

PANGAEA®

Data Publisher for Earth & Environmental Data



Hannes Grobe & Rainer Sieger

Empty archives

Most researchers agree that open access to data is the scientific ideal, so what is stopping it happening? **Bryn Nelson** investigates why many researchers choose not to share.



nature 2009

doi:10.1038/461160a

In 2003, the University of Rochester in New York launched a digital archive designed to preserve and share dissertations, preprints, working papers, photographs, music scores — just about any kind of digital data the university's investigators could produce. Six months of research and marketing had convinced the university that a publicly accessible online archive would be well received. At the time of the launch, the university librarians were worried that a flood of uploaded data might swamp the available storage space.

Six years later, the US\$200,000 repository lies mostly empty.

or didn't understand how to use the archive, or lamented that they just didn't have any more hours left in the day to spend on this business.

As Gibbons and anthropologist Nancy Fried Foster observed in their 2005 postmortem¹, "The phrase 'if you build it, they will come' does not yet apply to IRs [institutional repositories]."

A similar reality check has greeted other data-sharing efforts. Most researchers happily embrace the idea of sharing. It opens up observations to independent scrutiny, fosters

data. Physicists, mathematicians and computer scientists use arXiv.org, operated by Cornell University in Ithaca, New York; the International Council for Science's World Data System holds data for fields such as geophysics and biodiversity; and molecular biologists use the Protein Data Bank, GenBank and dozens of other sites. The astronomy community has the International Virtual Observatory Alliance, geo-

scientists and environmental researchers have Germany's Publishing Network for Geoscientific & Environmental Data (PANGAEA),

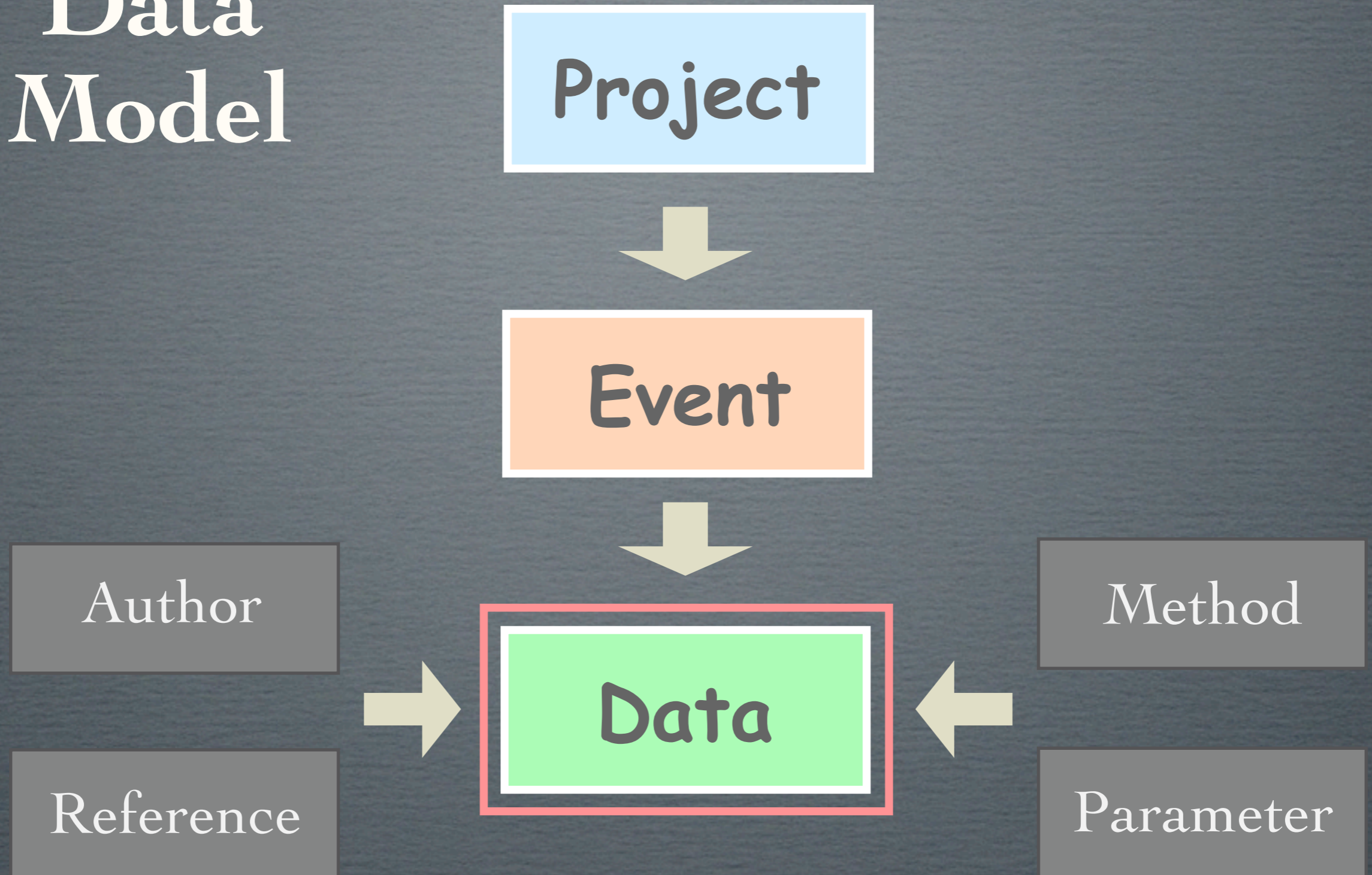
"We got the software up and running and said 'Give us your stuff'. That's

