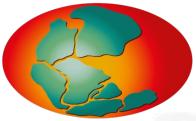


PANGAEA.

Data Publisher for Earth & Environmental Science

Data Science in Environmental Science and Oceanography with R and Python

Diren Senger, Kathrin Riemann-Campe,
Maren Rebke & Dana Ransby



Who are you?



Please let us know about yourself

- What is your background?
- What are your expectations?
 - Have you shared your own data?
 - Have you reused data by others?
 - Have you got experiences with any data repository?



Agenda - Day 1: PANGAEA and R & Python basics

Aug 20th	Topic	Presenter
10:00	Round of introductions (20 min)	all including participants
10:00	Intro PANGAEA, data repos (20 min)	DR
10:20	How to find and use data from PANGAEA (15 mins)	KRC
10:35	Quiz (10 min)	KRC
10:45	How to download datasets (10 min)	KRC
10:55	Questions I (10 min)	KRC & DR
11:05	break	
11:15	Intro to PANGAEA packages and tokens (20-25 min)	DR
11:35	Questions II (10min)	DR & KRC
11:45	Lunch break	
02:00	basics R and python	DS
04:30	end of day 1	

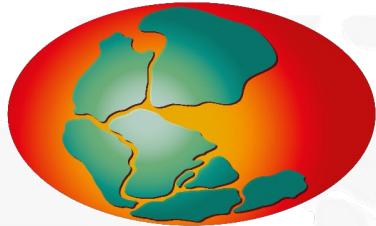


Agenda - Day 2: Getting data from PANGAEA und Data Cleaning

Aug 21st	Topic	Presenter
09:00	Downloading and manipulating PANGAEA data in R - in brief	DR
09:45	Minibreak	
09:50	Downloading and manipulating PANGAEA data in Python (100 min including bio break after 45 min)	KRC
12:30	Lunch break	
02:00	Data Cleaning in python	KRC
03:40	Data Cleaning in R	DS
04:30	end of day 2	

Agenda - Day 3: Plotting und Statistics

Aug 22nd	Topic	Presenter
09:00	Intro and Cleaning of Penguin data set, Plotting & Statistics	DS & MR
12:30	Lunch break	
02:00	Markdown & time for open Questions	all
04:30	end of day 3	

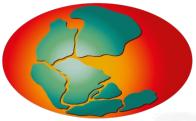


PANGAEA.

Data Publisher for Earth & Environmental Science

PANGAEA and other scientific data repositories

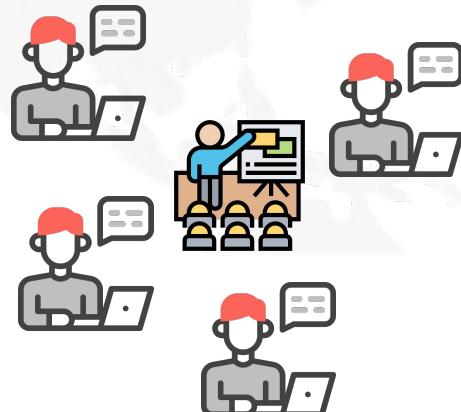
Dana Ransby, Kathrin Riemann-Campe
and PANGAEA training team

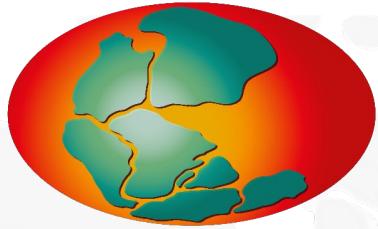


Overview



1. Introduction to PANGAEA
2. How to find data in PANGAEA
 - a. How to find the right datasets
 - b. How to download datasets
3. How to use the tools
 - a. PANGAEAR
 - b. PANGAEAp

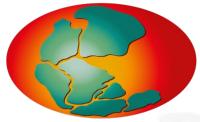




PANGAEA.

Data Publisher for Earth & Environmental Science

Introduction to PANGAEA

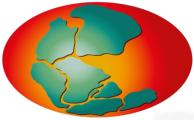


Overview

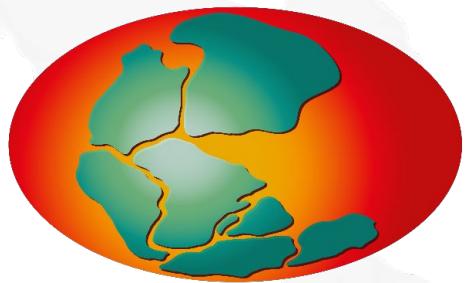


Introduction to PANGAEA

- a. What is PANGAEA
- b. Why publishing data

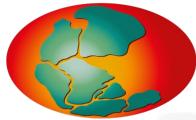


What is PANGAEA



PANGAEA.

Data Publisher for Earth & Environmental Science



PANGAEA data publisher



- Information system for long-term archival and publication of scientific data
- Established ± 30 years ago
- Hosted by:

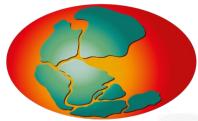


Welcome to PANGAEA® Data Publisher

Our services are open for archiving, publishing, and distributing georeferenced data from earth system research. The World Data Center PANGAEA is a member of the World Data System.

ALL TOPICS

CHEMISTRY (73395)	LITHOSPHERE (50159)	BIOLOGICAL CLASSIFICATION (34212)	ATMOSPHERE (31652)	PALEONTOLOGY (26839)
OCEANS (22227)	ECOLOGY (20791)	LAND SURFACE (8424)	BIOSPHERE (4563)	GEOPHYSICS (4162)



PANGAEA data publisher



- Information system for long-term archival and publication of scientific data
- Established ± 30 years ago
- Hosted by:



Welcome to PANGAEA® Data Publisher

Our services are open for archiving, publishing, and distributing georeferenced data from earth system research. The World Data Center PANGAEA is a member of the World Data System.

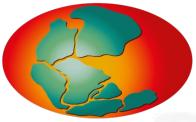
ALL TOPICS

Search for measurement type, author name, project, taxa, ...

 CHEMISTRY (73996)	 LITHOSPHERE (50159)	 BIOLOGICAL CLASSIFICATION (34212)	 ATMOSPHERE (31652)	 PALEONTOLOGY (26839)
 OCEANS (22227)	 ECOLOGY (20791)	 LAND SURFACE (8424)	 BIOSPHERE (4563)	 GEOPHYSICS (4162)
 ICE (10000)	 WATER (10000)	 SOIL (10000)	 ORGANISM (10000)	 CLIMATE (10000)

- Accredited:

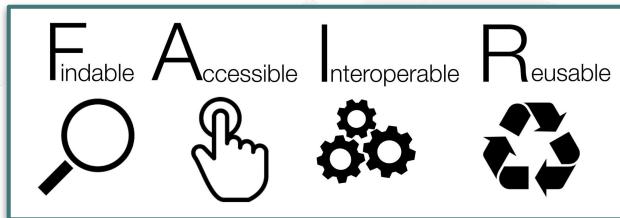
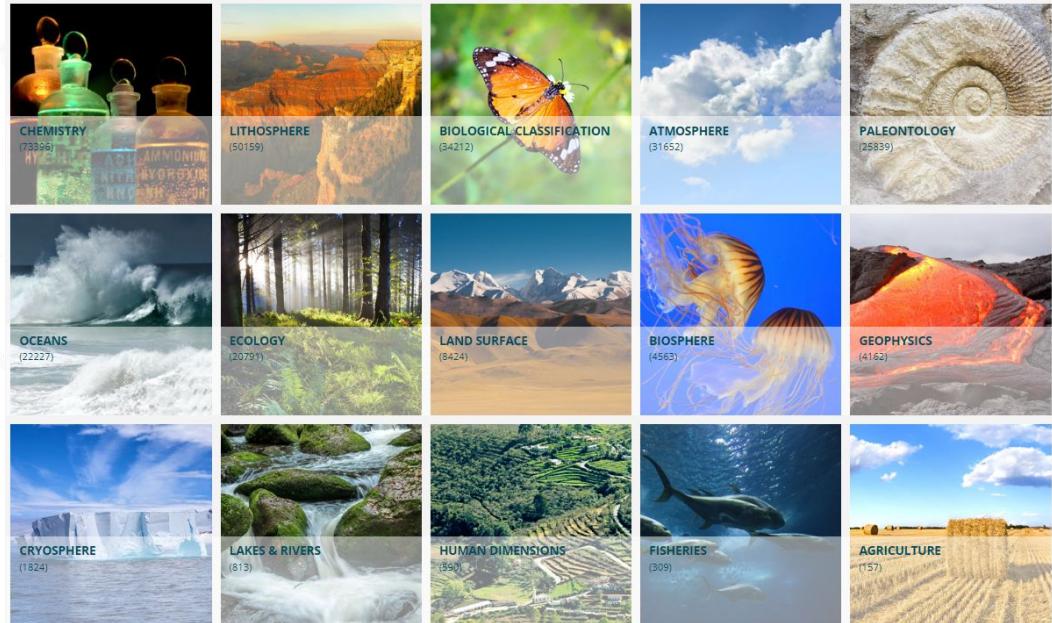




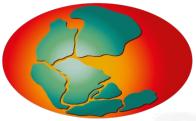
Data variety



- multidisciplinary data
- heterogeneous data types
- quality controlled data via manual review & curation



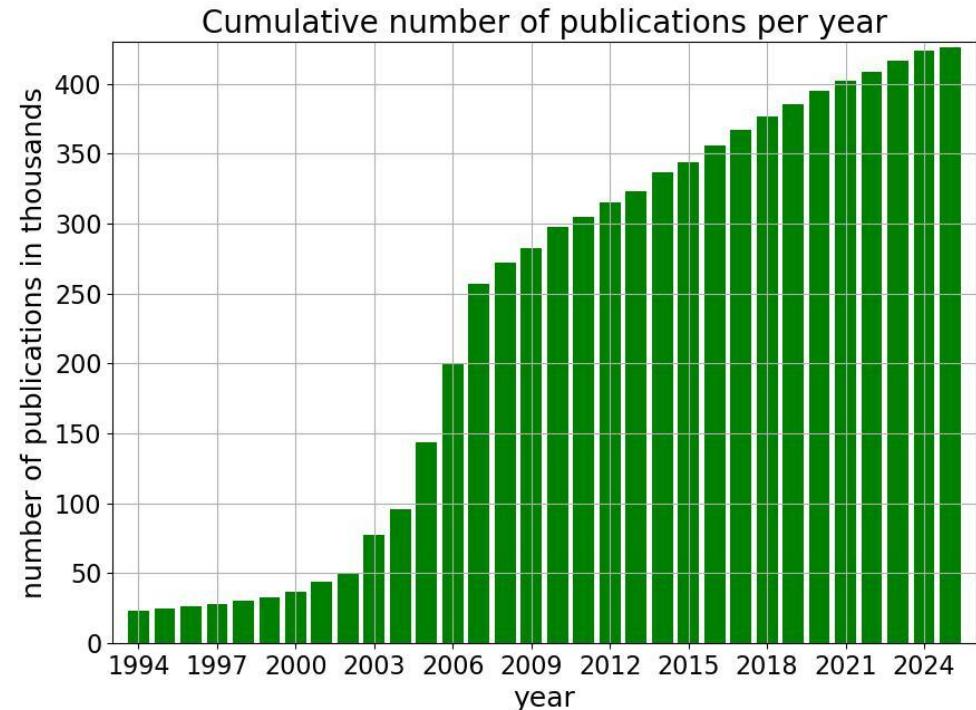
Wilkinson et al.(2016) <https://doi.org/10.1038/sdata.2016.18>

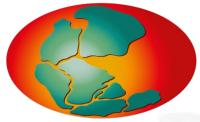


PANGAEA in figures



- > 430.000 datasets
- > 850 projects
- New datasets per year:
~ 10,000





Who is behind PANGAEA?

- Team consists of ...
 - Data editors
 - Scientific project & data managers
 - Software developers
 - Management & coordination
- ...and associated partners

 HELMHOLTZ
ZENTRUM FÜR
UMWELTFORSCHUNG
UFZ

 GEOMAR
Helmholtz Centre for Ocean Research Kiel

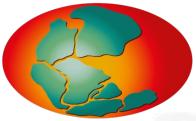
 ZMT
LEIBNIZ-ZENTRUM
für Marine Tropenforschung



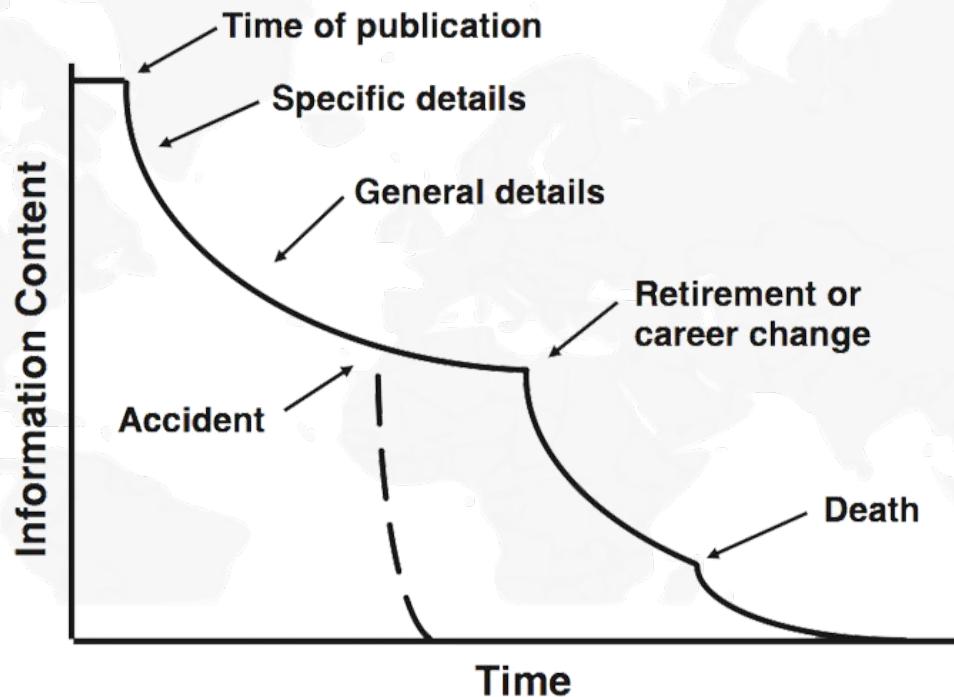
 NIhK
Wilhelmshaven

 ZARM

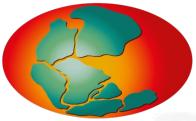




Why publishing data?



Michener, 2006 (orig. 1987), Ecological Informatics, 3-7, <https://doi.org/10.1016/j.ecoinf.2005.08.004>



Why publishing data?



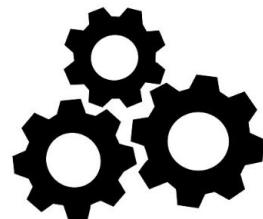
F
indable



A
ccessible



I
nteroperable



R
eusable

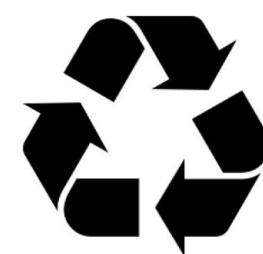
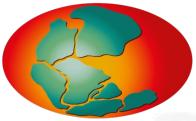


Image credit: FAIR data principles by Sangya Pundir at [Wikimedia Commons](#)



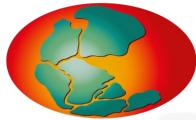
Why publish data FAIR?



