Open gr...	Fen	-
21	4	Olefeldt	Bellisari...	55.67	-97.8666...	Thomps...	Thompson	Canada	IF	Intermed...	Open gr...	Fen	-
22	5	Kuhn	Billings ...	64	-148	Interior ...	Interior	USA	Upland	Upland ...	Boreal F...	Boreal	Y

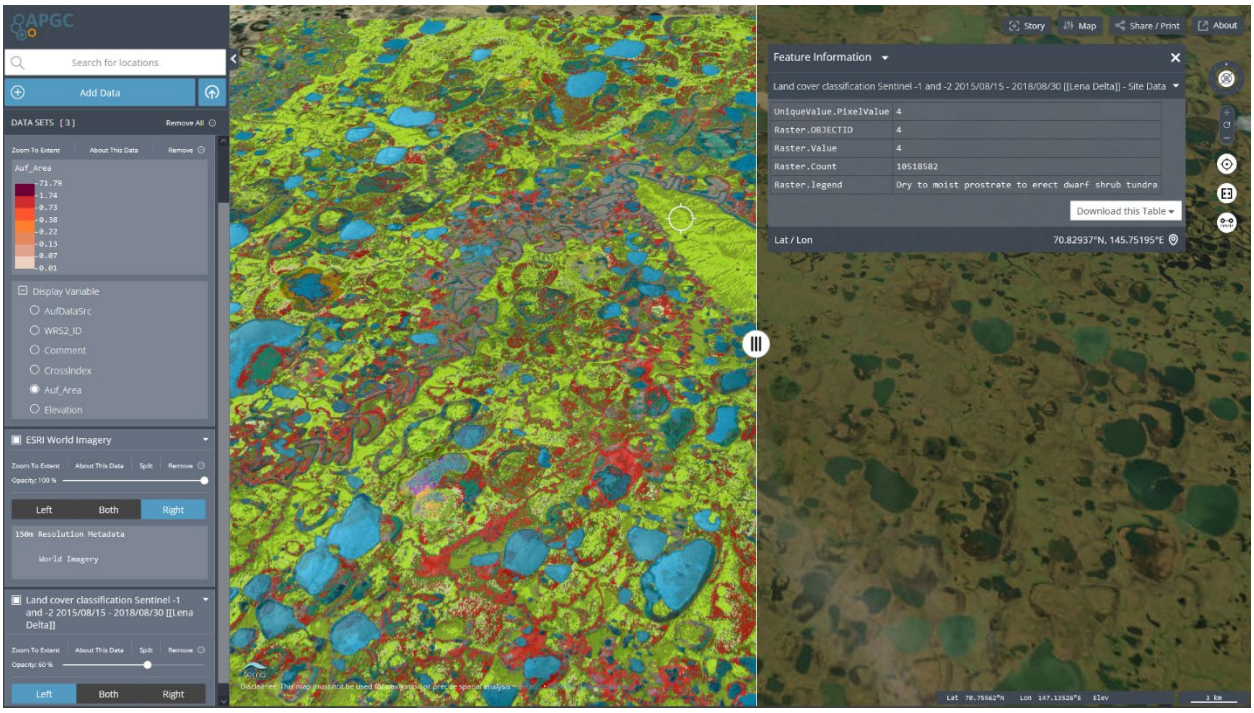


Die vierte Option ist die Darstellung in APGC-Map. (siehe mehr dazu unter "APGC-Map“)