What is PANGAEA ?

- Data **publisher** open to the scientific community
- Data **library** for earth system research
- Relational database with linked tape archive
- Data are stored **georeferenced** in space and time
- Distribution via web services
- Data warehouse



Data Model



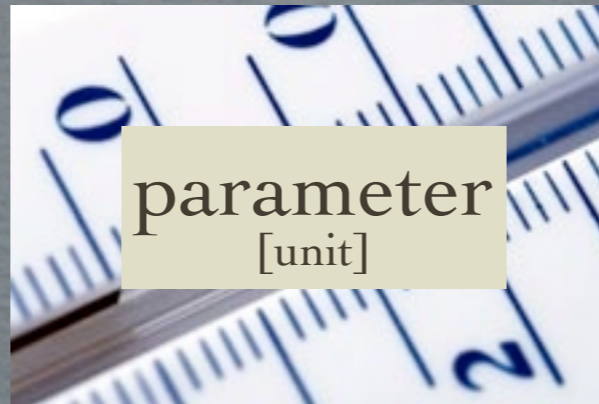
Geo-code & meta-data

when?



date/time
age

what?



parameter
[unit]

how?



method

123.456

text



where?



latitude
longitude

ice, water, air,
sediment, object...

who?

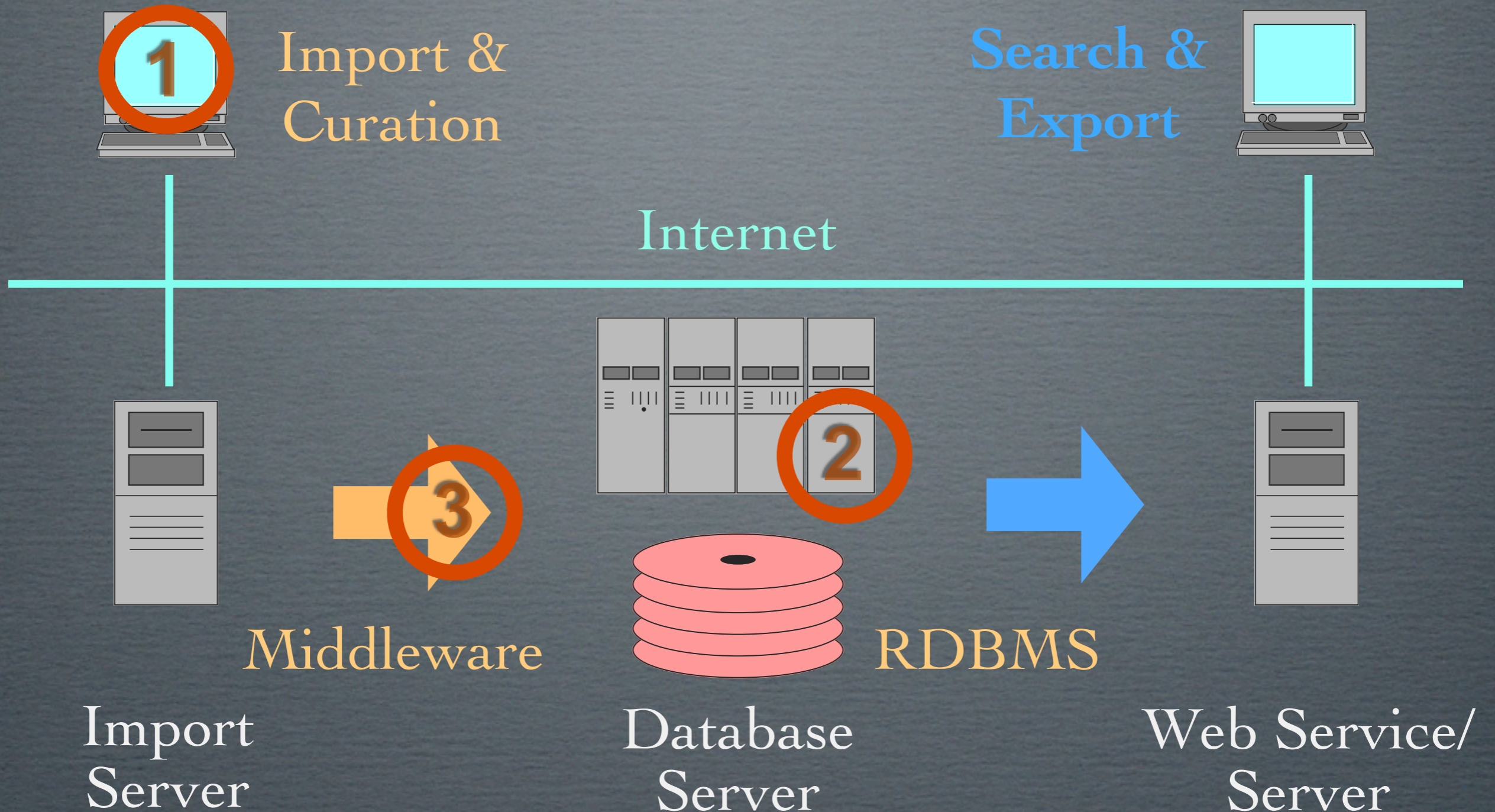


investigator
reference



Client-server system

three-tiered architecture



PDI

Activity

Today

Hannes Grobe closed PDI-9614 - Neue Parameter

genau - dankel

10 minutes ago [Comment](#) [Watch](#)

Lydia Gerullis commented on PDI-9614 - Neue Parameter

Dann lasse ich diese Tabelle weg, es sei denn, der Autor besteht auf den Import. Danke und Gruß, Lydia

11 minutes ago [Comment](#) [Watch](#)

Amelie Buecker commented on PDI-9606 - Data submission 2015-03-04T00:37:19Z (virginie van dongen-vogels, UTS)

Hi again,

I changed the parameter in the data-file (check: <http://doi.pangaea.de/10.1594/PANGAEA.843554>), if you want to change that in the pdf (we probably should), please attach the corrected version, best today, so I can substitute it with the

[Read more >](#)

21 minutes ago [Comment](#)

Rainer Sieger commented on PDI-9618 - POS317/3

Ich habe jetzt alle Datensatztitel mit "multi-beam" auf "multibeam" geändert. Rainer

29 minutes ago [Comment](#) [Watch](#)

Mathias Weinreb commented on PDI-9618 - POS317/3

Amelie, ich stimme Dir zu. Richtig wäre wohl ohne Bindestrich, also "multibeam". Die Hersteller der Geräte verwenden i.d.R. auch keinen. Beide Schreibweisen sind im übrigen reichlich in PANGAEA zu finden. Ich bedanke mich für die Hinweise.