Benefits for society:

1. Improves access to research data for people outside academia.
2. Transparency/accessibility strengthens public trust in science.
3. Open data can play a role in guiding governmental policy.
4. Benefits the public purse by reducing repeat work.



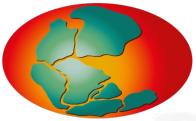


Why publish data FAIR?



Benefits for the research community:

1. Agreement by following the general rules of good scientific practice.
2. Access for reuse and reinterpretation of data is significantly facilitated.
3. New insights can be gained more easily that lead to new research approaches.
4. Empowers the scientific community by allowing the replication of experiments.
5. Avoids/reduces the often expensive duplication of scientific experiments.
6. Improves the robustness and veracity, and thus impact, of research results.
7. Saves researchers from additional expenses by allowing them to use open data.



Why publish data FAIR?



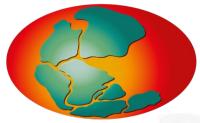
Benefits for the author:

1. Leads to more citations of published research articles (up to 25%)^{1, 2, 3}
2. Cross-referencing to research articles boosts researchers' impact profiles (e.g. Scholix, Data Citation Index).
3. Enhances the visibility and discoverability in the scientific community.
4. Improves the transparency and comprehensibility of research work.
5. Greater recognition and reputation may lead to new collaborations.
6. Improves the transparency and comprehensibility of research work.
7. Expands your range of audience and increases cross-disciplinary interest.
8. Provides others with the means to properly cite your data.
9. Ensures that you receive the credit you deserve for your work.
10. Data authors ≠ Paper authors: Receive credit "only" for data generation and processing.

¹ Colavizza G, et al. (2020) The citation advantage of linking publications to research data. PLOS ONE 15(4): e0230416. <https://doi.org/10.1371/journal.pone.0230416>

² Drachen TM, et al. (2016) Sharing data increases citations. LIBER Quarterly: The Journal of the Association of European Research Libraries, <https://doi.org/10.18352/lq.10149>

³ Piwowar HA, Vision TJ (2013) Data reuse and the open data citation advantage. PeerJ 1:e175 <https://doi.org/10.7717/peerj.175>



Still in doubts about why publishing data?



YouTube DE

Search



Data Sharing and Management Snafu in 3 Short Acts
by Karen Hanson, Alisa Surkis & Karen Yacobucci
NYU Health Sciences Libraries
August 3, 2012 (Last Update: December 12, 2012)



0:00 / 4:40

• ▶ CC ⌂ ⌂ ⌂ ⌂ ⌂

Data Sharing and Management Snafu in 3 Short Acts (Higher Quality)

NYU Health Sciences Library
1.03K subscribers

Subscribe

604



Share



Download



Clip



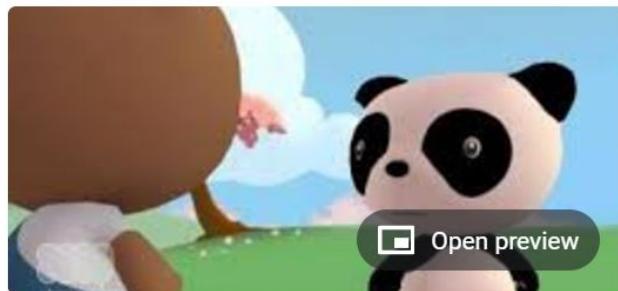
Save



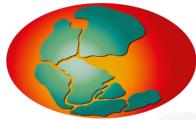
...

https://youtu.be/66oNv_DJuPc

▶ Data Sharing and Manag...
youtu.be



A higher resolution version of the video. A data management horror story by Karen Hanson, Alis...



Why publish data with PANGAEA?



- **Highest FAIRness score of research data repositories in Europe¹**
- **Structured database - dataset comparability/interoperability**
- **Cost-free for the individual scientist (data volume dependent), see ToU**
- **Expert support and quality control of (meta-)data during publication**
- **(Meta-)data access by various data portals and search tools**

¹European Commission, Directorate-General for Research and Innovation, *European Research Data Landscape : final report*, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2777/3648>



What other repositories are there?



re3data.org

Search Browse ▾ Suggest Resources ▾ Contact

<https://www.re3data.org/>

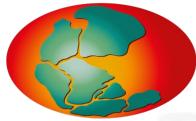
Browse by subject

Graphical

Text

click to zoom into subjects or to select a bottommost subject in the hierarchy as filter for the re3data search page
shift + click on a top subject to select it as filter





Overview



1. Introduction to PANGAEA
2. How to generate FAIR data: submission process of data
 - a. Preparing data prior to PANGAEA => the importance of metadata
 - b. How can python / R help
 - c. Submission and beyond
3. How to use PANGAEA
 - a. How to find the right datasets
 - b. How to download datasets
 - c. How to use the tools: PANGAEAp & PANGEAR



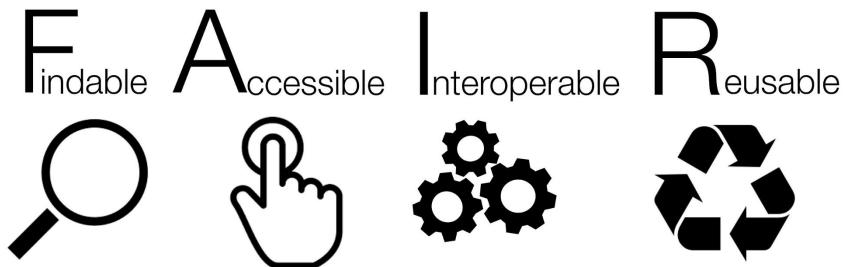


Overview



How to generate FAIR data: submission process of data

- a. Preparing data prior to PANGAEA => the importance of metadata
- b. How can scripting languages help
- c. Submission and beyond





Why is metadata important?



- Metadata: descriptive data about data
- Metadata gives context
- Data without context is useless
- Remember:
 - FAIR



Why is metadata important?



- Metadata: descriptive data about data
- Metadata gives context
- Data with
- Remember

- FAIR

What?

Parameter, unit

Who?

Authors, PI, publication

Where?

Latitude, Longitude
Depth in ice / water / sediment
Altitude

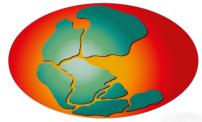
When?

Date/time, age

How?

Method, device

F indable A ccessible I nteroperable R eusable

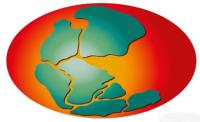



Metadata at different levels



- Single data point: 3.14

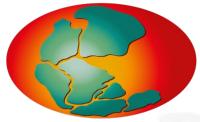




Metadata at different levels



- Single data point: 3.14   
- Time/data series of one parameter: 3.14, 3.26, 4.10   



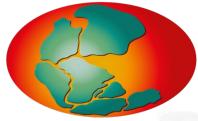
Metadata at different levels



- Single data point: 3.14 
- Time/data series of one parameter: 3.14, 3.26, 4.10
- Data set

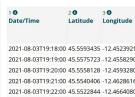
Date/Time	Latitude	Longitude
2021-08-03T19:18:00	45.5059105	-12.4523927
2021-08-03T19:19:00	45.5057223	-12.4508290
2021-08-03T19:20:00	45.5058128	-12.4503280
2021-08-03T19:21:00	45.5040404	-12.4628616
2021-08-03T19:22:00	45.5022844	-12.4664080



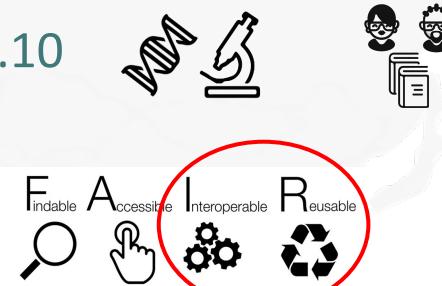


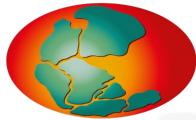
Metadata at different levels



- Single data point: 3.14 
- Time/data series of one parameter: 3.14, 3.26, 4.10
- Data set 


Date/Time	Latitude	Longitude
2021-08-03T19:18:00	45.593945	-12.452392
2021-08-03T19:19:00	45.597223	-12.453620
2021-08-03T19:20:00	45.595818	-12.459320
2021-08-03T19:21:00	45.594048	-12.462961
2021-08-03T19:22:00	45.592884	-12.466408
- Data is searchable on every level in PANGAEA
 - [PANGAEA Data Warehouse](#) [tool for data aggregation in PANGAEA]
 - “Find & access data” PANGAEA Community Workshop in spring

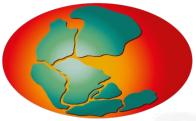




Metadata preparation



- **Data authors** (\neq paper authors): Contributors to collection and processing of data
- **Titles and abstracts** for each dataset (\neq paper, see <https://wiki.pangaea.de/wiki/Abstract>)
- (Preliminary) paper citation & other **references** (incl. DOI)
- **Projects/awards**
- Include separate metadata tables:
 - Multiple abstracts /dataset titles
 - Campaign info and Event table
 - Parameter information (full names, units, PIs, methods, comments)



Cross-Linking



Projects



Researchers

Publications

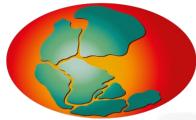
Samples



Sequences

Organisms



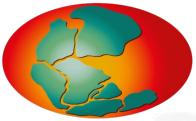


Parameters



- Parameter names: Mix of relevant standard vocabularies (e.g. WoRMS, IUPAC) and community standards
- Complete parameter list:
<https://www.pangaea.de/lists/parameter/all-byname>
- Check out similar datasets in PANGAEA database

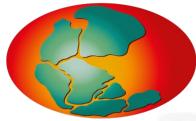
Most important: Full parameter name with unit!



Data preparation



- Preferred format for data tables is **TAB-delimited text files** (UTF-8 encoding) or Excel-format
- **Position(s) (latitude/longitude in decimal degree, WGS84)** must be provided for every sample, observation and measurement carried out anywhere on earth
- Include a third dimension, e.g. water depth, altitude, depth in ice, ...
- **Date/Time** must be provided in the ISO-format (e.g. 1954-12-07T13:34:11) as coordinated universal time (UTC)
- Parameters are always accompanied by a **unit**
- **Event/station ID** as first column
- Explain abbreviations
- Read [Authors guides](#)



Looking for help?



<https://wiki.pangaea.de/>

Help

PANGAEA Wiki

This wiki is a dynamic manual and reference for the data library PANGAEA® - Data Publisher for Earth & Environmental Science. <https://www.pangaea.de/>

The PANGAEA Wiki is operated to support PANGAEA data providers and end-users in archiving, publishing and retrieving data. It is a reference & documentation user-guide for any questions and information related to PANGAEA and its operation. For the details of our data processing and publication please refer and cite our most recent **PANGAEA publication**: Felden, J; Möller, L; Schindler, U; Huber, R; Schumacher, S; Koppe, R; Diepenbroek, M; Glöckner, FO (2023): PANGAEA – Data Publisher for Earth & Environmental Science. *Scientific Data*, 10(1), 347, <https://doi.org/10.1038/s41597-023-02269-x>

PANGAEA IN BRIEF

- About [www](#)
- Terms of use [www](#)
- Privacy Policy [www](#)
- Support/Contact [www](#)
- Team [www](#)

DATA SUBMISSION

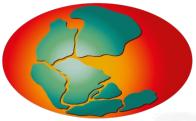
For information on how data submissions to PANGAEA work, what to do and how to prepare your data, please read our [Authors Guides](#) before submitting.

If models were involved in the generation of your data, please read "[Model data and PANGAEA](#)" first.

DATA SEARCH

- PANGAEA Search (also explained in [one of our videos](#))
- PANGAEA XML schema

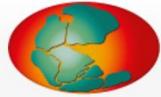
Submission
guidelines,
templates ...



Templates - Information



https://wiki.pangaea.de/wiki/Best_practice_manuals_and_templates



Page Discussion

Read Edit Edit source View history More ▾

Search PANGAEA Wiki



Best practice manuals and templates

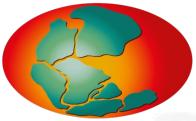
Best practice manuals and templates

Contents [hide]

- 1 Best practice manuals and templates
 - 1.1 About this page
 - 1.2 General field observation studies from earth and environmental sciences
 - 1.3 Specific research domains
 - 1.4 Binary objects

PANGAEA Wiki Home
PANGAEA Wiki Intern
Technical Docs

specials
Recent changes
Tools
What links here
Related changes
Upload file
Special pages
[Printable version](#)



PANGAEA Wiki Home
PANGAEA Wiki Intern
Technical Docs

specials
Recent changes
Tools
What links here
Related changes
Upload file
Special pages
Printable version

Templates - Information

<https://wiki.pangaea.de/index.php?title=Template:Information&oldid=1000>



General field observation studies from earth and environmental sciences [\[edit \]](#) [\[edit source \]](#)

We recommend the following template for authors wishing to submit data for studies that do not fall within the more specific research areas listed below.

[Generic spreadsheet template for field observation data \(xlsx-file including detailed instructions\)](#)

[Generic text-file template for field observation data \(zipped tab separated text files. Please see instruction file 0_README.md first!\)](#)

Specific research domains [\[edit \]](#) [\[edit source \]](#)

[Biological data](#)

[Chemical data](#)

[Geological data](#)

[Geophysical data](#)

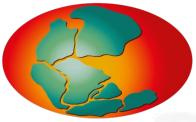
- Multibeam echosounder data (incl. SVP, MBES water column data) & Side-scan sonar data & bathymetry model data ([Bathymetry](#))
- Sediment echosounder data (e.g. Atlas Parasound P70 echosounder data) ([Sediment_echosounder](#))

[Meteorological data](#)

[Eddy-Covariance-Measurement Systems](#)

[Oceanography data](#)

- ADCP Underway Data
- Bio-optical Sensors Underway Data
- CTD Data
- CTD Underway Data
- Ferrybox Underway Data
- TSG Underway Data



Templates - Information

https://wiki.pangaea.de/wiki/Best_practice_manuals_and_templates



A

1 General information concerning data submissions to PANGAEA

2

3 Please follow our Authors Guides (https://wiki.pangaea.de/wiki/Data_submission)

4

5 Submit data early on, ideally before manuscript submission.

6

7 Submit your data here: <https://pangaea.de/submit/>

8

9 Provide detailed metadata, because PANGAEA data publications are generally publications that stand on their own.

10

11 Please fill in and submit the campaign, events, parameters and data table included in this template.

12

13 If applicable, attach the cruise report of associated research campaigns to your submission.

14

15 Each submitted data table requires one unique title and abstract. Please use the "File description" box of the submission form to provide multiple titles and abstracts if you wish to archive multiple data tables. For more information see: <https://pangaea.de/Abstract>

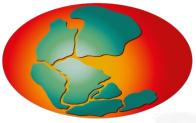
16

17 To increase citability and allowing the cross-link between data and journal publication, cite the data in your article publication as part of the reference list, including the DOI, e.g. as "Roe, J; Doe, J R (2023): Macro and megafauna abundance during the WARM Arctic expedition in summer 2020 counted using drones. PANGAEA, <https://doi.org/10.1594/PANGAEA.11100>"