APGC-Map

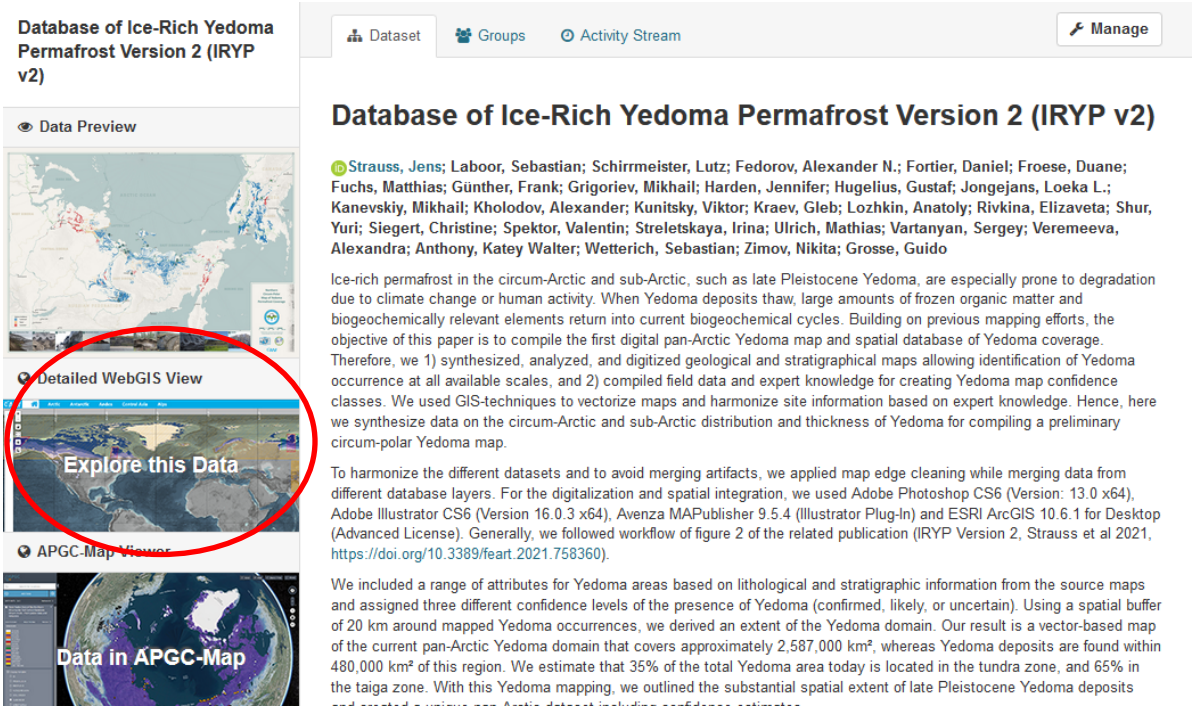
If a CSV file meets the requirements of the csv-geo-au standard, the data is automatically integrated on the visualization platform APGC-Map (https://apgc-map.awi.de) and can be displayed there. To access this visualization, copy the name of the resource to be displayed, click on "Map" in the APGC main menu and paste the copied name into the search field that appears when the "Add Data" button is clicked. Then the data can be displayed on the map application.
For some datasets, the data can also be accessed directly from the left sidebar of the dataset site under "APGC-Map Viewer" with the link "Data in APGC-Map".