[list](#)

[Read more >](#)

35 minutes ago [Comment](#) [Watch](#)

virginie van dongen-vogels commented on PDI-9606 - Data submission 2015-03-04T00:37:19Z (virginie van dongen-vogels, UTS)

Hi Amelie,

Thanks a lot.

I would greatly appreciate if you change one last thing: I have noted that the parameter #39 should be 'PmaxB, Production rate, maximal, light saturated, in carbon of chlorophyll a' which is in [mgC/mgChl-a/h]. This is a

[Read more >](#)

39 minutes ago [Comment](#)

Amelie Buecker commented on PDI-9618 - POS317/3

Was mir noch auffällt ist, dass wir einmal "multi-beam" und einmal "multibeam" als Titel haben. Kann man sich da auf eines einigen? LG Amelie

1 hour ago [Comment](#) [Watch](#)

Filter Results: assigned

Key	Reporter	Summary	Updated
PDI-9618	Yan Yang	PDI-9618 / New parameters	2015-03-05
PDI-9605	Stephen D. Busack	Data submission 2015-03-03T16:40:37Z (Stephen D. Busack, North Carolina Museum of Natural Sciences)	2015-03-04
PDI-9601	Alessandro Comunian	Herten and Descalvado aquifer analogs	2015-03-03
PDI-9590	James M Byrne	Data submission 2015-03-02T09:33:43Z (James M Byrne, University of Tübingen)	2015-03-02
PDI-9540	Hannes Grobe	neclime reactivated	2015-03-02
PDI-8830	Rainer Sieger	PDI-8424 / DOI vs. URL during data submission process	2014-11-24
PDI-8664	Hannes Grobe	SCAN Senkenbergiana 1918-1954 -> TIB	2014-11-24
PDI-8564	Hannes Grobe	Marine Scienc Reports of IOW	2014-10-16
PDI-8370	Hannes Grobe	Zeitschriften und Berichte zur deutschen Polar- und Meeresforschung	2015-02-19
PDI-8352	Hannes Grobe	Helgoland Marine Research - journal list of 3 parts	2014-12-16

1-10 of 11 [1 2 >](#)