18

Info Campaign Event table Parameter table Data table (+)

from generic
template for field
observation data



Exercise - Data quality



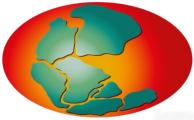
bad data example @ All participants



Supp. Table 1: Occurrences DS												
date	time	Loc	Status	species	rep	lat	lon	depth	temperature (degC)			
06/11/2017	21:00:00	Darßer Schwelle, Baltic Sea	NT	Tursiops truncatus		69.2999999999999	11.5	-999.9	0.506060007521434 uc			
01/16/2014	00:00:00	Darßer Schwelle, Baltic Sea	EN	Dolphinus delphis		69.4	12	2	0.644672325010694 Net inv			
10/26/2016	17:00:00	Darßer Schwelle, Baltic Sea	EX	Stenella coeruleoalba		69.5	12.5	2.5	0.0262481222464713			
06/19/2019	10:00:00	Darßer Schwelle, Baltic Sea	LC	Tursiops truncatus		69.6	13	3	0.311043600610471			
07/27/2020	23:00:00	Darßer Schwelle, Baltic Sea	NT	Dolphinus delphis		69.7	13.5	3.5	0.19955725196179			
09/03/2021	11:00:00	Darßer Schwelle, Baltic Sea	EN	Stenella coeruleoalba		69.8	14.4	0.0	0.788836096519665 damage			
11/14/2018	07:00:00	Darßer Schwelle, Baltic Sea	EX	Tursiops truncatus		69.8999999999999	14.54,5		0.821811667471946 est.			
05/22/2015	09:00:00	Darßer Schwelle, Baltic Sea	LC	Dolphinus delphis		70	15.0		0.127208415727943			
08/22/2018	11:00:00	Darßer Schwelle, Baltic Sea	NT	Stenella coeruleoalba		70.1	15.5	5.5	0.87988699260649 eval			
06/04/2020	17:00:00	Darßer Schwelle, Baltic Sea	EN	Tursiops truncatus		70.199999999999	16	6	0.718719014089298			
11/08/2020	17:00:00	Darßer Schwelle, Baltic Sea	EX	Dolphinus delphis		70.299999999999	16.5	6.5	0.444381759022948			
Total sum												
Invertebrae n.c.												
Supp. Table2: Environmental parameter												
date	time	lat/lon (deg)	Station	ph	depth	temperature (degC)	CTD					
07/12/2016	04:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.26	9.7	0.469410207969523					
04/06/2017	09:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.34	9.75n/a						
06/14/2015	19:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.23	9.8	0.802346331811217					
01/05/2017	08:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.15	9.85	0.22680962334534					
01/11/2019	16:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.37	9.9	0.473337906937946					
09/05/2016	07:00:00	53°32'59.9964"N; 8°34'59.9988"E			7.25	9.95n/a						
Mean = 7.266666666666667												
Mean = 0.493443852263305												



<https://app.conceptboard.com/board/cfdt-h1fi-rn0d-59a1-o5pa>

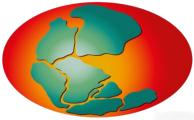


Exercise - Data quality

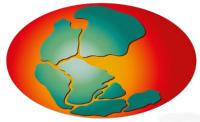


Improvements

- one data table per sheet
- remove table descriptions, markings, plots, statistics, empty rows/columns, additional comments
- header with parameters [units] in one row
- Date/Time in UTC and ISO-format (e.g. 1954-12-07T13:34:11)
- latitude/longitude in decimal degree
- convert NAs to empty cells or refer to detection limit (e.g. <0.01)
- avoid abbreviations
- number of decimal points should relate to the accuracy of the sensor
- decimal separator is “.”
- check for typos, e.g. in species names
- ...



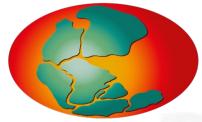
Time for questions



15 minute break



- break
- move to break out sessions

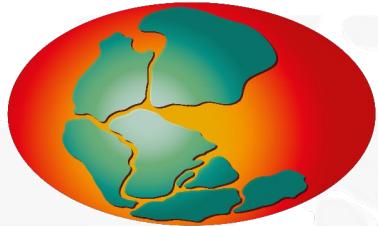


Breakout sessions



Cleaning and preprocessing data in Python

Cleaning and preprocessing data in R

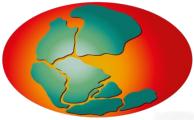


PANGAEA.

Data Publisher for Earth & Environmental Science

How to find and use data from PANGAEA

Kathrin Riemann-Campe



Overview



How to use PANGAEA

- How to find the right datasets => Quiz
- How to download datasets



How to find the right datasets



Several approaches to search the database

- via keywords
- via map
- via geographical coordinates
- specific features



Search via keywords

- start with any keyword in search panel

PANGAEA.
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

Submit Data

ALL TOPICS ▾

TOPICS	LITHOSPHERE	BIOLOGICAL CLASSIFICATION	ATMOSPHERE	PALEONTOLOGY
CHEMISTRY (23343)	LITHOSPHERE (50212)	BIOLOGICAL CLASSIFICATION (34277)	ATMOSPHERE (31691)	PALEONTOLOGY (25568)
OCEANS (22241)	ECOLOGY (20816)	LAND SURFACE (8440)	BIOSPHERE (4585)	GEOPHYSICS (4170)
CRYOSPHERE (1825)	LAKES & RIVERS (817)	HUMAN DIMENSIONS (1592)	FISHERIES (309)	AGRICULTURE (157)

Latest News

2024-01-24 **PANGAEA OPEN POSITION**
 Interested in data management and data infrastructures for your career? PANGAEA is looking for new co-worker!

2024-01-08 **HAPPY NEW YEAR!**
 The PANGAEA Data Editorial Office has returned from holiday season and started processing data submissions on 2024-01-08.
▶ Show all 71 news items...

Featured Data

Anhaus, P; Kettlein, C; Mastro, I et al. (2023): Under-ice environment surveys using a remotely operated vehicle (ROV) during the MOSAIC expedition 2019/20
doi: <https://doi.org/10.1594/PANGAEA.951077>

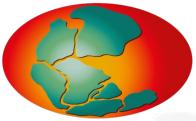
Matevski, D; Glathorn, J; Foltran, EC (2022): Leaf damage data on European beech leaves from saplings and mature trees from Lower Saxony, Germany in 2019
doi: <https://doi.org/10.1594/PANGAEA.949421>

Zabel, M (2022): Pore water and solid phase data from deep-sea trench sediments
doi: <https://doi.org/10.1594/PANGAEA.947269>

Hopmann, M; Kuznetsov, I; Fang, Y-C et al. (2022): Processed data of CTD buoys 201901 to 201908 as part of the MOSAIC Distributed Network
doi: <https://doi.org/10.1594/PANGAEA.940320>

Dorschel, B; Hehemann, L; Viquerat, S et al. (2022): The International Bathymetric Chart of the Southern Ocean Version 2 (IBCSO v2)
doi: <https://doi.org/10.1594/PANGAEA.937574>

▶ Show all 52 featured data sets...



Search via keywords

- start with any keyword in search panel



Not logged in

SEARCH SUBMIT HELP ABOUT CONTACT

PANGAEA.
Data Publisher for Earth & Environmental Science

Submit Data

ALL TOPICS

MOSAIC

- MOSAIC
- MOSAIC team ECO
- MOSAIC201920_Drift_Winter
- MOSAIC_Arctic_ice_drift_deformation
- @MOSAICPO
- MOSAIC_HELI
- MOSAIC_PO
- MOSAIC_expedition
- MOSAIC-ACA
- MOSAIC-ICE
- MOSAIC201920
- MOSAIC_ATMOS

CHEMISTRY

LITHOSPHERE

OCEANS

ECOLOGY

LAND SURFACE

BIOSPHERE

CRYOSPHERE

LAKES & RIVERS

HUMAN DIMENSIONS

FISHERIES

GEOPHYSICS

AGRICULTURE

HAPPY NEW YEAR!

BACK TO WORK

Show all 71 news items...

Latest News

2024-01-24 **PANGAEA OPEN POSITION** Interested in data management and data infrastructures for your career? PANGAEA is looking for new co-worker!

2024-01-08 **HAPPY NEW YEAR!** The PANGAEA Data Editorial Office has returned from holiday season and started processing data submissions on 2024-01-08.

Featured Data

Anhaus, P; Katilein, C; Matero, I et al. (2023): Under-ice environment surveys using a remotely operated vehicle (ROV) during the MOSAIC expedition 2019/20 <https://doi.org/10.1594/PANGAEA.951077>

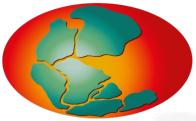
Matevski, D; Glathorn, J; Foltran, EC (2022): Leaf damage data on European beech leaves from saplings and mature trees from Lower Saxony, Germany In 2019 <https://doi.org/10.1594/PANGAEA.949421>

Zabel, M (2022): Pore water and solid phase data from deep-sea trench sediments <https://doi.org/10.1594/PANGAEA.947269>

Hopmann, M; Kuznetsov, I; Fang, Y-C et al. (2022): Processed data of CTD buoys 201901 to 201908 as part of the MOSAIC Distributed Network <https://doi.org/10.1594/PANGAEA.940320>

Dorschel, B; Hehemann, L; Viquerat, S et al. (2022): The International Bathymetric Chart of the Southern Ocean Version 2 (IBCSO v2) <https://doi.org/10.1594/PANGAEA.937574>

Show all 52 featured data sets...



Search via keywords

- start with any keyword in search panel

Not logged in

SEARCH SUBMIT HELP ABOUT CONTACT

PANGAEA.

ALL TOPICS

MOSAiC

X

?

Filter by...

Dataset Author

Nicolaus, Marcel (2178)
Katerin, Christian (2138)
Anhues, Philipp (2037)
Schiller, Martin (1992)
Rohde, Jan (1776)
Regnery, Julia (1775)
Arndt, Stefanie (1761)
Matero, Ilkka (1575)
[more...](#)

Dataset Publication Year

unpublished (126)
 2024 (204)
 2023 (2318)
 2022 (2369)
 2021 (493)
 2020 (88)
 2019 (27)
 2018 (17)
[more...](#)

Topic

Ecology (1345)
Environmental Sciences (1333)
Chemistry (245)
Multidisciplinary Sciences (200)
Organic Chemistry (141)
Atmosphere (110)
Inorganic Chemistry (100)
Lithosphere (78)
[more...](#)

Project

MOSAiC (4126)
 AWI_Seaice (2113)
 FRAM (2014)
 ACS (615)
 ARTofMELT (270)
 iceSense (196)
 meereisportal.de (162)

4764 datasets found on search for »MOSAiC«

< 1 2 3 4 5 6 7 8 9 10 >

1. **Stephens, M (2022):** Beryllium-7 concentrations in snow, ice, seawater, and aerosols during the MOSAiC expedition
Size: 4 datasets

<https://doi.org/10.1594/PANGAEA.945414> - Score: 31.93

2. **Stephens, M (2022):** Beryllium-7 concentrations in seawater during the MOSAiC expedition
Size: 75 data points

<https://doi.org/10.1594/PANGAEA.945403> - Score: 26.75

3. **Moser, M; Voigt, C; Hahn, V (2022):** DLR in-situ cloud measurements during MOSAiC-ACA Arctic airborne campaign
Size: 40 data points

<https://doi.org/10.1594/PANGAEA.940557> - Score: 26.58

4. **Stephens, M (2022):** Beryllium-7 concentrations in ice during the MOSAiC expedition
Size: 187 data points

<https://doi.org/10.1594/PANGAEA.945408> - Score: 26.55

5. **Stephens, M (2022):** Beryllium-7 concentrations in aerosols during the MOSAiC expedition
Size: 98 data points

<https://doi.org/10.1594/PANGAEA.945413> - Score: 26.34

6. **Heinemann, G (2022):** Regional climate model simulations (CCLM 15km) of near-surface variables for the MOSAiC winter period
Related to: Heinemann, G; Scheffczyk, L; Willmes, S et al. (2022): Evaluation of simulations of near-surface variables using the regional climate model CCLM for the MOSAiC winter period. *Elementa - Science of the Anthropocene*

Size: 8 data points

<https://doi.org/10.1594/PANGAEA.944502> - Score: 26.24

7. **Stephens, M (2022):** Beryllium-7 concentrations in snow during the MOSAiC expedition
Size: 1204 data points

<https://doi.org/10.1594/PANGAEA.945412> - Score: 26.03

8. **Solomon, A; Jozef, G (2024):** Coupled Arctic Forecast System (CAFS) forecasts used in study evaluating atmospheric stability with MOSAiC soundings
Related to: Solomon, A; Shupe, MD; Svensson, G et al. (2023): The winter central Arctic surface energy budget: A model evaluation using observations from the MOSAiC campaign. *Elementa - Science of the Anthropocene*

Size: 348 data points

<https://doi.org/10.1594/PANGAEA.964776> - Score: 25.93

9. **Haege, A; Honne, F (2021):** Internal stress raw data (Stress logger HSV4) of sea ice during MOSAiC expedition

Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km

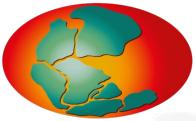
To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the area around your current location. For using the map, select the viewport button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

W E
N S

Clear Apply

Start date: YYYY-MM-DD Clear

End date: YYYY-MM-DD Apply



Search via keywords

- start with any keyword in search panel

Not logged in

SEARCH SUBMIT HELP ABOUT CONTACT

PANGAEA.

ALL TOPICS MOSAIC

Filter by...

4764 datasets found on search for »MOSAiC«

< 1 2 3 4 5 6 7 8 9 10 >

1. Stephens, M (2022): Beryllium-7 concentrations in snow, ice, seawater, and aerosols during the MOSAiC expedition
Size: 4 datasets
<https://doi.org/10.1594/PANGAEA.945414> - Score: 31.93

2. Stephens, M (2022): Beryllium-7 concentrations in seawater during the MOSAiC expedition
Size: 75 data points
<https://doi.org/10.1594/PANGAEA.945403> - Score: 26.75

3. Moser, M; Voigt, C; Hahn, V (2022): DLR in-situ cloud measurements during MOSAiC-ACA Arctic airborne campaign
Size: 40 data points
<https://doi.org/10.1594/PANGAEA.940557> - Score: 26.58

4. Stephens, M (2022): Beryllium-7 concentrations in ice during the MOSAiC expedition
Size: 187 data points
<https://doi.org/10.1594/PANGAEA.945408> - Score: 26.55

5. Stephens, M (2022): Beryllium-7 concentrations in aerosols during the MOSAiC expedition
Size: 98 data points
<https://doi.org/10.1594/PANGAEA.945413> - Score: 26.34

6. Heinemann, G (2022): Regional climate model simulations (CCLM 15km) of near-surface variables for the MOSAiC winter period
Related to: Heinemann, G; Schefczyk, L; Willmes, S et al. (2022): Evaluation of simulations of near-surface variables using the regional climate model CCLM for the MOSAiC winter period. *Elementa - Science of the Anthropocene*
Size: 8 data points
<https://doi.org/10.1594/PANGAEA.944502> - Score: 26.24

7. Stephens, M (2022): Beryllium-7 concentrations in snow during the MOSAiC expedition
Size: 1204 data points
<https://doi.org/10.1594/PANGAEA.945412> - Score: 26.03

8. Solomon, A; Jozef, G (2024): Coupled Arctic Forecast System (CAFS) forecasts used in study evaluating atmospheric stability with MOSAiC soundings
Related to: Solomon, A; Shupe, MD; Svensson, G et al. (2023): The winter central Arctic surface energy budget: A model evaluation using observations from the MOSAiC campaign. *Elementa - Science of the Anthropocene*
Size: 348 data points
<https://doi.org/10.1594/PANGAEA.964776> - Score: 25.93

9. Haase, A; Honne, F (2021): Internal stress raw data (Stress logger HSV4) of sea ice during MOSAiC expedition

Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km Terms

To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the viewport button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

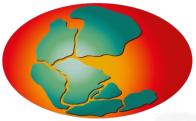
N E

W S

Clear S Apply

Start date: YYYY-MM-DD Clear

End date: YYYY-MM-DD Apply



Search via keywords

- start with any keyword in search panel
- refine with facet filter

PANGAEA.