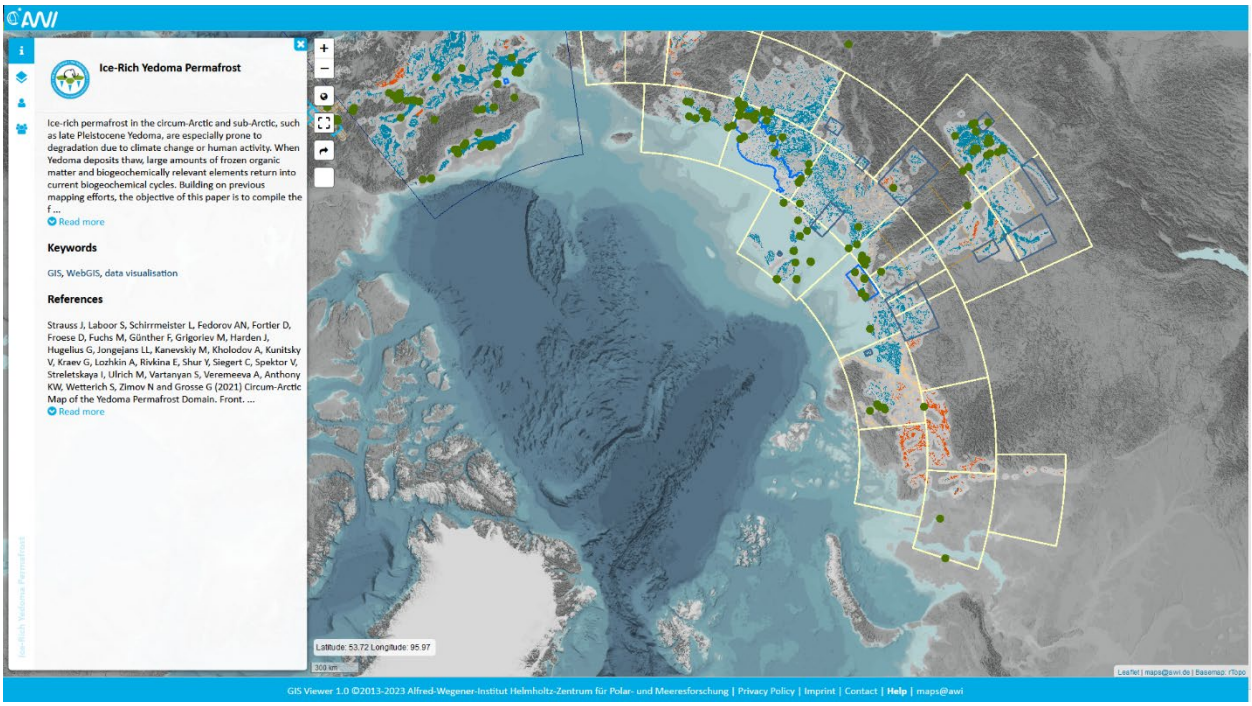
APGC-Map allows visualization of WMS, WMTS, WFS, KML, GeoJSON, CSV, CZML, GPX and many other spatial formats. For a quick personal view, it is possible to drag and drop local geodata directly into the application. The platform offers an integrated converting service, which allows for example to convert a simple zipped shapefile (which should not exceed a size of 20 MB) into a web geo format and to display it.
You can share map views, create story maps, visualize time series, search for locations, display data attributes, compare raster data with the side-by-side comparison tool and much more. You can choose between 3D and 2D view and multiple background maps.



WebGIS-View

For some major permafrost-related research projects, AWI-hosted WebGIS applications are available at https://maps.awi.de. If there are visualizations of a dataset there, these WebGIS projects are linked via the left sidebar under "Detailed WebGIS View".





DOWNLOAD DATA

Download data

Data can be downloaded in each data entry under "Data and Resources".
To download data, click on the download button.
Please be aware that data files can be large, in some cases more than 1 GB.
Download procedures will vary depending on the browser you use and your browser's download settings.

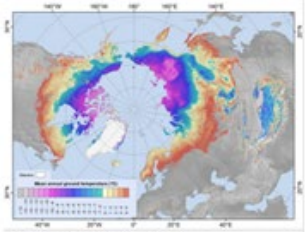
Chrome: under settings/advanced/downloads you can activate the option *Ask where to save each file before downloading*

Mozilla: under Options/Files and Applications/downloads you can activate the option *Ask where to save each file before downloading*

Opera: under opera://settings/vpn under heading "Downloads" you can activate the option *Ask where to save each file before downloading*

Permafrost Extent and Ground Temperature Map, 2000-2016, Northern Hemisphere Permafrost

Data Preview



Detailed WebGIS View

Publisher

PANGAEA.

PANGAEA

Data Publisher for Earth & Environmental Science read more

Social

Twitter

Facebook

License

Creative Commons Attribution 3.0 Unported

Dataset | Groups | Activity Stream | Manage

Permafrost Extent and Ground Temperature Map, 2000-2016, Northern Hemisphere Permafrost

Obu, Jaroslav; Westermann, Sebastian; Kääb, Andreas; Bartsch, Annett

The product provides modeled mean annual ground temperatures (MAGT) at the top of the permafrost for the Northern Hemisphere at 1 km spatial resolution. Permafrost probability (fraction values from 0 to 1) is assigned to each grid cell with MAGT < 0°C. Based on its permafrost probability each grid cell is classified as continuous, discontinuous and sporadic permafrost. The processing extent covers exposed land areas of Northern Hemisphere down to 25 ° latitude. The mean MAGT was validated with GTN-P and TSP borehole ground temperature data yielded RMS of 2.0 °C. According to the results permafrost (MAGT < 0 °C) covers 15 % of exposed land of the Northern Hemisphere.