Filter Results: preparation

Key	Reporter	Summary	Updated
PDI-9391	Andreas Schmittner	Data submission 2015-02-18T04:58:50Z (Andreas Schmittner)	2015-02-27
PDI-9384	Hannes Grobe	LK II Tabelle für large-scale infrastructure	2015-03-02
PDI-9360	Hannes Grobe	scan expeditions/lexkursonsberichte	2015-03-02
PDI-9339	Hannes Grobe	Chapter 11 Economic Aspects of Nodule Mining	2015-02-11
PDI-9294	Hannes Grobe	CNEXO Ferromanganese Nodule Analysis File (Rescue)	2015-02-11

1-5 of 5

Filter Results: approval

Key	Reporter	Summary	Updated
PDI-9578	Lucas Kämpf	Detrital layers in sub-recent Lake Mondsee sediments	2015-03-02
PDI-8389	Hannes Grobe	reference list of Senkenbergiana Martima	2014-11-21

1-2 of 2

Filter Results: pending

Key	Reporter	Summary	Updated
PDI-8735	Hannes Grobe	GlobColour 2nd Reprocessing Announcement	2015-02-19
PDI-7940	Hannes Grobe	atmospheric effects of volcanic eruptions	2015-02-25
PDI-7772	Hannes Grobe	PanPlot Development	2015-02-09
PDI-7740	Hannes Grobe	time slice definitionen	2014-11-06
PDI-7721	Boris K. Biskaborn	Geomorphological and Cryological map of Abisko, Sweden	2014-07-16

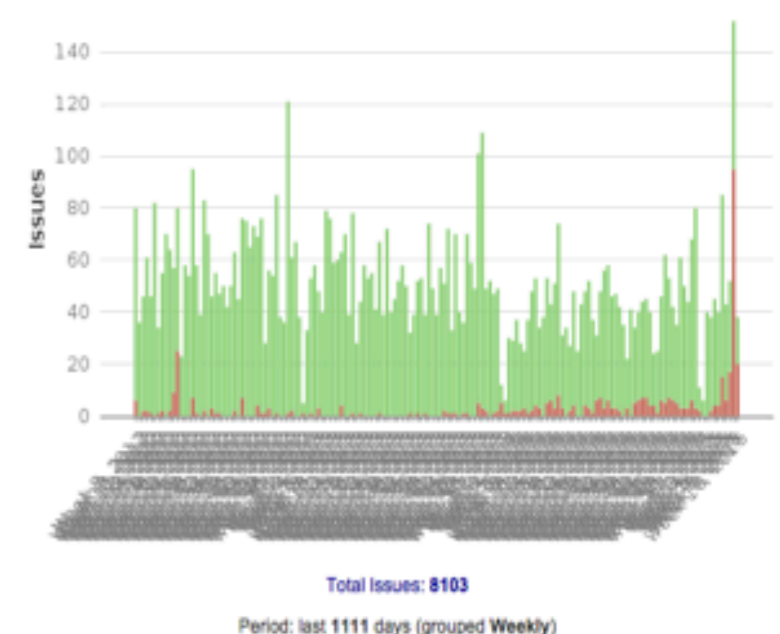
Filter Results: unassigned

No matching issues found.

Filter Results: EA open

Key	Reporter	Summary	Created	Assignee	Sub-Tasks
EA-617	Hannes Grobe	führende rullen im event label	2014-08-20	Hannes Grobe	

1-1 of 1



Workflow in data publishing

- Submission via ticket system (PI)
- Import to PANGAEA (curator)
- Proofreading (PI)
↕
• Corrections (curator)
- Peer review
- Publication with DOI & citation

Editorial

Review



Data Access

- 🌐 Search engine > works like Google
- 🌐 ART (Advanced Retrieval Tool) > curators only
- 🌐 DDI (Direct Download Interface) > dynamic queries
- 🌐 PanCore > Metadata search
- 🌐 DOI (Digital Object Identifier) > persistent link
- 🌐 Web service > distribution in the Internet
- 🌐 Data Warehouse > retrieval & compilation



Search engine



Search for:

Search

Show map

Help

[Info](#)

[Software](#)

[Advanced search](#)