SEARCH SUBMIT HELP ABOUT CONTACT

Filter by...

Dataset Author

Nicolaus, Marcel (1903)
Katlein, Christian (1867)
Rohde, Jan (1776)
Regnery, Julia (1775)
Anhaus, Philipp (1767)
Arndt, Stefanie (1760)
Matero, Ilkka (1757)
Lange, Benjamin Allen (1744)
more...

Dataset Publication Year

unpublished (14)
 2024 (69)
 2023 (2163)
 2022 (1355)
 2021 (447)
 2020 (76)
 2019 (2)

Topic

Ecology (1144)
Environmental Sciences (1144)
Chemistry (190)
Multidisciplinary Sciences (183)
Organic Chemistry (115)
Atmosphere (89)
Inorganic Chemistry (76)
Geosciences, Multidisciplinary (35)

Project

MOSAiC (4126)
 AWI_Seaice (2113)
 Photo cor (14)
 AC3 (65)
 ARIFORMELT (270)
 iceSense (196)
 meeressportal.de (162)
 HAVOC (56)
more...

ALL TOPICS MOSAIC

4126 datasets found on search for »MOSAiC« with facet filters

< 1 2 3 4 5 6 7 8 9 10 >

1. Stephens, M (2022): Beryllium-7 concentrations in snow, ice, seawater, and aerosols during the MOSAiC expedition
Size: 4 datasets
<https://doi.org/10.1594/PANGAEA.945414> - Score: 31.93

2. Stephens, M (2022): Beryllium-7 concentrations in seawater during the MOSAiC expedition
Size: 75 data points
<https://doi.org/10.1594/PANGAEA.945403> - Score: 26.75

3. Moser, M; Voigt, C; Hahn, V (2022): DLR in-situ cloud measurements during MOSAiC-ACA Arctic airborne campaign
Size: 40 data points
<https://doi.org/10.1594/PANGAEA.940557> - Score: 26.58

4. Stephens, M (2022): Beryllium-7 concentrations in ice during the MOSAiC expedition
Size: 187 data points
<https://doi.org/10.1594/PANGAEA.945408> - Score: 26.55

5. Stephens, M (2022): Beryllium-7 concentrations in aerosols during the MOSAiC expedition
Size: 98 data points
<https://doi.org/10.1594/PANGAEA.945413> - Score: 26.34

6. Heinemann, G (2022): Regional climate model simulations (CCLM 15km) of near-surface variables for the MOSAiC winter period
Related to: Heinemann, G; Schefczyk, L; Willmes, S et al. (2022): Evaluation of simulations of near-surface variables using the regional climate model CCLM for the MOSAiC winter period. *Elementa - Science of the Anthropocene*
Size: 8 data points
<https://doi.org/10.1594/PANGAEA.944502> - Score: 26.24

7. Stephens, M (2022): Beryllium-7 concentrations in snow during the MOSAiC expedition
Size: 1204 data points
<https://doi.org/10.1594/PANGAEA.945412> - Score: 26.03

8. Haase, A; Hoppe, F (2021): Internal stress raw data (Stress Logger HSV4) of sea ice during MOSAiC expedition, legs 1, 2 and 3
Size: 334 data points
<https://doi.org/10.1594/PANGAEA.926496> - Score: 25.82

9. Li, T; Zhu, J; Zhai, L (2021): Drift Towing Ocean Profiler (DTOP) data on sea ice, meteorological conditions and drift of sea ice from buoy 2019V5, deployed during MOSAiC 2019/20

SHOW MAP GOOGLE EARTH DATA WAREHOUSE

Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km Terms

To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the viewpoint button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

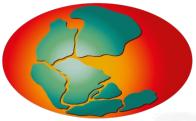
N E

W S

Clear Apply

Start date: YYYY-MM-DD Clear

End date: YYYY-MM-DD Apply



Search via keywords

- start with any keyword in search panel
- refine with facet filter
 - some filters can be checked and unchecked: e.g. “Project”



PANGAEA.

[ALL TOPICS](#) [MOSAiC](#)

[SEARCH](#) [SUBMIT](#) [HELP](#) [ABOUT](#) [CONTACT](#)

Filter by...

Dataset Author

- Nicolaus, Marcel (1903)
- Katlein, Christian (1867)
- Rohde, Jan (1776)
- Regnery, Julia (1775)
- Anhaus, Philipp (1767)
- Arndt, Stefanie (1760)
- Matero, Ilkka (1757)
- Lange, Benjamin Allen (1744)
- more...

Dataset Publication Year

- unpublished (14)
- 2024 (69)
- 2023 (2163)
- 2022 (1355)
- 2021 (447)
- 2020 (76)
- 2019 (2)

Topic

- Ecology (1144)
- Environmental Sciences (1144)
- Chemistry (190)
- Multidisciplinary Sciences (183)
- Organic Chemistry (115)
- Atmosphere (89)
- Inorganic Chemistry (76)
- Geosciences, Multidisciplinary (35)

Project

- MOSAiC (4126)
- AWI_Seaice (2113)
- Project (214)
- AC3 (65)
- ARTMELT (270)
- iceSense (196)
- meereisportal.de (162)
- HAVOC (56)
- more...

4126 datasets found on search for »MOSAiC« with facet filters

< 1 2 3 4 5 6 7 8 9 10 >

1. Stephens, M (2022): Beryllium-7 concentrations in snow, ice, seawater, and aerosols during the MOSAiC expedition
Size: 4 datasets
<https://doi.org/10.1594/PANGAEA.945414> - Score: 31.93

2. Stephens, M (2022): Beryllium-7 concentrations in seawater during the MOSAiC expedition
Size: 75 data points
<https://doi.org/10.1594/PANGAEA.945403> - Score: 26.75

3. Moser, M; Voigt, C; Hahn, V (2022): DLR in-situ cloud measurements during MOSAiC-ACA Arctic airborne campaign
Size: 75 data points
<https://doi.org/10.1594/PANGAEA.940557> - Score: 26.58

4. Stephens, M (2022): Beryllium-7 concentrations in ice during the MOSAiC expedition
Size: 187 data points
<https://doi.org/10.1594/PANGAEA.945408> - Score: 26.55

5. Stephens, M (2022): Beryllium-7 concentrations in aerosols during the MOSAiC expedition
Size: 98 data points
<https://doi.org/10.1594/PANGAEA.945413> - Score: 26.34

6. Heinemann, G (2022): Regional climate model simulations (CCLM 15km) of near-surface variables for the MOSAiC winter period
Related to: Heinemann, G; Schefczyk, L; Willmes, S et al. (2022): Evaluation of simulations of near-surface variables using the regional climate model CCLM for the MOSAiC winter period. *Elementa - Science of the Anthropocene*
Size: 8 data points
<https://doi.org/10.1594/PANGAEA.944502> - Score: 26.24

7. Stephens, M (2022): Beryllium-7 concentrations in snow during the MOSAiC expedition
Size: 1204 data points
<https://doi.org/10.1594/PANGAEA.945412> - Score: 26.03

8. Haase, A; Hoppe, F (2021): Internal stress raw data (Stress Logger HSV4) of sea ice during MOSAiC expedition, legs 1, 2 and 3
Size: 334 data points
<https://doi.org/10.1594/PANGAEA.926496> - Score: 25.82

9. Li, T; Zhu, J; Zhai, L (2021): Drift Towing Ocean Profiler (DTOP) data on sea ice, meteorological conditions and drift of sea ice from buoy 2019V5, deployed during MOSAiC 2019/20

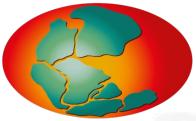
To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of map rose) selects the area around your current location. For using the map, select the viewport button (top-right of map rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km

N
 W E
 Clear S Apply

Start date: YYYY-MM-DD Clear
End date: YYYY-MM-DD Apply



Search via keywords



Not logged in

- start with any keyword in search panel
- refine with facet filter
 - some filters can be checked and unchecked: e.g. “Project”
 - some filters can be selected and removed via upper left hand panel

PANGAEA.

SEARCH SUBMIT HELP ABOUT CONTACT

SHOW MAP GOOGLE EARTH DATA WAREHOUSE

Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km

To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using a map, select the viewport button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

Start date: YYYY-MM-DD Clear End date: YYYY-MM-DD Apply

ALL TOPICS MOSAIC

Filter by...

Arndt, Stefanie x Polarstern x

Dataset Author

- Nicolaus, Marcel (1743)
- Regnery, Julia (1737)
- Krampe, Daniela (1736)
- Matero, Ilkka (1736)
- Katlein, Christian (1731)
- Anhaus, Philipp (1727)
- Rohde, Jan (1724)
- Lange, Benjamin Allen (1722)
- more...

Dataset Publication Year

- unpublished (1)
- 2023 (859)
- 2022 (888)
- 2021 (9)

Topic

- Ecology (1130)
- Environmental Sciences (1130)
- Chemistry (162)
- Organic Chemistry (93)
- Inorganic Chemistry (69)

Project

- MOSAiC (1757)
- MA_Seaice (1728)
- FRAM (1720)
- LA_France (10)
- meeresportal.de (7)
- HAVOC (2)
- SPP1158 (2)
- license (1)

Basis

- Akademik Fedorov (2)

Method/Device

- Remotely operated sensor platform BEAST (1720)
- Hyperpectral radiometer, TriOS Mess- und Datentechnik GmbH, RAMSES (412)
- Acoustic Doppler Current Profiling (ADCP), Nortek Aquadopp 2

1757 datasets found on search for »MOSAiC« with facet filters

< 1 2 3 4 5 6 7 8 9 10 >

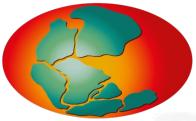
1. Salganik, E; Hoppmann, M; Scholz, D et al. (2023): Temperature and heating induced temperature difference measurements from the sea ice mass balance buoy DTC44 during MOSAiC 2019/2020
Related to: Lei, R; Hutchings, JK; Hoppmann, M et al. (2022): Temperature and heating induced temperature difference measurements from SIMBA-type sea ice mass balance buoy 2020T79, deployed during MOSAiC 2019/20.
Salganik, E; Hoppmann, M; Scholz, D et al. (2023): Temperature and heating induced temperature difference measurements from Digital Thermistor Chains (DTCs) during MOSAiC 2019/2020.
Salganik, E; Hoppmann, M; Scholz, D et al. (2023): Updated positioning of Digital Thermistor Chains (DTCs) during MOSAiC 2019/2020.
Size: 3 datasets
2 datasets
<https://doi.org/10.1594/PANGAEA.962487> - Score: 19.74

2. Nicolaus, M; Arndt, S; Birnbaum, G et al. (2021): Visual panoramic photographs of the surface conditions during the MOSAiC campaign 2019/20
Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 35937 data points
<https://doi.org/10.1594/PANGAEA.938534> - Score: 17.9

3. Nicolaus, M; Anhaus, P; Arndt, S et al. (2022): Spectral radiation fluxes, albedo and transmittance from autonomous measurement from Radiation Station 2020R13, deployed during MOSAiC 2019/20
Size: 5 datasets
<https://doi.org/10.1594/PANGAEA.948891> - Score: 17.23

4. Hoppmann, M; Scholz, D; Arndt, S et al. (2022): Temperature and heating induced temperature difference measurements from the sea ice mass balance buoy DTC26 during MOSAiC 2019/2020
Related to: Granskog, MA; Berge, J; Cottier, F et al. (2021): Temperature and heating induced temperature difference measurements from the sea ice mass balance buoy 2020T61.
Salganik, E; Hoppmann, M; Scholz, D et al. (2023): Temperature and heating induced temperature difference measurements from Digital Thermistor Chains (DTCs) during MOSAiC 2019/2020.
Salganik, E; Hoppmann, M; Scholz, D et al. (2023): Updated positioning of Digital Thermistor Chains (DTCs) during MOSAiC 2019/2020.
Size: 2 datasets
2 datasets
<https://doi.org/10.1594/PANGAEA.951780> - Score: 17.1

5. Anhaus, P; Katlein, C; Matero, I et al. (2023): Nitrate and UV-absorbance spectra from remotely operated vehicle (ROV) surveys during the MOSAiC expedition 2019/20
Related to: Katlein, C; Schiller, M; Belter, HJ et al. (2017): A New Remotely Operated Sensor Platform for Interdisciplinary Observations under Sea Ice. *Frontiers in Marine Science*
Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 71 datasets
<https://doi.org/10.1594/PANGAEA.953490> - Score: 16.68



Search via keywords

- all keywords in search panel are automatically combined with “AND”



Not logged in

PANGAEA.

ALL TOPICS MOSAiC "Arndt, Stefanie" Polarstern "Snow pit"

SEARCH SUBMIT HELP ABOUT CONTACT

Filter by...

Dataset Author
Macfarlane, Amy R (19)
Schneebeli, Martin (19)
Arndt, Stefanie (18)
Jaggi, Matthias (18)
Ogger, Marc (17)
Raphael, Ian (17)
Dadic, Ruzica (16)
Hammerle, Stefan (16)
[more...](#)

Dataset Publication Year
 2022 (14)
 2021 (6)

Topic
Cryosphere (1)

Project
 2022 (20)
 ARICE (17)
 HAVOC (1)
 SPPI158 (1)

Method/Device
Snow pit (19)
Olympus Tough TG-5 Camera (2)
SnowMicroPen (2)
Calculated after Dånsgaard (1964) (1)
Camera, Near-Infrared (1)
Corrected (1)
Garmin GPSmap 62sc (GPS) (1)
ice corer (1)
[more...](#)

Campaign
PS122/2 (18)
PS122/3 (18)
PS122/4 (18)
PS122/5 (18)
PS122/1 (15)

20 datasets found on search for »MOSAiC "Arndt, Stefanie" Polarstern "Snow pit"«

< | 1 | 2 | >

1. Itkin, P; Webster, M; Hendricks, S et al. (2021): Magnaprobe snow and melt pond depth measurements from the 2019-2020 MOSAiC expedition
Size: 12 data points
<https://doi.org/10.1594/PANGAEA.937781> – Score: 58.25

2. Mellat, M; Meyer, H; Brunello, CF et al. (2022): Stable water isotopes of snow during MOSAiC expedition
Size: 2717 data points
<https://doi.org/10.1594/PANGAEA.948511> – Score: 50.35

3. Wagner, DN; Jaggi, M; Macfarlane, AR et al. (2021): Snow water equivalent retrievals from SnowMicroPen data from MOSAiC Leg 1 - Leg 3
Size: 9021 data points
<https://doi.org/10.1594/PANGAEA.927460> – Score: 49.8

4. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2021): Snowpit raw data collected during the MOSAiC expedition
Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 15 datasets
<https://doi.org/10.1594/PANGAEA.935934> – Score: 48.5

5. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit snow water equivalent collected with an ETH tube during the MOSAiC expedition
Size: 29.9 kB/bytes
<https://doi.org/10.1594/PANGAEA.940199> – Score: 43.93

6. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit temperature profiles measured during the MOSAiC expedition
Size: 126.6 kB/bytes
<https://doi.org/10.1594/PANGAEA.940200> – Score: 43.54

7. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snow permittivity measured during the MOSAiC expedition
Size: 38.5 kB/bytes
<https://doi.org/10.1594/PANGAEA.940757> – Score: 42.84

8. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit salinity profiles during the MOSAiC expedition
Size: 5157 data points
<https://doi.org/10.1594/PANGAEA.946887> – Score: 42.12

9. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit metadata TXT files collected during the MOSAiC expedition

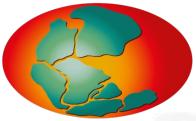
Map Satellite

Google Map data ©2024 Imagery ©2024 NASA 1000 km

To create a new geologic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of map rose) selects the area around your current location. For using the map, select the viewport button (top-right of map rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

N
W E
Clear S Apply

Start date: YYYY-MM-DD End date: YYYY-MM-DD



Search via keywords

- all keywords in search panel are automatically combined with “AND”
- NOTE: usage of search panel needs clear specification to gain same results as facet filter

result:

20 vs. 17

data sets

Not logged in

SEARCH SUBMIT HELP ABOUT CONTACT

PANGAEA.