The NetCDF files contain resampled data from GeoTiffs (see initial product guide) to approx. 5, 10 and 25 km spatial resolution (available as separate files). The data are in pretended regular lat-lon-grid from and contain both metric x and y coordinates in addition to geographic (latitude and longitude) coordinates. Each NetCDF file contains mean annual ground temperature (variable name: MAGT) dataset, permafrost occurrence probability dataset (variable name: PerProb) and standard deviation of mean annual ground temperature dataset (variable name: SD).

More Information about the product and it´s modelling method can be found in the product guide.

Citation

In order to use these data, you must cite this data set with the following citation:

Text Citation | BibTeX Citation | RIS Citation

Contact

Obu, Jaroslav

Metadata Access

DCAT in RDF/XML-Format

DCAT in Turtle-Format

DCAT in JSON-LD-Format

APGC Dataset Metadata in JSON-Format

Data and Resources

Click on the view or download button to view or download data

Preview	View image
Product Guide	View PDF
Mean Annual Ground Temperature (MAGTM) [C°]	Download
MAGT Standard Deviation (MAGTSTD) [C°]	Download
Permafrost Probability Fraction (PERPROB) [Fraction, 0-1]	Download
Permafrost Zonation (PERZONES)	Download

API CONNECTIONS

CKAN API

The APGC is a metadata catalog based on CKAN, a web-based data catalog software. All metadata can be queried via the CKAN API. More about this can be found at https://docs.ckan.org/en/latest/api/.

Example API queries:
https://apgc.awi.de/api/3/action/package_search?fq=groups:ampac

https://apgc.awi.de/api/3/action/package_search?fq=groups:ampac&ext_bbox=7.535093,49.208494,130.890688,87.372349

https://apgc.awi.de/api/3/action/package_show?id=cavm-raster-circum-arctic

https://apgc.awi.de/api/3/action/group_show?id=persys

https://apgc.awi.de/api/3/action/group_list?type=collection

https://apgc.awi.de/api/3/action/resource_search?query=format:csv

https://apgc.awi.de/api/3/action/tag_list?all_fields=true

https://apgc.awi.de/api/3/action/package_search?facet.field=[%22s_reference%22]&facet.limit=200&rows=0

CKAN Datastore API

The CKAN DataStore provides an API for reading, searching and filtering data without the need to download the entire file. The DataStore is an ad hoc database, meaning that it is a collection of tables with unknown relationships. This allows searching in a DataStore resource (a table in the database) as well as querying across DataStore resources.
See more on https://docs.ckan.org/en/latest/maintaining/datastore.html#the-data-api

Example API queries:
https://apgc.awi.de/api/3/action/datastore_search?resource_id=aa0188d2-898c-41fd-ba96-a62cf5964f59

https://apgc.awi.de/api/3/action/datastore_search?resource_id=_table_metadata

https://apgc.awi.de/api/3/action/datastore_search_sql?sql=SELECT%20*%20FROM%20%22aa0188d2-898c-41fd-ba96-a62cf5964f59%22

METADATA

Metadata provides information on individual datasets. In APGC, each dataset is described by extensive metadata. Metadata is stored in the title, the abstract, the *Additional Info* table and the product guides. The *Additional Info* table at the bottom of each dataset entry gives you detailed metadata on the thematic, spatial and temporal properties of the data.

Title

The title informs you of the product, the sensor it was derived from, the temporal period it covers (YYYY-YYYY), the site and region name where the dataset is located.

Abstract

The abstract summarizes the most important characteristics of the data.

Product guides

Product guides are available for most data sets. Product guides provide detailed information about the methods used for data processing. Product guides are available as PDF files in the section "Data and Resources". Click on the "download" button and the product guide will open on a separate page.

Additional Info

Detailed metadata of each dataset is listed in the "*Additional Info*" table at the bottom of each dataset. Here you can find information about the thematic, spatial and temporal properties of the data.