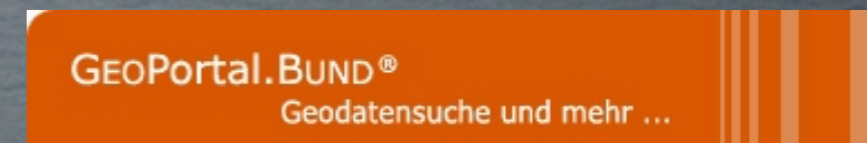
Web services



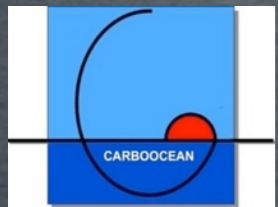
Search Engines



Meta Systems



Projects



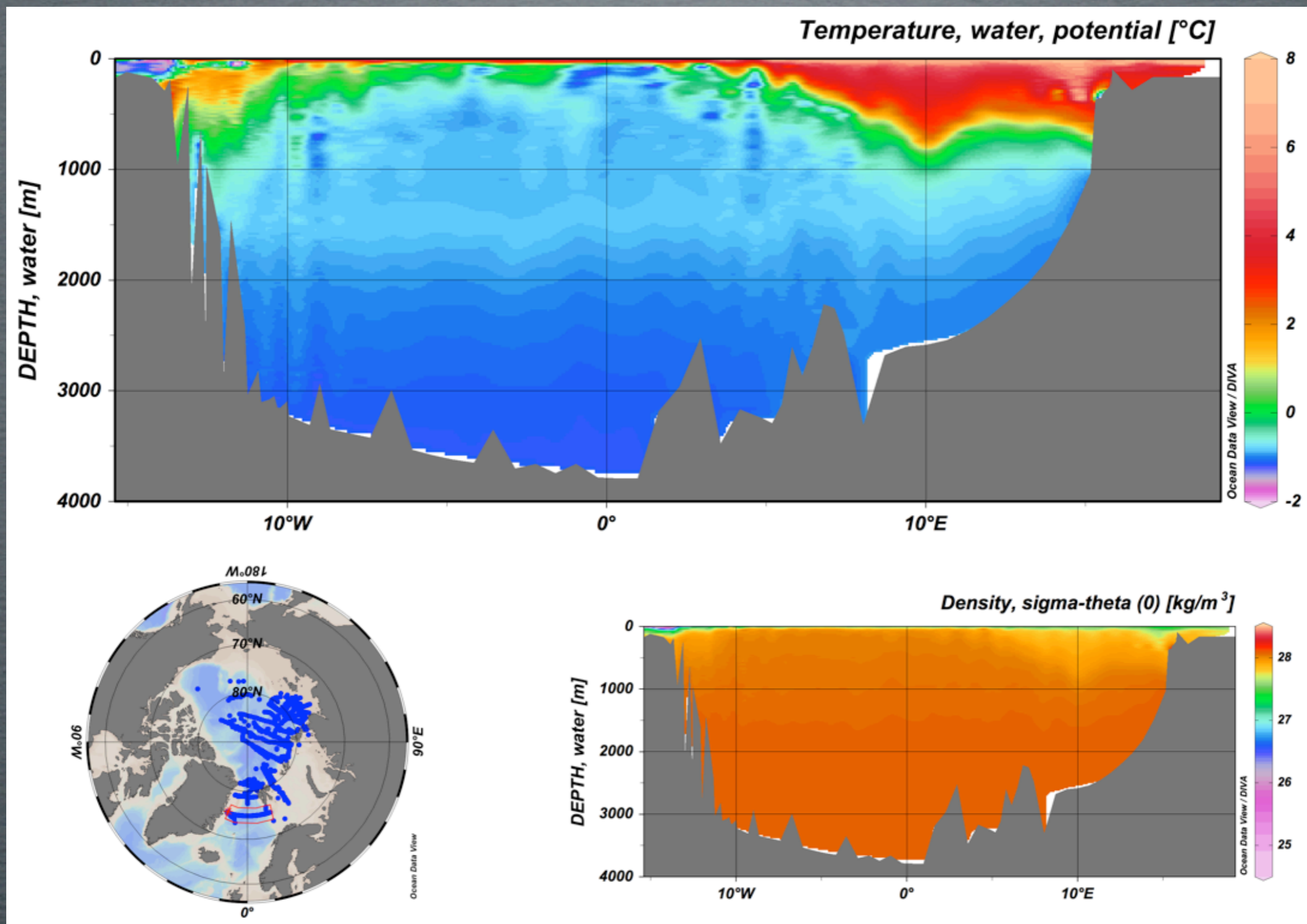
Portals



Library Catalogs



Data warehouse



Teil B: Assoziierte Forschungsinfrastrukturen (LK II)

1. Forschungsschiff POLARSTERN

Bitte beschreiben Sie kurz die wissenschaftliche Infrastruktur und deren Nutzen. ()

1.1. Wissenschaftliche Ergebnisse

Bitte die wesentlichen Ergebnisse und Erfolge kurz darstellen, falls nicht bereits in Teil A beschrieben (max. 0,5 Seiten). ()

1.2. ...

1.3. ...