ALL TOPICS

MOSAiC "Arndt, Stefanie" Polarstern "Snow pit"

x

SEARCH

SUBMIT

HELP

ABOUT

CONTACT

SHOW MAP GOOGLE EARTH DATA WAREHOUSE

Filter by...

Dataset Author

Macfarlane, Amy R (19)
Schneebeli, Martin (19)
Arndt, Stefanie (18)
Jaggi, Matthias (18)
Ogger, Marc (17)
Raphael, Ian (17)
Dadic, Ruzica (16)
Hammerle, Stefan (16)
[more...](#)

Dataset Publication Year

2022 (14)
 2021 (6)

Topic

Cryosphere (1)

Project

MOSAiC (20)
 ARICE (17)
 HAIVOC (1)
 SPUR158 (1)

Method/Device

Snow pit (19)
Olympus Tough TG-5 Camera (2)
SnowMicroPen (2)
Calculated after Dånsgaard (1964) (1)
Camera, Near-Infrared (1)
Corrected (1)
Garmin GPSmap 62sc (GPS) (1)
ice corer (1)
[more...](#)

Campaign

PS122/2 (18)
PS122/3 (18)
PS122/4 (18)
PS122/5 (16)
PS122/1 (15)

20 datasets found on search for »MOSAiC "Arndt, Stefanie"«

< | 1 | 2 | >

1. Itkin, P; Webster, M; Hendricks, S et al. (2021): Magnaprobe snow and melt pond depth measurements from the 2019-2020 MOSAiC expedition
Size: 12 data points
<https://doi.org/10.1594/PANGAEA.937781> - Score: 58.25
2. Mellat, M; Meyer, H; Brunello, CF et al. (2022): Stable water isotopes of snow during MOSAiC expedition
Size: 2717 data points
<https://doi.org/10.1594/PANGAEA.948511> - Score: 50.35
3. Wagner, DN; Jaggi, M; Macfarlane, AR et al. (2021): Snow water equivalent retrievals from SnowMicroPen data from MOSAiC Leg 1 - Leg 3
Size: 9021 data points
<https://doi.org/10.1594/PANGAEA.927460> - Score: 49.8
4. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2021): Snowpit raw data collected during the MOSAiC expedition
Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 15 datasets
<https://doi.org/10.1594/PANGAEA.935934> - Score: 48.5
5. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit snow water equivalent collected with an ETH tube during the MOSAiC expedition
Size: 29.9 kB/bytes
<https://doi.org/10.1594/PANGAEA.940199> - Score: 43.93
6. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit temperature profiles measured during the MOSAiC expedition
Size: 126.6 kB/bytes
<https://doi.org/10.1594/PANGAEA.940200> - Score: 43.54
7. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snow permittivity measured during the MOSAiC expedition
Size: 38.5 kB/bytes
<https://doi.org/10.1594/PANGAEA.940757> - Score: 42.84
8. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit salinity profiles during the MOSAiC expedition
Size: 5157 data points
<https://doi.org/10.1594/PANGAEA.946887> - Score: 42.12
9. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit metadata TXT files collected during the MOSAiC expedition

To create a new geospatial search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the viewpoint button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

Map Satellite

N

E

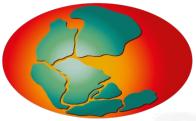
W

S

Clear Apply

Start date: YYYY-MM-DD Clear

End date: YYYY-MM-DD Apply



Search via keywords

PANGAEA.

ALL TOPICS

MOSAiC "Arndt, Stefanie" Polarstern "Snow pit"



20 datasets found on search for »MOSAiC "Arndt, Stefani...«

< 1 2 >

1. Itkin, P; Webster, M; Hendricks, S et al. (2021): Magnaprobe snow and melt pond depth measurements from the 2019-2020 MOSAiC expedition
Size: 12 data points
 <https://doi.org/10.1594/PANGAEA.937781> – Score: 58.25

2. Mellat, M; Meyer, H; Brunello, CF et al. (2022): Stable water isotopes of snow during MOSAiC expedition
Size: 2717 data points
 <https://doi.org/10.1594/PANGAEA.948511> – Score: 50.35

3. Wagner, DN; Jaggi, M; Macfarlane, AR et al. (2021): Snow water equivalent retrievals from SnowMicroPen data from MOSAiC Leg 1 - Leg 3
Size: 9021 data points
 <https://doi.org/10.1594/PANGAEA.927460> – Score: 49.8

4. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2021): Snowpit raw data collected during the MOSAiC expedition
Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 15 datasets
 <https://doi.org/10.1594/PANGAEA.935934> – Score: 48.5

5. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit snow water equivalent collected with an ETH tube during the MOSAiC expedition
Size: 29.9 kBytes
 <https://doi.org/10.1594/PANGAEA.940199> – Score: 43.93

6. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit temperature profiles measured during the MOSAiC expedition
Size: 126.6 kBytes
 <https://doi.org/10.1594/PANGAEA.940200> – Score: 43.54

7. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snow permittivity measured during the MOSAiC



PANGAEA.

ALL TOPICS

Search for measurement type, au...

17 datasets found on search with facet filters

< 1 2 >

Filter by...

Arndt, Stefanie Polarstern Snow pit

Dataset Author

- Jaggi, Matthias (16)
Kolabutin, Nikolai (16)
Krampe, Daniela (16)
Oggier, Marc (16)
Raphael, Ian (16)
Regnery, Julia (16)
Shimanchuk, Egor (16)
Wagner, David N (16)
[more...](#)

Dataset Publication Year

- 2022 (12)
 2021 (5)

Project

- MOSAiC (17)
 ARICE (15)

Method/Device

- Olympus Tough TG-5 Camera (2)
SnowMicroPen (2)
Calculated after Dansgaard (1964) (1)
Camera, Near-InfraRed (1)
Corrected (1)
Garmin GPSmap 62sc (GPS) (1)
Ice corer (1)

1. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2021): Snowpit raw data collected during the MOSAiC expedition
Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.
Size: 15 datasets
 <https://doi.org/10.1594/PANGAEA.935934>

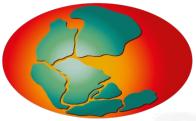
2. Mellat, M; Meyer, H; Brunello, CF et al. (2022): Stable water isotopes of snow during MOSAiC expedition
Size: 2717 data points
 <https://doi.org/10.1594/PANGAEA.948511>

3. Wagner, DN; Jaggi, M; Macfarlane, AR et al. (2021): Snow water equivalent retrievals from SnowMicroPen data from MOSAiC Leg 1 - Leg 3
Size: 9021 data points
 <https://doi.org/10.1594/PANGAEA.927460>

4. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit raw data collected during the MOSAiC expedition
Related to: Mellat, M; Meyer, H; Brunello, CF et al. (2022): Stable water isotopes of snow during MOSAiC expedition
Size: 3510 data points
 <https://doi.org/10.1594/PANGAEA.952556>

5. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snow permittivity measured during the MOSAiC expedition
Size: 5157 data points
 <https://doi.org/10.1594/PANGAEA.946807>

6. Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022): Snowpit temperature profiles measured during the MOSAiC expedition



Search via keywords



keywords in search panel
reflecting facet filter
search

- project:mosaic
- citation:author:"arndt, stefanie"
- basis:polarstern
- method:"snow pit"

help under:

https://wiki.pangaea.de/wiki/PANGAEA_search

PANGAEA.

ALL TOPICS

project:mosaic citation:author:"arndt, stefanie" basis:polarstern method:"snow pit"



17 datasets found on search for »project:mosaic citatio...«

< | 1 | 2 | >

1. **Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2021):** Snowpit raw data collected during the MOSAiC expedition

Related to: Nicolaus, M; Perovich, DK; Spreen, G et al. (2022): Overview of the MOSAiC expedition: Snow and sea ice.

Size: 15 datasets

<https://doi.org/10.1594/PANGAEA.935934> – Download – Score: 59.65

2. **Wagner, DN; Jaggi, M; Macfarlane, AR et al. (2021):** Snow water equivalent retrievals from SnowMicroPen data from MOSAiC Leg 1 - Leg 3

Size: 9021 data points

<https://doi.org/10.1594/PANGAEA.927460> – Download – Score: 51.51

3. **Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022):** Snow permittivity measured during the MOSAiC expedition

Size: 38.5 kBytes

<https://doi.org/10.1594/PANGAEA.940757> – Download – Score: 48.95

4. **Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022):** Snowpit height measurements during the MOSAiC expedition

Size: 33.3 kBytes

<https://doi.org/10.1594/PANGAEA.940215> – Download – Score: 48.81

5. **Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022):** Snowpit snow density cutter profiles measured during the MOSAiC expedition

Size: 68 kBytes

<https://doi.org/10.1594/PANGAEA.940214> – Download – Score: 48.81

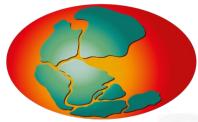
6. **Macfarlane, AR; Schneebeli, M; Dadic, R et al. (2022):** Snowpit surface type observed during the MOSAiC expedition

Size: 24.4 kBytes

Map

Google

To create a
enter coord
around your
right of wind
can also sel
current sea



Help/Documentation



https://wiki.pangaea.de/wiki/Main_Page

PANGAEA Wiki

This wiki is a dynamic manual and reference for the data library **PANGAEA® - Data Publisher for Earth & Environmental Science**. <https://www.pangaea.de/> 

The **PANGAEA Wiki** is operated to support PANGAEA data providers and end-users in archiving, publishing and retrieving data. It is a reference & documentation user-guide for any questions and information related to PANGAEA and its operation.



DATA SEARCH

- [PANGAEA Search](#)
- [PANGAEA XML schema](#)





Search via map

- select map

PANGAEA.
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CC

Not logged in

Welcome to PANGAEA® Data Publisher

Our services are open for archiving, publishing, and distributing georeferenced data from earth system research. The World Data Center PANGAEA is a member of the World Data System.

Submit Data

ALL TOPICS ▾

Search for measurement type, author name, project, taxa,...

TOPIC MAP

LITHOSPHERE (50212) BIOLOGICAL CLASSIFICATION (34277) ATMOSPHERE (31691) PALEONTOLOGY (25885)

HEMISTRY (3431) OCEANS (22241) ECOLOGY (20815) LAND SURFACE (8440) BIOSPHERE (4586) GEOPHYSICS (4170)

CRYOSPHERE (1830) LAKES & RIVERS (317) HUMAN DIMENSIONS (329) FISHERIES (659) AGRICULTURE (751)

Latest News

2024-01-24 PANGAEA OPEN POSITION Interested in data management and data infrastructures for your career? PANGAEA is looking for new co-worker!

2024-01-08 HAPPY NEW YEAR! The PANGAEA Data Editorial Office has returned from holiday season and started processing data submissions on 2024-01-08.

Show all 71 news items...

Featured Data

Anhaus, P; Katselin, C; Mataro, I et al. (2023): Under-ice environment survey using a remotely operated vehicle (ROV) during the MOSAIC expedition 2019/20 <https://doi.org/10.1594/PANGAEA.931077>

Matevski, D; Glathorn, J; Foltran, EC (2022): Leaf damage on European beech leaves from saplings and mature trees from Lower Saxony, Germany in 2019 <https://doi.org/10.1594/PANGAEA.949421>

Zabel, M (2022): Pore water and solid phase data from deep trench sediments <https://doi.org/10.1594/PANGAEA.947269>

Hoppmann, M; Kuznetsov, I; Fang, Y-C et al. (2022): Processed data of CTD buoys 201901 to 201908 as part of the MOSAIC Distributed Network <https://doi.org/10.1594/PANGAEA.940320>

Dorschel, B; Hehemann, L; Viquerat, S et al. (2022): The International Bathymetric Chart of the Southern Ocean Version (IBCSO v2) <https://doi.org/10.1594/PANGAEA.937574>

Show all 52 featured data sets...



Search via map

- select map
- choose region via “mouse over”



Not logged in

PANGAEA.
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

Submit Data

Welcome to PANGAEA® Data Publisher

Our services are open for archiving, publishing, and distributing georeferenced data from earth system research. The World Data Center PANGAEA is a member of the World Data System.

ALL TOPICS Search for measurement type, author name, project, tax...

Map Satellite

TOPICS MAP

Map

Latest News

2024-01-24 PANGAEA OPEN POSITION Interested in data management and data infrastructures for your career? PANGAEA is looking for new co-worker!

2024-01-08 HAPPY NEW YEAR! The PANGAEA Data Editorial Office has returned from holiday season and started processing data submissions on 2024-01-08.

▶ Show all 71 news items...

Featured Data

Anhaus, P; Katilein, C; Matero, I et al. (2023): Under-ice environment surveys using a remotely operated vehicle (ROV) during the MOSAIC expedition 2019/20 <https://doi.org/10.1594/PANGAEA.951077>

Matevski, D; Glathorn, J; Foltran, EC (2022): Leaf damage data on European beech leaves from saplings and mature trees from Lower Saxony, Germany in 2019 <https://doi.org/10.1594/PANGAEA.949421>

Zabel, M (2022): Pore water and solid phase data from deep-sea trench sediments <https://doi.org/10.1594/PANGAEA.947269>

Hoppmann, M; Kurnetsov, I; Fang, Y-C et al. (2022): Processed data of CTD buoys 201901 to 201908 as part of the MOSAIC Distributed Network <https://doi.org/10.1594/PANGAEA.940320>

Dorschel, B; Hehemann, L; Viquerat, S et al. (2022): The International Bathymetric Chart of the Southern Ocean Version 2 (IBCSO v2) <https://doi.org/10.1594/PANGAEA.937574>

▶ Show all 52 featured data sets...



Search via map

- region is applied in facet filter
- further filtering possible

PANGAEA.

SEARCH SUBMIT HELP ABOUT CONTACT

SHOW MAP GOOGLE EARTH DATA WAREHOUSE

Map Satellite

Google

Map data ©2024 Imagery ©2024 NASA 1000 km

To refine a new geographic search coverage, use the buttons and input fields to enter coordinates. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the viewport button (top-right of wind rose) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

Filter by...

North Atlantic Ocean

Dataset Author
Shipboard Scientific Party (6495)
WOCE Sea Level, WSL (5465)
Preller, Erhard (4283)
WOCE Upper Ocean Thermal, IUDT (3603)
García-Herrera, Ricardo (3167)
Jones, Philip D. (3162)
Koek, Frits B (3162)
Wheeler, Dennis A (3162)
more...

