

APGC Help Documentation



Edited by Dr. Sina Muster & Sebastian Laboor

Version 1.0
09.10.2018

| | |
|---|-----------|
| APGC Help Documentation | 1 |
| SEARCH DATASETS | 3 |
| SIMPLE SEARCH | 3 |
| Search by keyword | 3 |
| Search by map | 3 |
| Search by filter | 3 |
| Browse data sets | 3 |
| Search options on the APGC start page | 4 |
| Search options on the APGC dataset page | 5 |
| ADVANCED SEARCH | 5 |
| Example Search Queries | 6 |
| Search for words and phrases | 6 |
| Searching using wildcards | 6 |
| Search for values in a specified range | 7 |
| Searching using additional search options | 7 |
| Field Names | 8 |
| DOWNLOAD DATA | 9 |
| Download data | 9 |
| METADATA | 10 |
| Title | 10 |
| Abstract | 11 |
| Product guides | 11 |
| Additional Info | 11 |
| Download metadata | 12 |
| CITE DATA | 13 |
| INDEX and/or FAQ | 15 |
| Where is the data stored? | 15 |
| How do I cite data? | 15 |
| How do I enter data into the catalogue? | 15 |

For further assistance please do not hesitate to contact us:

- [Dr. Sina Muster](#)
- [Sebastian Laboor](#)

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.

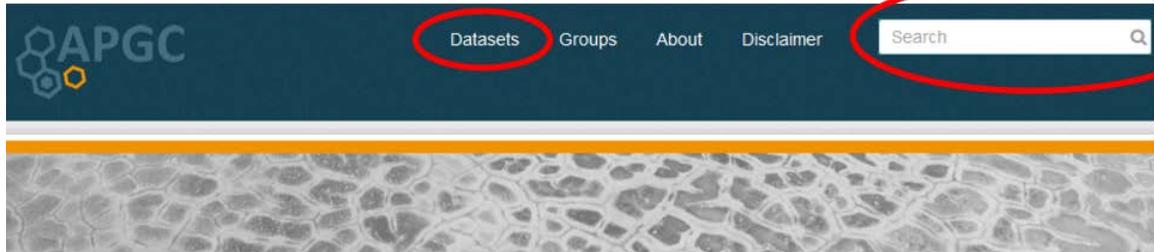
Browse data sets

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

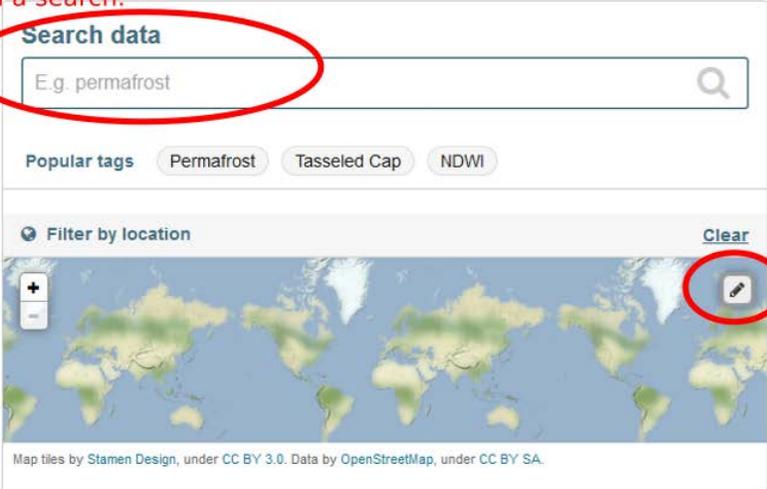
Search options on the APGC start page

Click here to browse all datasets.

Type any keyword here and launch a search.



Type any keyword here and launch a search.



Click here to draw a rectangle over your area of interest.

Figure 1

Search options on the APGC dataset page

The screenshot shows the APGC Datasets page. At the top right, a search bar is circled in red with the text "Type any keyword here and launch a search." Below the search bar, the page title "Datasets" is followed by a red circle around a magnifying glass icon with the text "Click here to draw a rectangle over your area of interest." To the left, a map of Asia is shown with a red circle around a rectangle-drawing tool icon and the text "Click on any filters here to narrow your search." In the center, a search box labeled "Search datasets..." is circled in red with the text "Type any keyword here and launch a search." Below the search box, the text "154 datasets found" is displayed. On the left side, there are filter sections for "Regions" and "Products". The "Regions" section lists "Western Siberia (35)", "Alaska (32)", and "Eastern Siberia (17)", with a "Show More Regions" link. The "Products" section lists "Land Surface Change (71)", "Land Surface Temper... (29)", and "Vegetation Height (11)", with a "Show More Products" link. Below these, there is a "Sensors" section. On the right side, several dataset entries are listed, each with a title, description, and download options (e.g., PNG, Geotiff, PDF, SHP).