1.4. Stand der Umsetzung der Senatsempfehlungen

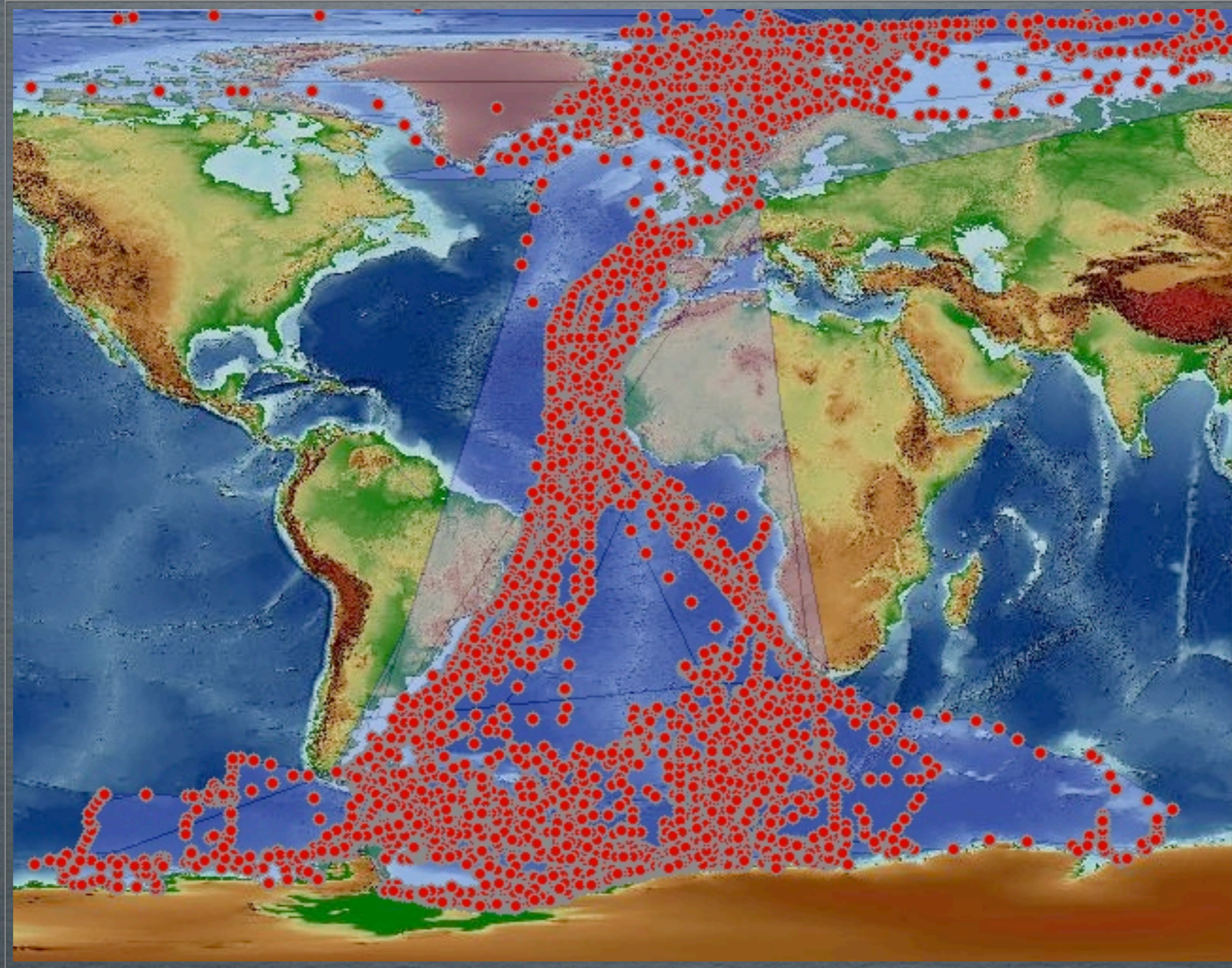
Bitte nehmen Sie zur geplanten Umsetzung der Empfehlungen Stellung. Hierbei sollten konkrete Schritte zur Umsetzung der Empfehlung benannt sowie Kriterien/Indikatoren angegeben werden, mit deren Hilfe der Stand der Umsetzung der jeweiligen Empfehlung gemessen werden kann.

1.3.1 ...

1.3.2 Die auf dem Forschungsschiff Polarstern gemessenen Daten sollen zeitnah unter der Nutzung von DOI (Digital Object Identifiers) publiziert werden.

1.3.3 Sicherstellung der systematischen Überwachung des Datenzugriffs: externer Datenzugriff soll verfolgt und über die Ergebnisse regelmäßig berichtet werden