Dataset Publication Year
 unpublished (1524)
 2024 (143)
 2023 (933)
 2022 (1059)
 2021 (1236)
 2020 (2009)
 2019 (1675)
 2018 (2317)
more...

Topic
Chemistry (1874)
Organic Chemistry (1580)
Lithosphere (11988)
Geosciences, Multidisciplinary (10597)
Biological Classification (8594)
Inorganic Chemistry (7049)
Atmosphere (6854)
Paleontology (6252)
more...

Project
 WOCE (14116)
 ODP (8986)
 DSDP (5216)
 SOCAT (4923)
 JGCF (4302)
 HISTRA (4283)
 CLIVOC (3162)

86761 datasets found on search with facet filters

< 1 2 3 4 5 6 7 8 9 10 >

1. Carrasco, R.; Horstmann, J.; Brix, H et al. (2024): Surface Drifter Data on the Elbe estuary: Positions of Lagrangian Heron Drifters deployed in German Bight during MOSES 2023
Size: 12 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965882>

2. O'Brien, PJA; Barrenechea Angeles, I; Cermakova, K et al.: Foraminiferal and environmental variable data of Idefjorden (2020) sediment surface samples from stations REF, IF20-12, IF20-10, IF20-18, IF20-01 and IF20-04
Size: 4 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965583>

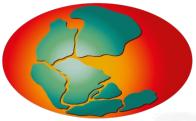
3. Romans, BW; Parent, C; Chilton, K et al. (2024): Terrigenous grain size (sortable silt) and detrital provenance (Hf, Nd, Pb/Pb) data, Eocene-Oligocene, Newfoundland ridges drifts, IODP Sites 342-U1406 and 342-U1411
Size: 5 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965577>

4. Baumann, K-H: Coccolith species abundances in sediment cores 162-984C, 162-980, GeoB11035-1, GeoB5546-2, M35003-4 and GeoB3104-1 from the North Atlantic Ocean for the past 24 ka
Size: 6 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965722>

5. Melbourne, L; Goodkin, NF: Morphological and Density measurements for blue mussels (*Mytilus edulis*) along the east coast of the US
Size: 5 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965715>

6. De Entrambasaguas, J; Westerhold, T; Jones, H: Stable isotopes of benthic foraminifera and calcareous nannofossils from ODP Site 171-1053
Size: 4 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965594>

7. Pieck, D; Hillebrand, H; Kleyer, M et al.: Continuous temperature observations in surface sediment within DynaCom experimental islands and saltmarsh enclosed plots at different elevation levels, Spiekeroog, Germany, 2021-01 to 2021-12
Related to: Pieck, D; Thölen, C; Hillebrand, H et al. (2021): Continuous temperature observations in surface sediment within DynaCom experimental islands and saltmarsh enclosed plots at different elevation levels, Spiekeroog, Germany, 2020-01 to 2020-12.
Zielinski, O; Meier, D; Löhmus, K et al. (2018): Environmental conditions of a salt-marsh biodiversity experiment on the island of Spiekeroog (Germany). *Earth System Science Data*
Size: 9 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965367>



Search via geographical coordinates

- select bounding box
- optional: select time range
- **Note:** time range of data
- **Not:** year of publication as in facet filter

Not logged in

PANGAEA.

SEARCH SUBMIT HELP ABOUT CONTACT

ALL TOPICS Search for measurement type, author name, project, taxa,...

Filter by...

Dataset Author

- Tippenhauer, Sandra (14)
- Brix, Holger (13)
- Bussmann, Ingeborg (13)
- Carrasco, Ruben (13)
- Floßer, Götz (13)
- Hoppmann, Mario (13)
- Horstmann, Jochen (13)
- Knap, Wolter (13)
- more...

Dataset Publication Year

- unpublished (16)
- 2024 (54)
- 2023 (89)
- 2022 (2)
- 2020 (1)
- 2017 (2)
- 2016 (2)

Topic

- Chemistry (16)
- Organic Chemistry (16)
- Animals (12)
- Atmosphere (12)
- Biological Classification (12)
- Cnidaria (10)
- Ecology (4)
- Environmental Sciences (4)
- more...

Project

- AWI_PhysOce (16)
- MOSES (14)
- BSRN (13)
- DAK_Underway (13)
- Helmholtz_ChangingEarth (13)
- IAPLantic (12)
- AWI_Seaice (5)
- IABP (5)
- more...

166 datasets found on search with geographic bounding box and temporal coverage

< 1 2 3 4 5 6 7 8 9 10 >

1. Carrasco, R; Horstmann, J; Brix, H et al. (2024): Surface Drifter Data on the Elbe estuary: Positions of Lagrangian Heron Drifters deployed in German Bight during MOSES 2023
Size: 12 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.965882>

2. Bittmann, F (2023): Archaeobotanical analyses of kitchen waste of Jever Castle, 17th/18th century
Related to: Bittmann, F; Grimm, J; Sander, A (2013): Tischlein deck dich! Küchenabfälle des 17./18. Jahrhunderts als Dokument höfischen Lebens im Schloss zu Jever, Landkreis Friesland. Offa
Size: 4 datasets
<https://doi.org/10.1594/PANGAEA.962169>

3. Knap, W (2022): Basic and other measurements of radiation at station Cabauw (2005-02 et seq)
Size: 228 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.940531>

4. Teyssié, A; Rouffaer, LO; Saleh Hudin, N et al. (2017): House sparrows (*Passer domesticus*) gut microbiota composition according to urbanisation gradient
Supplement to: Teyssié, A; Rouffaer, LO; Saleh Hudin, N et al. (2018): Inside the guts of the city: Urban-induced alterations of the gut microbiota in a wild passerine. *Science of the Total Environment*
Size: 4 datasets
<https://doi.pangaea.de/10.1594/PANGAEA.883741>

5. Haas, C (2024): Master tracks in different resolutions during POLAR 5 campaign P5_242_IceBird_Summer_2023
Size: 14 datasets
<https://doi.org/10.1594/PANGAEA.964350>

6. Bachmeyer, R (2024): Master tracks in different resolutions of HEINCKE cruise HE629, Stavanger - Bremerhaven, 2023-10-03 - 2023-10-11
Size: 2318 data points
<https://doi.pangaea.de/10.1594/PANGAEA.964735>

7. Tippenhauer, S; Hoppmann, M; Lahajnar, N (2023): Physical oceanography during RV HEINCKE cruise HE619
Related to: Lahajnar, N; Bartsch, P; Dreyer, L et al. (2023): Marine-Geological Practical Training at Sea Master Course LV 63-245, Cruise No. HE619, May 10 - May 16, 2023, Bremerhaven (Germany) - Bremerhaven (Germany). HEINCKE-Berichte, Begutachtungspapier *Forschungsschiff*
Size: 70297 data points
<https://doi.pangaea.de/10.1594/PANGAEA.963441>

8. Lahajnar, N (2023): Master tracks in different resolutions of HEINCKE cruise HE619, Bremerhaven - Bremerhaven, 2023-05-10 - 2023-05-16
Size: 1732 data points

Map Satellite

Google

To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (top-left of wind rose) selects the area around your current location. For using the map, select the viewport button (top-right of wind rose) and drag or zoom the bounding rectangle on the map. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

75

-40

20

Clear 50 Apply

Start date: 2023-01-01 Clear

End date: 2023-12-31 Apply



Search via geographical coordinates



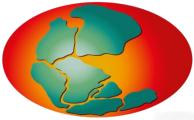
- select bounding box
- optional: select time range
- **Note:** time range of data
- **Not:** year of publication as in facet filter

To create a new geographic search coverage, use the buttons and input fields to enter coordinates below. The GPS button (*top-left of wind rose*) selects the area around your current location. For using the map, select the viewport button (*top-right of wind rose*) and drag or zoom the bounding rectangle on its borders. You can also select a date range by entering a start/end date. Press "Apply" to restrict current search results!

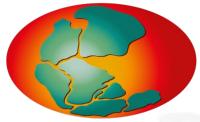
A screenshot of a geographic search interface. At the top are four input fields: 'N' (top), 'S' (bottom), 'E' (right), and 'W' (left). A central green compass rose points North. Below the compass are buttons for 'Clear' and 'Apply'. The entire interface is set against a background of a world map.

Start date:

End date:



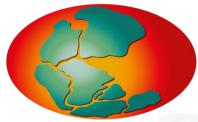
Quiz



Question



1. How many datasets are found for the project PAGES_C-Peat?



Solution: 760



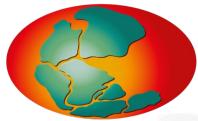
1. How many datasets are found for the project PAGES_C-Peat?

The screenshot shows the PANGAEA search interface. At the top, there is a logo, a search bar containing 'C-Peat', and a search button. Below the search bar, a message indicates '760 datasets found on search for »C-Peat« with facet filters'. A navigation bar below the message shows page numbers from 1 to 10. The main content area displays two dataset entries:

1. van Bellen, S (2021): Geochemistry of Mosaik C (MOS_C) peat core from Canada
Abstract: Geochemistry data of a high-resolution peat core from the Past Global Changes - Carbon in Peat on EArth through Time (PAGES_C-PEAT) Project.
Size: 1200 data points
DOI: <https://doi.org/10.1594/PANGAEA.928378> – Score: 77.21

2. van Bellen, S (2021): Calibrated ages of Lac Le Caron (LLC_C) peat core from Canada
Abstract: Calibrated ages of a high-resolution peat core from the Past Global Changes - Carbon in Peat on EArth through Time (PAGES_C-PEAT) Project.
Size: 1962 data points
DOI: <https://doi.org/10.1594/PANGAEA.929910> – Score: 77.18

On the left side of the main content area, there are two sidebar sections: 'Dataset Author' and 'Project'. The 'Dataset Author' section lists authors with their counts: Garneau, Michelle (80), van Bellen, Simon (51), Charman, Dan J (42), Marchant, Robert (38), Yu, Zicheng (37), Camill, Philip (34), Gallego-Sala, Angela V (28), Swindles, Graeme T (26), and more... The 'Project' section has a checked checkbox for 'PAGES_C-PEAT' (760) and a link to 'AWI Envi (11)'.



Solution: 760



1. How many datasets are found for the project PAGES_C-Peat?

The screenshot shows the PANGAEA search interface. At the top, there is a search bar with the query "project:label:PAGES_C-Peat". Below the search bar, a teal header bar displays the text "760 datasets found on search for »project:label:PAGES_C-...«". Below this, a navigation bar contains page numbers from 1 to 10, with the number 1 highlighted in a teal box. To the left, a sidebar titled "Dataset Author" lists various authors with their counts: Garneau, Michelle (80), van Bellen, Simon (51), Charman, Dan J (42), Marchant, Robert (38), Yu, Zicheng (37), Camill, Philip (34), and Gallego-Sala, Angela V (28). The main content area lists two datasets:

- 1. van Bellen, S (2021):** Geochemistry of Lac Le Caron (LLC_L1) peat core from Canada
Abstract: Geochemistry data of a high-resolution peat core from the Past Global Changes - Carbon in Peat on EARTH through Time (PAGES_C-PEAT) Project.
Size: 1100 data points
<https://doi.org/10.1594/PANGAEA.928250> – Score: 6.51
- 2. Swindles, GT (2022):** Age determination of Dead Island bog (DI-1) peat core from northern Ireland

Dataset Author

Garneau, Michelle (80)

van Bellen, Simon (51)

Charman, Dan J (42)

Marchant, Robert (38)

Yu, Zicheng (37)

Camill, Philip (34)

Gallego-Sala, Angela V (28)



Question



1. How many datasets are found for the project PAGES_C-Peat?
2. How many of these have “Geochemistry” in the dataset title?



Solution: 267



1. How many datasets are found for the project PAGES_C-Peat?
2. How many of these have “Geochemistry” in the dataset title?

 **PANGAEA.**

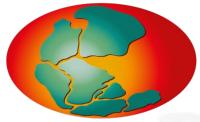
ALL TOPICS ▼ project:label:PAGES_C-Peat citation:title:Geochemistry × 

267 datasets found on search for »project:label:PAGES_C-Peat citation:title:Geochemistry«

< 1 2 3 4 5 6 7 8 9 10 >

1. **MacDonald, GM (2018):** Geochemistry of V34_core1 peat core
Size: 128 data points
 <https://doi.org/10.1594/PANGAEA.890537> – Score: 16.47

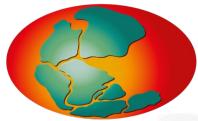
2. **Kokfelt, U (2018):** Geochemistry of Stordalen peat core
Size: 1653 data points



Question



1. How many datasets are found for the project PAGES_C-Peat?
2. How many of these have “Geochemistry” in the dataset title?
3. How many of these are located between 50N to 70N, 60W to 10E?



Solution: 19



1. How many datasets are found for the project PAGES_C-Peat?
2. How many of these have “Geochemistry” in the dataset title?
3. How many of these are located between 50N to 70N, 60W to 10E?



PANGAEA.

ALL TOPICS ▼

project:label:PAGES_C-Peat citation:title:Geochemistry

x Q

19 datasets found on search for »proj



70



-60

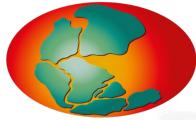


10

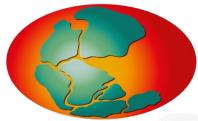
Clear

50

Apply



How to download datasets



Download of individual datasets



Kathrin Riemann-Campe



Pahnke, Katharina; Schlundt, Michael; Badewien, Thomas H; Voß, Daniela; Henkel, Rohan (2023): Continuous thermosalinograph oceanography along RV SONNE cruise track SO290. PANGAEA, <https://doi.org/10.1594/PANGAEA.959029>

Citation:

Pahnke, Katharina; Schlundt, Michael; Badewien, Thomas H; Voß, Daniela; Henkel, Rohan (2023): Continuous thermosalinograph oceanography along RV SONNE cruise track SO290. *PANGAEA*, <https://doi.org/10.1594/PANGAEA.959029>

Always quote citation above when using data! You can download the citation in several formats below.

[RIS Citation](#) [BibTeX Citation](#) [Copy Citation](#) [Facebook](#) [Twitter](#) [Show Map](#) [Google Earth](#)
[1](#) [2](#) [3](#)

Abstract:

Underway temperature and salinity data was collected along the cruise track with two autonomous measurement systems, called self-cleaning monitoring boxes (SMBs). Usually, the SMBs are changed after ~12 hours. While temperature is taken at the water inlet in about 4 m depth, salinity is estimated within the SMB from conductivity and interior temperature. No temperature and salinity calibration were performed. For details to all processing steps see Data Processing Report.

Related to:

Pahnke, Katharina; Lamy, Frank (2022): Paleoceanography of the southern Tasman Sea and glaciation history of the South Island, New Zealand, Cruise No. SO290, April 15 - May 12, 2022, Nouméa (New Caledonia) - Nouméa (New Caledonia). *SONNE-Berichte, Begutachtungspanel Forschungsschiffe, SO290*, 70 pp +163 App, https://doi.org/10.48433/cr_so290

Data processing report:

Standard operating procedure:

Further details:

Schlundt, Michael (2023): Continuous thermosalinograph oceanography along RV SONNE cruise track SO290 - Data Processing Report. *GEOMAR - Helmholtz Centre for Ocean Research Kiel*, [DAM_DataProcessingReport_SO290.pdf](#)

SO290 salinity samples

Project(s):

DAM Underway Research Data (DAM_Underway)

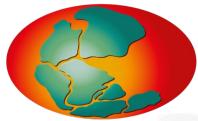


PANGAEA.

Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT





Download of individual datasets



Kathrin Riemann-Campe



Pahnke, Katharina; Schlundt, Michael; Badewien, Thomas H; Voß, Daniela; Henkel, Rohan (2023): Continuous thermosalinograph oceanography along RV SONNE cruise track SO290. PANGAEA, <https://doi.org/10.1594/PANGAEA.959029>

Citation:

Pahnke, Katharina; Schlundt, Michael; Badewien, Thomas H; Voß, Daniela; Henkel, Rohan (2023): Continuous thermosalinograph oceanography along RV SONNE cruise track SO290. PANGAEA, <https://doi.org/10.1594/PANGAEA.959029>

Always quote citation above when using data! You can download the citation in several formats below.

[RIS Citation](#) [BibTeX Citation](#) [Copy Citation](#) [Facebook](#) [Twitter](#) [Show Map](#) [Google Earth](#)
 

Abstract:

Underway temperature and salinity data was collected along the cruise track with two autonomous measurement systems, called self-cleaning monitoring boxes (SMBs). Usually, the SMBs are cleaned after ~12 hours. While temperature is taken at the water inlet in about 4 m depth, salinity is estimated within the SMB from conductivity and interior temperature. No temperature and salinity calibration were performed. For details to all processing steps see Data Processing Report.

License:

 Creative Commons Attribution 4.0 International (CC-BY-4.0)

Status:

Curation Level: Enhanced curation (CurationLevelC)  * Processing Level: PANGAEA data processing level 2 (ProcLevel2) 

Size:

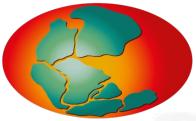
220070 data points

Download Data

Download dataset as tab-delimited text — use the following character encoding:

View dataset as HTML (shows only first 2000 rows)





Download of dataset collections

Publication Series

example:

Tippenhauer, Sandra (2023):
Collection of CTD raw data files of RV POLARSTERN cruises since PS122, September 2019. *Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, PANGAEA*, <https://doi.org/10.1594/PANGAEA.958949>

Citation:

Tippenhauer, Sandra (2023): Collection of CTD raw data files of RV POLARSTERN cruises since PS122, September 2019 [dataset publication series]. *Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, PANGAEA*, <https://doi.org/10.1594/PANGAEA.958949>

Always quote citation above when using data! You can download the citation in several formats below.

[RIS Citation](#) [BibTeX Citation](#) [Copy Citation](#) [Facebook](#) [Twitter](#)
[Show Map](#) [Google Earth](#)  

Abstract:

This data collection contains the CTD raw data files of RV POLARSTERN cruises from 2019-09-20 (starting with PS122) to today. The collection is regularly updated with data from new campaigns. If data was processed and published here on Pangaea, it is linked to the raw data of a respective cruise. Navigate to the respective cruise and see link to "Other version". Previous CTD raw data was collected in Rohardt (2017) for the time range 2013-06-08 (PS81) to 2019-09-13 (PS121) which can be found here <https://doi.org/10.1594/PANGAEA.852715>.



PANGAEA.

Data Publisher for Earth & Environmental Science

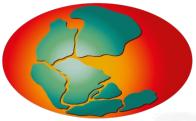


Kathrin Riemann-Campe



SEARCH SUBMIT HELP ABOUT CONTACT





Download of dataset collections



Kathrin Riemann-Campe

Publication Series

example:

Tippenhauer, Sandra (2023): Collection of CTD raw data files of RV POLARSTERN cruises since PS122, September 2019.

*Alfred Wegener Institute,
Helmholtz Centre for Polar
and Marine Research,
Bremerhaven, PANGAEA,
<https://doi.org/10.1594/PANGAEA.958949>*

PANGAEA.
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

Citation: Tippenhauer, Sandra (2023): Collection of CTD raw data files of RV POLARSTERN

Project(s): Physical Oceanography @ AWI (AWI_PhysOce)

Coverage: Median Latitude: -3.087261 * Median Longitude: -16.749929 * South-bound Latitude: -77.191960 * West-bound Longitude: -92.985530 * North-bound Latitude: 82.897101 * East-bound Longitude: 16.318966
Date/Time Start: 2021-02-08T11:54:27 * Date/Time End: 2023-02-26T12:05:57

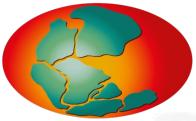
License: Creative Commons Attribution 4.0 International (CC-BY-4.0)

Size: 7 datasets

Download Data
 Download ZIP file containing all datasets as tab-delimited text — use the following character encoding:

Datasets listed in this publication series

1. Tippenhauer, S; Hellmer, HH (in review): Raw data of physical oceanography during RV POLARSTERN cruise PS124. <https://doi.pangaea.de/10.1594/PANGAEA.964349>
2. Tippenhauer, S; Hoppmann, M; McPherson, R et al. (2023): Raw data of physical oceanography during RV POLARSTERN cruise PS126. <https://doi.org/10.1594/PANGAEA.940754>
3. Tippenhauer, S; Dreutter, S; Hanfland, C (2022): Raw data of physical oceanography during RV POLARSTERN cruises PS130/1 and PS130/2. <https://doi.org/10.1594/PANGAEA.957843>
4. Tippenhauer, S; Hoppmann, M; von Appen, W-J et al. (2023): Raw data of physical oceanography during RV POLARSTERN cruise PS131. <https://doi.org/10.1594/PANGAEA.956136>
5. Tippenhauer, S; Wiltshire, KH (2023): Raw data of physical oceanography during RV POLARSTERN cruise PS132. <https://doi.org/10.1594/PANGAEA.962346>
6. Tippenhauer, S; Klaas, C; Kasten, S (2023): Raw data of physical oceanography during RV POLARSTERN cruises PS133/1 and PS133/2. <https://doi.org/10.1594/PANGAEA.962314>
7. Tippenhauer, S; Gohl, K (2023): Raw data of physical oceanography during RV POLARSTERN cruise PS134. <https://doi.org/10.1594/PANGAEA.962405>



Download of binary data

Example: images

**Purser, Autun;
Boehringer, Lilian;
Hehemann, Laura;
Wenzhöfer, Frank
(2021): Seabed
photographs taken
along OFOS profile
PS124_21-7 during
POLARSTERN cruise
PS124 [dataset].
PANGAEA,
[https://doi.org/10.1594/
PANGAEA.932826](https://doi.org/10.1594/PANGAEA.932826)**

Citation:



PANGAEA.

Data Publisher for Earth & Environmental Science



SEARCH SUBI

Purser, Autun; Boehringer, Lilian; Hehemann, Laura; Wenzhöfer, Frank (2021): Seabed photographs taken along OFOS profile PS124_21-7 during POLARSTERN cruise PS124 [dataset]. PANGAEA,
DOI: <https://doi.org/10.1594/PANGAEA.932826>,

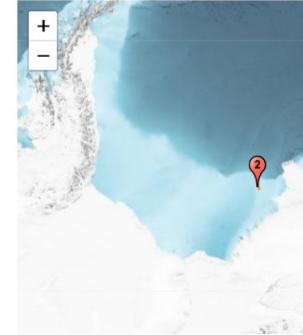
In: Purser, A et al. (2021): Ocean Floor Observation and Bathymetry System (OFOBS) images of Neopagetopsis ionah ice fish nest arrays in the Filchner Trough, Antarctica collected during the PS124 Polarstern expedition [dataset publication series]. PANGAEA, DOI: <https://doi.org/10.1594/PANGAEA.932827>

Always quote citation above when using data! You can download the citation in several formats below.

Published: 2021-06-18 • DOI registered: 2022-02-11

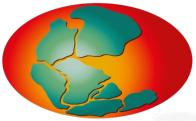
RIS Citation BibTeX Citation Copy Citation Share Show Map Google Earth

180 145 13



Parameter(s):

#	Name	Short Name	Unit	Principal Investigator	Method/Device	Comment
1	DATE/TIME			Purser, Autun		Geocode
2	LATITUDE			Purser, Autun		Geocode
3	LONGITUDE			Purser, Autun		Geocode
4	DEPTH, water		m	Purser, Autun		Geocode
5	Image	IMAGE		Purser, Autun		
6	Binary Object	Binary		Purser, Autun		



Download of binary data



Example: images

**Purser, Autun;
Boehringer, Lilian;
Hehemann, Laura;
Wenzhöfer, Frank
(2021): Seabed
photographs taken
along OFOS profile
PS124_21-7 during
POLARSTERN cruise
PS124 [dataset].
PANGAEA,
[https://doi.org/10.1594/
PANGAEA.932826](https://doi.org/10.1594/PANGAEA.932826)**

Citation:



PANGAEA.

Data Publisher for Earth & Environmental Science

SEARCH SUBI

Purser, Autun; Boehringer, Lilian; Hehemann, Laura; Wenzhöfer, Frank (2021): Seabed photographs taken along OFOS profile PS124_21-7 during POLARSTERN cruise PS124 [dataset]. PANGAEA,
DOI: <https://doi.org/10.1594/PANGAEA.932826>,
In: Purser, A et al. (2021): Ocean Floor Observation and Bathymetry System (OFOBS) images of Neopagetopsis ionah ice fish nest arrays in the Filchner Trough, Antarctica collected during the PS124 Polarstern expedition [dataset publication series]. PANGAEA, DOI: <https://doi.org/10.1594/PANGAEA.932827>

Always quote citation above when using data! You can download the citation in several formats below.

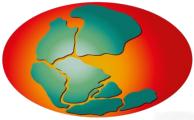
Published: 2021-06-18 • DOI registered: 2022-02-11

Data

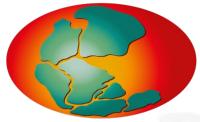
[Download dataset as tab-delimited text](#) — use the following character encoding: UTF-8: Unicode (PANGAEA default)

All files referred to in data matrix can be downloaded in one go as [ZIP](#) or [TAR](#). Be careful: This download can be very large! To protect our systems from misuse, we require to sign up for an user account before downloading.

1 ⓘ Date/Time	2 ⓘ Latitude	3 ⓘ Longitude	4 ⓘ Depth water [m]	5 ⓘ IMAGE	6 ⓘ Binary
2021-02-16T03:45:42	-74.86862600	-30.66506400	507		TIMER_2021_02_16_at_03_45_42_IMG_0037.JPG TIMER_2021_02_16_at_03_45_42_IMG_0037.txt



Time for questions

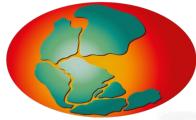


Breakout sessions after lunch

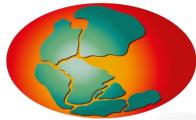


Downloading and manipulating PANGAEA data in Python

Downloading and manipulating PANGAEA data in R



Introduction to pangaear



pangaear: open source package

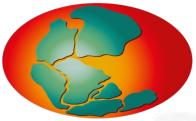


- R package **developed and maintained by rOpenSci**
- Data retrieval interface for PANGAEA
- Download and documentation on GitHub and CRAN:
 - <https://github.com/ropensci/pangaear>
 - <https://CRAN.R-project.org/package=pangaear>



© 2016 The R Foundation,
[CC-BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)

Scott Chamberlain, Kara Woo, Andrew MacDonald, Naupaka Zimmerman and Gavin Simpson (2021).
pangaear: Client for the 'Pangaea' Database. R package version 1.1.0.
<https://CRAN.R-project.org/package=pangaear>



Why pangaear?



- ✓ Direct data queries and retrieval via R
- ✓ Enables automated workflows and data mining
- ✓ Reproducible workflow and record of data retrieval
- ✓ Easier bulk download of data
- ✓ Metadata search and analysis



Credit: Gregor
Cesnar



Getting started



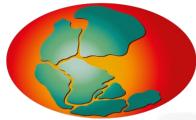
Install *pangaear* in your environment

```
install.packages('pangaear')
```

Import packages

```
library(pangaear)
```



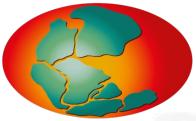


Two essential commands



Function	Description
pg_search	Search the Pangaea database (arguments: e.g. count, offset)
pg_data	Download data from Pangaea

... and others ...



pg_search

This mirrors the query via the [PANGAEA website](#)



RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Workshop_scripts.R

```
1 # install.packages('pangaear')
2 # install.packages('dplyr')
3 library(pangaear) # see package details at https://github.com/ropensci/pangaear
4 library(dplyr) # set of tools for data manipulation, see details at https://dplyr.tidyverse.org
5
6 #===== 1. SEARCH (by PROJECT) =====
7 # Documentation of PANGAEA search: https://wiki.pangaea.de/wiki/PANGAEA\_search
8 # Website: https://www.pangaea.de/?q=project:label:PAGES\_C-PEAT
9 # search with pg_search: maximum = 500 records (set with count, continue with offset)
10 PAGES <- pg_search("project:label:PAGES_C-PEAT", count = 1000)
11 PAGES1 <- pg_search("project:label:PAGES_C-PEAT", count = 500)
12 PAGES2 <- pg_search("project:label:PAGES_C-PEAT", count = 500, offset = 500)
13
14 PAGES_all <- rbind(PAGES1, PAGES2)
15
16
```

14:1 1. SEARCH (by PROJECT) R Script

Console Terminal Background Jobs

R 4.3.0 . ~/

```
> library(pangaear)
Registered S3 method overwritten by 'httr':
  method           from
  print.cache_info hoardr
> #===== 1. SEARCH (by PROJECT) =====
> # Documentation of PANGAEA search: https://wiki.pangaea.de/wiki/PANGAEA\_search
> # Website: https://www.pangaea.de/?q=project:label:PAGES\_C-PEAT
> # search with pg_search: maximum = 500 records (set with count, continue with offset)
> PAGES <- pg_search("project:label:PAGES_C-PEAT", count = 1000)
> PAGES1 <- pg_search("project:label:PAGES_C-PEAT", count = 500)
> PAGES2 <- pg_search("project:label:PAGES_C-PEAT", count = 500, offset = 500)
> |
```

Project: (None)

Environment History Connections Tutorial

Data

PAGES	500 obs. of 6 variables
PAGES1	500 obs. of 6 variables
PAGES2	375 obs. of 6 variables

Files Plots Packages Help Viewer Presentation

R: Search the Pangaea database Find in Topic

pg_search {pangaear} R Documentation

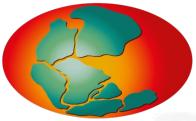
Search the Pangaea database

Description

Search the Pangaea database

Usage

```
pg_search(
  query,
  count = 10,
  offset = 0,
  topic = NULL,
  bbox = NULL,
```



pg_data

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Workshop_scripts.R

```
21 #===== 2. GET DATA =====
22 # download single dataset (randomly selected from the search result above)
23 # pg_data returns list, data table -> data frame
24 Joey_core12 <- pg_data(doi="10.1594/PANGAEA.890405")
25 Joey_core12 <- Joey_core12[[1]][["data"]]
26
27 # create a folder for download
28 getwd()
29 dir.create(path="R/Files")
30 folderpath <- "R/Files/"
31
32 # write table as txt file
33 # paste function: concatenate vectors by converting them into character (list
34 write.table(Joey_core12, file=paste0(folderpath,"Joey_core12.txt"), row.names=
35
36
```