Figure 2

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 (<i>of resources</i>) | res_format |
| Groups (<i>Projects</i>) | groups |

Table 1

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*

APGC

Datasets Groups About Disclaimer Search

/ Organizations / PANGAEA / Ground Temperature Map, ...

Ground Temperature Map, 2000-2016, Northern Hemisphere Permafrost

Dataset Groups Activity Stream

Ground Temperature Map, 2000-2016, Northern Hemisphere Permafrost

Obu, Jaroslav; Westermann, Sebastian; Käab, 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 $MAGT < 0^{\circ}C$. 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 $2.0^{\circ}C$. According to the results permafrost ($MAGT < 0^{\circ}C$) covers 15 % of exposed land of the Northern Hemisphere.

More information about the modelling method can be found in the product guide.

Contact

Obu, Jaroslav

Metadata Access

DCAT in RDF/XML-Format
DCAT in Turtle-Format
DCAT in JSON-LD-Format

Data and Resources

Preview

Mean Annual Ground Temperature (MAGTM) [$^{\circ}C$] 🔥

MAGT Standard Deviation (MAGTSTD) [$^{\circ}C$]

Permafrost Probability Fraction (PERPROB) ... 🔥

Permafrost Zonation (PERZONES)

Download
Download
Download
Download
Download

Click on the download button to download data.

Figure 3

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](#).

Ground Temperature Map, 2000-2016, Northern Hemisphere Permafrost

Obu, Jaroslav; Westermann, Sebastian; Käab, 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 $MAGT < 0^{\circ}C$. 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 $2.0^{\circ}C$. According to the results permafrost ($MAGT < 0^{\circ}C$) covers 15 % of exposed land of the Northern Hemisphere.

More Information about the modelling method can be found in the product guide.

Contact
 Obu, Jaroslav

Metadata Access

- DCAT in RDF/XML-Format
- DCAT in Turtle-Format
- DCAT in JSON-LD-Format

Data and Resources

| Preview | Download |
|--|----------|
| Mean Annual Ground Temperature (MAGTM) [$^{\circ}C$] | Download |
| MAGT Standard Deviation (MAGTSTD) [$^{\circ}C$] | Download |
| Permafrost Probability Fraction (PERPROB) ... | Download |
| Permafrost Zonation (PERZONES) | Download |

Figure 4

CITE DATA

You must cite all data sets you use in your research.

Citation for each data set is provided under the abstract.

Some the data is supplement to a publication. In this case, please also cite the publication. The publication can be downloaded under "Data and Resources".

The screenshot shows the APGC website interface for the 'Permafrost Region Pond and Lake Database (PeRL)'. The page is organized into several sections:

- Navigation:** Datasets, Groups, About, Disclaimer, and a search bar.
- Header:** Organizations / PANGAEA / Permafrost Region Pond and ...
- Dataset Info:** Permafrost Region Pond and Lake Database (PeRL) with tabs for Dataset, Groups, Activity Stream, and a Manage button.
- Description:** A paragraph detailing the dataset's scope, including modern (2002-2013) and historical (1948-1955) imagery, and its focus on environmental conditions and permafrost zones.
- Citation:** A section titled 'Citation' with the instruction: 'In order to use these data, you must cite this data set with the following citation:'. Below this are three buttons: 'Text Citation', 'BibTeX Citation', and 'RIS Citation'. A red circle highlights these buttons.
- Contact:** Information for 'Muster, Sina'.
- Metadata Access:** Links to download metadata in various formats: DCAT in RDF/XML-Format, DCAT in Turtle-Format, DCAT in JSON-LD-Format, and APGC Dataset Metadata in JSON-Format.
- Data and Resources:** A list of data items with 'Download' buttons:
 - Preview
 - PeRL_permafrost_landscapes (Zipped PeRL_permafrost_landscapes shapefiles from doi:10.1594/PANGAEA.660349)
 - PeRL_study_areas (Zipped PeRL_study_areas shapefiles from doi:10.1594/PANGAEA.660349)
 - PeRL_waterbodymaps (Zipped PeRL_waterbodymaps shapefiles from doi:10.1594/PANGAEA.660349)
- Product Guide:** A section with a 'Download' button.
- Publication:** A section titled 'Publication this dataset is a supplement to' with a 'Download' button. A red circle highlights this button.

You can copy and paste the citation of the dataset in the text field.
Or you can download the citation in different formats by clicking on the buttons.

This data set is supplement to a publication. Download the publication and also cite it when you use the data in your research.

Figure 5

INDEX and/or FAQ

Where is the data stored?

Data is stored in external data repositories:

<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.

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” 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.