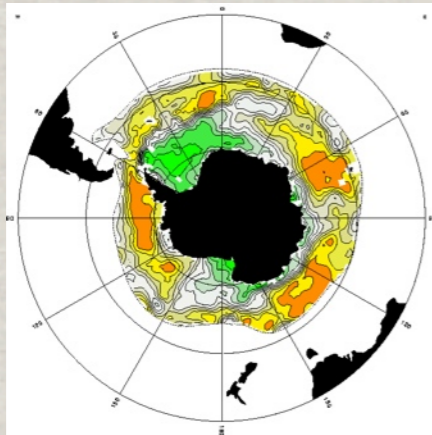
Meteorological observations



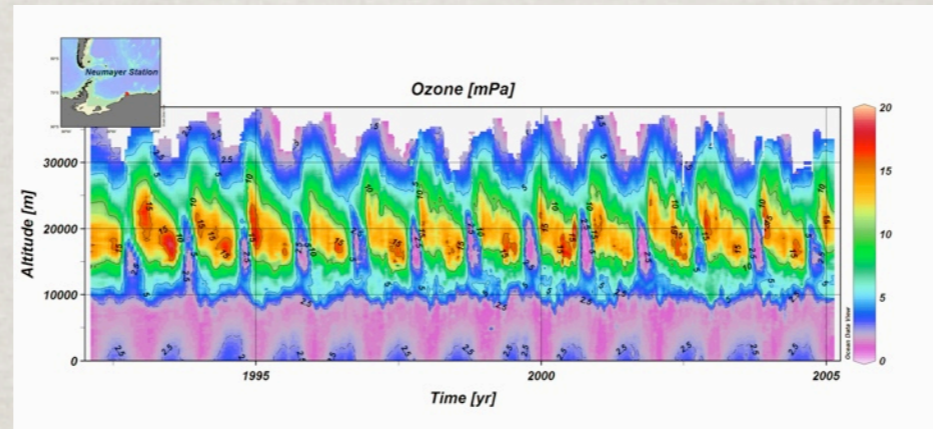
[doi:10.1594/PANGAEA.269619](https://doi.org/10.1594/PANGAEA.269619)



Examples from Antarctic Research



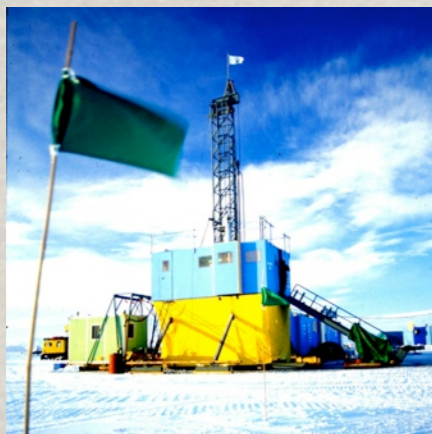
Southern Ocean Atlas



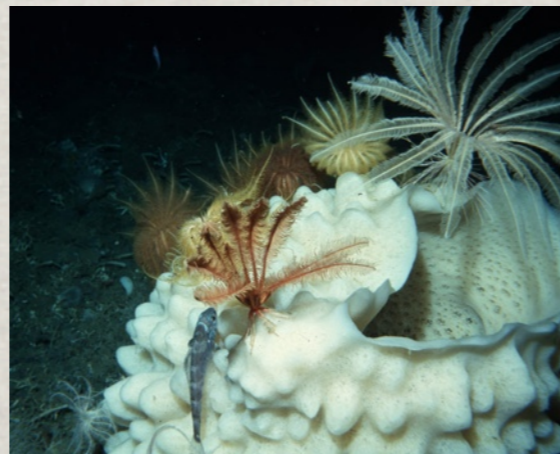
Ozone profiles



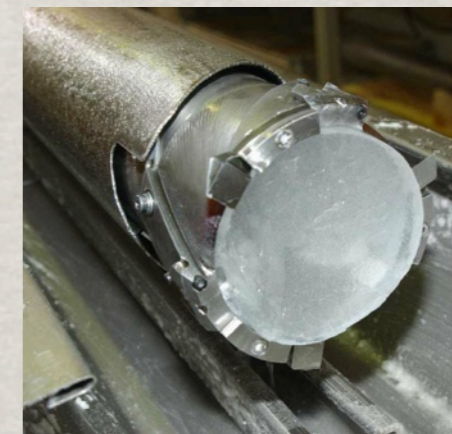
Sediments and Rocks



CRP
Cape Roberts Project



Archive of
Underwater Imaging



EPICA
European Project for
Ice Coring in Antarctica





Thomson Reuters Unveils Data Citation Index for Discovering Global Data Sets

Fri Jun 22, 2012 8:32am EDT

* Reuters is not responsible for the content in this press release.

First of Its Kind Data Citation Index Connects Researchers to Data Repositories around the World

Philadelphia, PA, June 22, 2012 - The Intellectual Property & Science division of Thomson Reuters announced today that it will preview at the American Library Association Conference (ALA) the *Data Citation Index*TM, an upcoming research resource within the *Web of Knowledge*SM to facilitate the discovery, use and attribution of data sets and data studies, and link those data to peer-reviewed literature.