25:1 2. GET DATA

Console Terminal Background Jobs

R 4.3.0 ~/

```
[Workspace loaded from ~/.RData]

> library(pangaear)
Registered S3 method overwritten by 'httr':
  method           from
  print.cache_info hoardr
> ===== 2. GET DATA =====
> # download single dataset (randomly selected from the search result above)
> # pg_data returns list, data table -> data frame
> Joey_core12 <- pg_data(doi="10.1594/PANGAEA.890405")
Downloading 1 datasets from 10.1594/PANGAEA.890405
Processing 1 files
> |
```

Environment History Connections Tutorial

Project: (None)

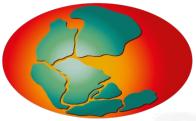
Global Environment

Joey_core12 List of 1

```
$ :List of 7
..$ parent_doi: chr "10.1594/PANGAEA.89...
..$ doi       : chr "10.1594/PANGAEA.89...
..$ citation   : chr "Camill, Philip (20...
..$ url        : chr "https://doi.org/10...
..$ path       : chr "C:\\Users\\FLAVIA~...
..$ metadata   :List of 9
... ..$ citation      : chr "Camill, Ph...
... ..$ related_to    : chr "Camill, Ph...
... ..$ further_details: chr "Camill, Ph...
... ..$ projects      : chr "Past Globa...
... ..$ coverage       : chr "LATITUDE: ...
... ..$ events         :List of 8
... ... ..$ Joey_core12 : chr NA
... ... ..$ LATITUDE     : chr "55.470000"
... ... ..$ LONGITUDE    : chr "-98.15000...
... ... ..$ ELEVATION    : chr "214.0 m"
... ... ..$ Recovery      : chr "155 cm"
... ... ..$ LOCATION      : chr "Canada"
... ... ..$ METHOD/DEVICE: chr "Peat core...
... ... ..$ COMMENT       : chr "Coring ye...
... ..$ parameters     :List of 6
... ... ..$ : chr [1:3] "DEPTH, sediment/...
... ... ..$ : chr [1:4] "AGE Tka BPL (Ae...
```

Files Plots Packages Help Viewer Presentation





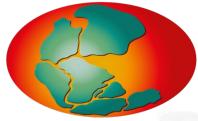
Example R-scripts



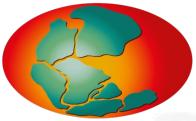
<https://github.com/pangaea-data-publisher/community-workshop-material>

```
# Search for species 'Arenicola marina' using its unique semantic URI, see WoRMS database https://www.marinespecies.org/aphia.php?p=taxdetails&id=129868  
res2 <- pg_search(query = 'urn:lsid:marinespecies.org:taxname:129868', count = 100)
```

- Filter search results and get multiple datasets
- Download multiple binary files (e.g., images, netCDF format, etc.)



Introduction to pangaeapy



pangaeapy: open source package



1. Developed and maintained by PANGAEA staff

2. But anyone can contribute, see

<https://pypi.org/project/pangaeapy/>

3. Report issues on [GitHub](#)

Robert Huber, Egor Gordeev, Markus Stocker, Aarthi Balamurugan, & Uwe Schindler (2020). pangaeapy - a Python module to access and analyse PANGAEA data. Zenodo. <http://doi.org/10.5281/zenodo.4013940>.

pangaeapy 1.0.22

pip install pangaeapy

Released: Feb 11, 2025

This module allows to download and analyse metadata as well as data from tabular PANGAEA (<https://www.pangaea.de>) datasets. Usage: import pangaeapy.pandataset as pd ds = pd.PanDataSet(787140) print(ds.title) print(ds.data.head()) Please visit the github project page to see more documentation and some examples: <https://github.com/pangaea-data-publisher/pangaeapy>

Navigation

- Project description**
- Release history
- Download files

Verified details These details have been [verified by PyPI](#)

Maintainers

- nselke
- pangaea

Unverified details These details have **not** been verified by PyPI

Project links

Project description

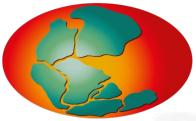
DOI: [10.5281/zenodo.4013941](https://doi.org/10.5281/zenodo.4013941)

pangaeapy - a Python module to access and analyse PANGAEA data

Background

PANGAEA (<https://www.pangaea.de>) is one of the world's largest archives of this kind offering essential data services such as data curation, long-term data archiving and data publication. PANGAEA hosts about 400,000 datasets comprising around 17.5 billion individual measurements (Aug. 2020) and observations which have been collected during more than 240 international research projects. The system is open to any project, institution or individual scientist using, archiving or publishing research data.

Since the programming languages Python and R have become increasingly important for scientific data analysis in recent years, we have developed 'pangaeapy' a new, custom Python module that considerably simplifies typical data science tasks.



Why pangaeapy?



- ✓ Direct data queries and retrieval via Python
- ✓ Easier bulk download of data
- ✓ Metadata search and analysis
- ✓ Enables automated workflows and data mining
- ✓ Reproducible workflow and record of data retrieval



Credit: Gregor
Cesnar



Getting started



Install *pangaeapy* in your environment

```
pip install pangaeapy
```

Import packages

```
import pangaeapy as pan
```

or

```
from pangaeapy.panquery import PanQuery
```

```
from pangaeapy.pandataset import PanDataSet
```





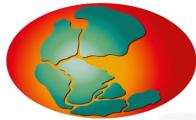
Two essential commands



Function	Attributes
pan.PanQuery('search term')	totalcount, result

Example: `query = pan.PanQuery("Triticum")`
`query.result`

	URI	score	html
0	doi:10.1594/PANGAEA.896784	20.516336	<div class="citation"><a href="https://doi...
1	doi:10.1594/PANGAEA.886727	18.917538	<div class="citation"><a href="https://doi...
2	doi:10.1594/PANGAEA.925261	18.777039	<div class="citation"><a href="https://doi...
3	doi:10.1594/PANGAEA.886725	18.592678	<div class="citation"><a href="https://doi...



Two essential commands



Function

```
pan.PanDataSet('PANGAEA ID')
```

Attributes

data, id, uri, doi, title, abstract, year, authors, citation, parameters, events, min-/maxtimeextent, children, etc.

Example: `ds = PanDataSet("doi:10.1594/PANGAEA.923033")
ds.data`

	Event	ID	Project	Access no gen	Access no gen_2	Campaign	Date/Time
0	HUD16/19_010	WB-00001	PRJNA613976	insdc:SRR11365522	NaN	Hudson2016-019	2016-07-20 16:30:12
1	HUD16/19_010	WB-00005	PRJNA613976	insdc:SRR11365520	NaN	Hudson2016-019	2016-07-20 16:30:12
2	HUD16/19_010	WB-00007	PRJNA613976	insdc:SRR11365519	NaN	Hudson2016-019	2016-07-20 16:30:12



Two essential commands



Function

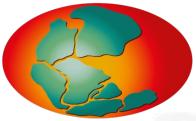
```
pan.PanDataSet('PANGAEA ID')
```

Attributes

data, id, uri, doi, title, abstract, year, authors, citation, parameters, events, min-/maxtimeextent, children, etc.

Example: `ds = PanDataSet("doi:10.1594/PANGAEA.923033")
ds.data`

	Event	ID	Project	Access no gen	Access no gen_2	Campaign	Date/Time
0	HUD16/19_010	WB-00001	PRJNA613976	insdc:SRR11365522	NaN	Hudson2016-019	2016-07-20 16:30:12
1	HUD16/19_010	WB-00005	PRJNA613976	insdc:SRR11365520	NaN	Hudson2016-019	2016-07-20 16:30:12
2	HUD16/19_010	WB-00007	PRJNA613976	insdc:SRR11365519	NaN	Hudson2016-019	2016-07-20 16:30:12



Documentation



https://pangaea-data-publisher.github.io/pangaeapy/how_to.html

pangaeapy
1.1.1.dev9+g0e632
c1 documentation

Q Search

User Guide

How To

API Documentation

How To



We always assume you have imported *PanDataSet* as

```
from pangaeapy import PanDataSet
```

Download a specific file from a binary data set

Go to the landing page of the data set (e.g. <https://doi.pangaea.de/10.1594/PANGAEA.956151>), click on the "View dataset as HTML" button and get the row index (starting from 0) and the column name.

```
ds = PanDataSet(956151, enable_cache=True, cachedir='/your/cache/path')
filenames = ds.download(indices=[3], columns=["Binary"])
```

Download all files from a binary data set

Create a user account at [PANGAEA](#) and copy your bearer token from your [user page](#).

```
ds = PanDataSet(956151, enable_cache=True,
                cachedir='/your/cache/path',
                auth_token='your_personal_bearer_token')
filenames = ds.download()
```

Note

For tabular data sets no bearer token is required.

How about access restricted datasets?

Bearer Tokens

Following “cookie monster” illustrations by Till Born (*predic8: Microservices, APIs & Integration*):
<https://www.predic8.de/bearer-token-autorisierung-api-security.htm>





GET /kekse





GET /kekse

401 Bearer Realm





GET /kekse

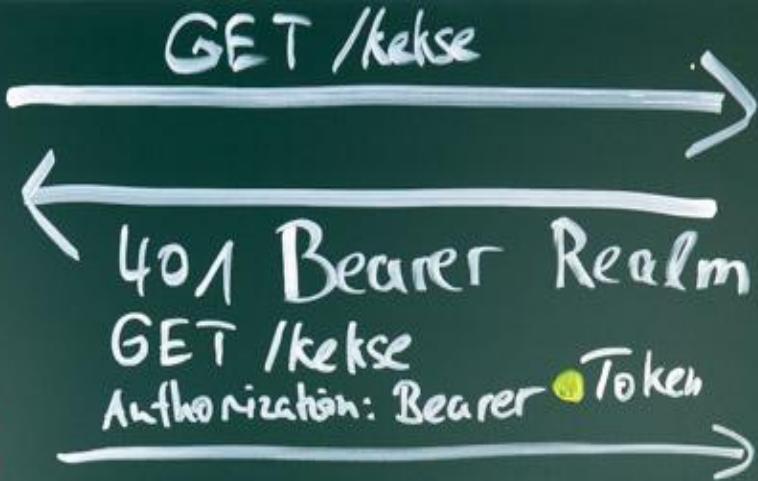
← 401 Bearer Realm

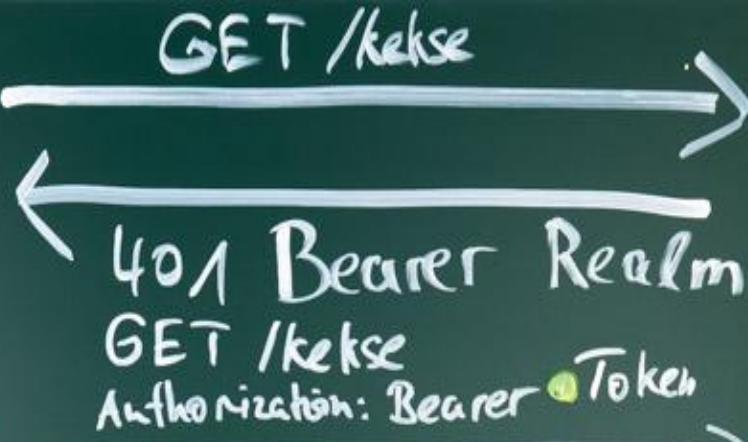


POST/ausgabe user/bud











PANGAEA.
Data Publisher for Earth & Environmental Science

SEARCH SUBMIT HELP ABOUT CONTACT

Your temporary login token

PANGAEA allows to download protected datasets and access APIs using a *bearer token*. Your current login session is using the following token: `u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4`

The token can be passed as "`Authorization: Bearer u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4`" header with HTTP requests to PANGAEA's APIs. For example, it can be used to download a protected dataset with `curl`:

```
$ curl -OJLf -H'Authorization: Bearer u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4' -H'Accept
```

Please read our [Interoperability / Services](#) page and our [Wiki](#) for more information about PANGAEA's APIs.

Log in with username and password

User Name / E-mail:

Password:

[Lost password?](#)

[Log in](#)

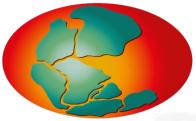
Your temporary login token

PANGAEA allows to download protected datasets and access APIs using a *bearer token*. Your current login session is using the following token: `u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4`

The token can be passed as "`Authorization: Bearer u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4`" header with HTTP requests to PANGAEA's APIs. For example, it can be used to download a protected dataset with `curl`:

```
$ curl -OJLf -H'Authorization: Bearer u7f14y4y42lyan3azebox73uskqm5m3kqypbhityro4rfijgtpbfoyz4kkn1v4' -H'Accept
```

Please read our [Interoperability / Services](#) page and our [Wiki](#) for more information about PANGAEA's APIs.



For our practice today



1. We`ll work in JupyterNotebook via Colab

2. Go to PANGAEA`s community workshop [GitHub repository](#)

3. Navigate to Python/PANGAEApypy_practical

4. Scroll down and click on “Open in Colab”



PANGAEA.
Community Workshops

PANGAEApypy practical

How to search and download data from PANGAEA

By: Kathrin Riemann-Campe Last updated: 2025-05-07

This notebook will guide you how to retrieve diverse earth- and environmental data and its metadata from the [PANGAEA data repository](#) using Python. It uses the [PangaeaPy package](#), to facilitate the data download.

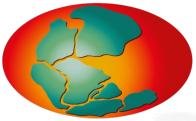
Run this notebook in:

- [GoogleColab](#):

Find solutions to quizzes in this [notebook](#)

Additional examples related to PANGAEApypy_practical

- detailed examples on metadata extraction in [pangaeapy_detailed_metadata_search](#)
- example to extract project-specific information in [PANGAEA_access_metadata_per_project](#)



Working in Jupyter notebooks



NOTE: You cannot save files but download/sync to GoogleDrive

File Edit View Insert Runtime Tools Help
Commands + Code + Text Copy to Drive

Table of contents
pangaeapy practical
Content of this notebook
Import libraries
PANGAEAp documentation
Query for data in PANGAEA
General info on query
2.1 Basic queries
Query PANGAEA with combinations of keywords
Optional query terms
Uncertain spelling
Specific author
Within geographical coordinates a.k.a bounding box
2.3 Queries exceeding 500 results
2.2 How to query PANGAEA without result limitations
2.3 Quiz
2.3.1 How many datasets contain "geological investigations"?
2.3.2 How many datasets contain "geological investigations" in the title only?
2.3.3 How many datasets measured "Temperature, water" using a CTD/Rosette?
Get metadata
3.1 Get metadata of individual dataset
Example dataset from PANGAEA <https://doi.pangaea.de/10.1594/PANGAEA.923033>

Content of linked GitHub Jupyter Notebook

PANGAEA.
Community Workshops

▼ pangaeapy practical

How to search and download data from PANGAEA
By: Kathrin Riemann-Campe Last updated: 2025-05-07

This notebook will guide you how to retrieve diverse earth- and environmental data and its metadata from the [PANGAEA data repository](#) using Python. It uses the [PangaeaPy package](#), to facilitate the data download.

Run this notebook in: [GoogleColab](#) [Open in Colab](#)

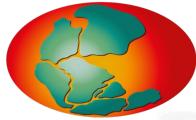
Content of this notebook

1. Import libraries
2. Query for data in PANGAEA
3. Get metadata
4. Download datasets
5. Download binary files

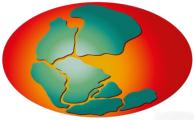
▼ 1. Import libraries

[] ## general libraries
import os
import pandas as pd
import numpy as np
import requests
from urllib.request import urlopen, urlretrieve

Run code by clicking play button or with Shift + Enter



Time for your questions!



Let's have a break!

See you in ~10 mins