Metadata field	Description
Identifier	DOI: digital object identifier in case the data is published
Project(s)	indicates the project the data is associated with
Institute	institute where the data was produced
Source	URL where the data is stored
Publication Date	date the data was published
Version	version of the data
Product group	indicates the product group - relevant only for PerSys data

Product	indicates the thematic product type, eg. land cover, permafrost extent, land surface temperature etc.
Sensor	sensor (eg. satellite sensor or other instrument) that was used to record/measure the data
Files	list of individual data files
Variables [Units]	variables and units of data
Region	geographical region where the data is located
Spatial Reference	spatial projection the data is provided in
Spatial Resolution	spatial resolution indicates the grid cell or pixel size for raster data
Spatial Coverage	spatial coverage of the dataset giving the latitude and longitude range in decimal degrees
Temporal Coverage	temporal coverage of time series or average data with the format YYYY-MM-DD to YYYY-MM-DD
Temporal Resolution	temporal resolution of time series, eg. hourly, daily, weekly, monthly
Format	file format of the data available for download, eg. Geotiff, shape-file, netcdf

Table 2

Download metadata

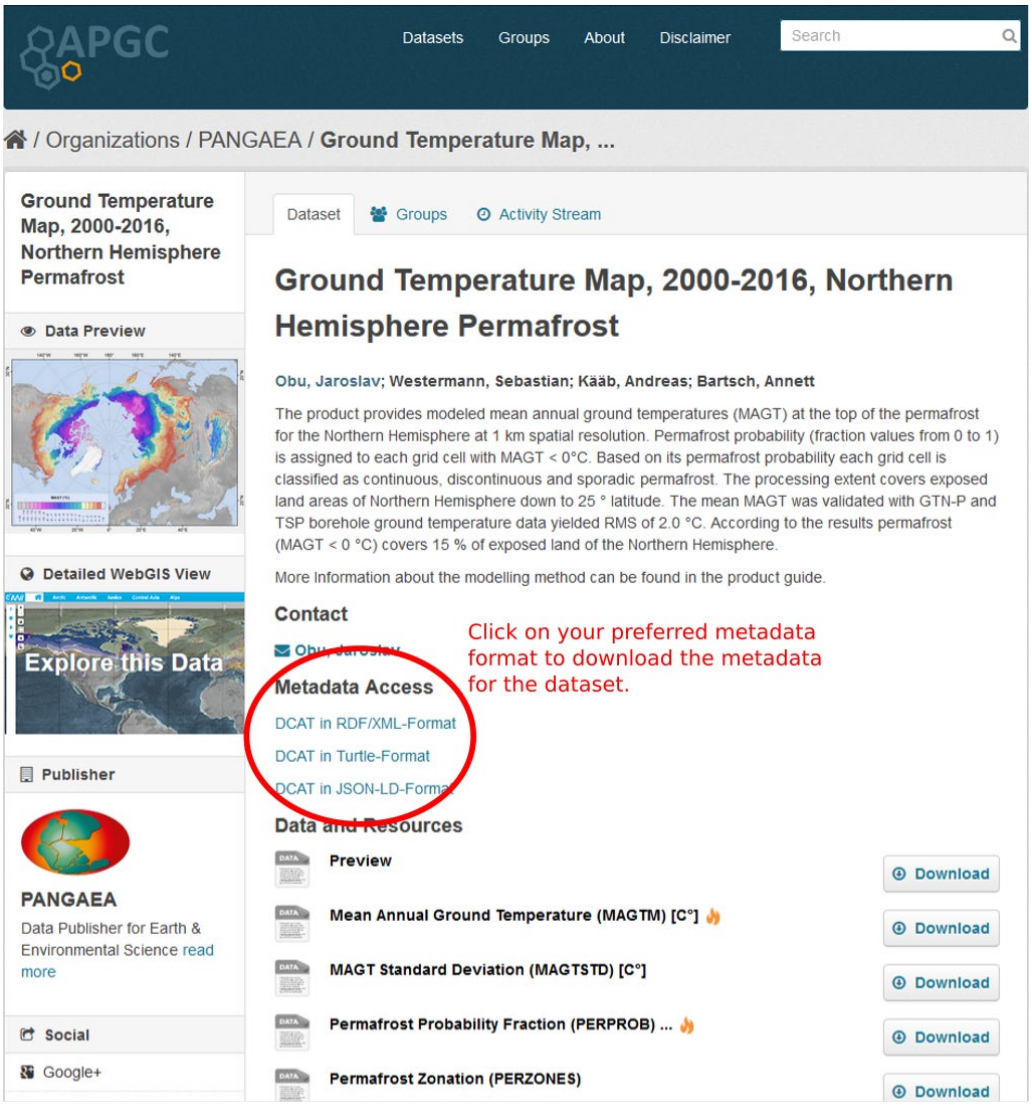
The complete metadata of the dataset can be downloaded in the section “Metadata Access”. The metadata can be downloaded in different formats:

RDF/XML, Turtle and JSON-LD

These are three different DCAT (Data Catalog Vocabulary) RDF (Resource Description Framework) serialization formats. DCAT is "an RDF vocabulary designed to facilitate interoperability between data catalogs published on the Web". More information can be found on the DCAT W3C page.

APGC Dataset metadata in JSON-Format

This is a full JSON representation of the dataset including corresponding resources and groups using the CKAN API.



Print the dataset site information

It is possible to print (e.g. as PDF) the pages of the datasets with the metadata contents.

For technical reasons, it may happen that the citation data is not completely displayed in the print. In case you use the data, please inform yourself about the correct Citation for this dataset, shown on this page.

CITE DATA

Data Product Citation Policy

To acknowledge the scientists who have created and shared data products, you should include a bibliographic citation to all data products that you use in your publications. Proper citations, including the authors, title, publisher, and DOI, will help others find and re-use the data.

The proper citation for each APGC dataset is provided on the dataset entry page under “Citation”. If the data was published by PANGAEA 3 citation formats are provided: Text Citation, BibTeX Citation and RIS Citation. Just click the provided buttons to download the citation.

Some of the data is supplement to a publication. In this case, please also cite the publication. The publication can be reached under "Data and Resources" or/and is listed in “Additional Info” under “Is Supplement To”.

If you have questions about how to cite APGC data products or services, please contact the APGC team at apgc@awi.de.

Citation Example

Dataset

Duguay, Claude R; Soliman, Aiman; Hachem, Sonia; Saunders, William (2014): Circumpolar and regional Land Surface Temperature (version 2) with links to geotiff images (2007-01 to 2013-12). University of Waterloo, Canada, PANGAEA, https://doi.org/10.1594/PANGAEA.836729

INDEX and/or FAQ

Where is the data stored?

Data is stored in external data repositories, for example:

https://pangaea.de: The information system PANGAEA is operated as an Open Access library aimed at archiving, publishing and distributing georeferenced data from earth system research. The system guarantees long-term availability of its content through a commitment of the hosting institutions.

https://arcticdata.io/: The NSF Arctic Data Center is the primary data and software repository for the Arctic section of the National Science Foundation's Office of Polar Programs.

https://bolin.su.se: The Bolin Centre Database is a repository for data and source code collected and collated at the Bolin Centre for Climate Research. The data and code are available with open access and can be used under the terms given in each case. The goal is to host all datasets produced within the Bolin Centre, to visualise the data and make the data publicly available.

How do I cite data?

When using data in your research or for presentation purposes you must cite data like you would cite any other publication (articles, books etc.).

All data in the APGC has been published in a data repository and assigned a DOI (Digital Object Identifier). A **DOI name** is guaranteed to never change, so you can use it to link permanently to datasets or documents. **If you cite datasets, use the full citation provided in different formats under "Citation"** *(see Figure 5)* **and add this link as a persistent reference.**

How do I enter data into the catalogue?

You cannot enter data into the catalogue on your own. However, you can send us an e-mail to **apgc@awi.de** and we will check whether your data meets the APGC requirements. In case your data is accepted into the catalogue, we are happy to enter your data free of cost.