Thomson Reuters Unveils Data Citation Index for Discovering Global Data Sets

Citation: König-Langlo, Gert (2005): Meteorological observations during POLARSTERN cruise ARK-XIX/1. *Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research, Bremerhaven*, doi:10.1594/PANGAEA.269619

Related to: Schauer, Ursula; Kattner, Gerhard (2004): The Expedition ARKTIS XIX/1 a, b and XIX/2 of the Research Vessel Polarstern in 2003. *Berichte zur Polar- und Meeresforschung = Reports on Polar and Marine Research*, 481, 194 pp, doi:10.2312/BzPM_0481_2004

Further details: König-Langlo, Gert (2012): Validation routines for synoptic observations. *Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany*, hdl:10013/epic.40293.d001

Project(s): Meteorological Long-Term Observations @ AWI (AWI_Meteo)

Coverage: Median Latitude: 77.606342 * Median Longitude: 13.958116 * South-bound Latitude: 53.500000 * West-bound Longitude: 3.400000 * North-bound Latitude: 81.900000 * East-bound Longitude: 30.900000

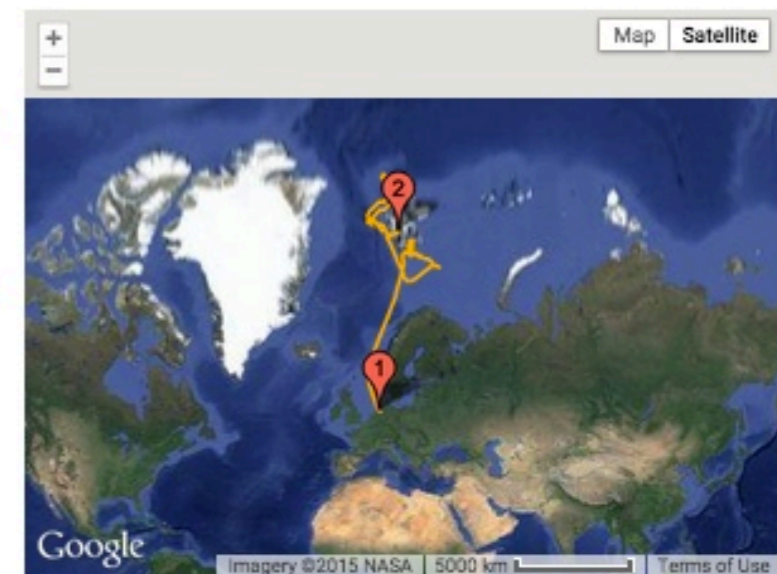
Date/Time Start: 2003-02-28T21:00:00 * Date/Time End: 2003-04-23T12:00:00

Minimum ALTITUDE: 25.0 m * Maximum ALTITUDE: 25.0 m

Event(s): PS64/1-track * Latitude Start: 53.563960 * Longitude Start: 8.548130 * Latitude End: 78.300000 * Longitude End: 15.650000 * Date/Time Start: 2003-02-28T21:00:00 * Date/Time End: 2003-04-23T23:59:00 * Campaign: ARK-XIX/1 (PS64) * Basis: Polarstern * Device: Underway cruise track measurements (CT)

Parameter(s):

#	Name	Short Name	Unit	Principal Investigator	Method	Comment
1	DATE/TIME	Date/Time				Geocode
2	LATITUDE	Latitude				Geocode
3	LONGITUDE	Longitude				Geocode
4	ALTITUDE	Altitude	m			Geocode
5	Cloud base height	h	code	König-Langlo, Gert	Ceilometer	
6	Horizontal visibility	VV	code	König-Langlo, Gert	Visibility sensor	
7	Wind direction	dd	deg	König-Langlo, Gert	Anemometer	
8	Wind speed	ff	m/s	König-Langlo, Gert	Anemometer	
9	Temperature, air	TTT	°C	König-Langlo, Gert	Thermometer	



more sea ice to grow and HSSW and, subsequent, WSBW to form, could compensate the glacial melt-water-induced WSBW formation.

Further investigations in the western Weddell Sea are necessary to confirm the findings to date and to investigate the temporal evolution. So far, we have strong indications for HSSW and glacial melt water to originate from the western Weddell Sea continental shelf, including Larsen C Ice Shelf. The spatial structure of the flow and its temporal variability just starts to become known. Bathymetric maps more reliable than those available for this area to date would be extremely helpful to interpret the results and to plan further surveys. Previous cruises to the east of the Antarctic Peninsula (in the area of LIS, i.e., ISW-1 and ISPOL) drifted within the Weddell Gyre's western rim, parallel to the slope. Hydrographic and tracer sections perpendicular to the mean flow, covering the continental shelf and slope, are desirable. They could provide a better estimate on local WSBW formation and on the relation between glacial melt water and HSSW driven processes. Furthermore, these measurements have to be related to the observed temporal changes of bottom water characteristics in the northwestern Weddell Sea (Robertson et al., 2002; Schröder et al., 2002; Nicholls et al., 2004; Fahrback et al., 2004). Hydrographic and tracer observations are always snapshots in time and space and can usually not be conducted directly at the sources in this hardly accessible and remote area. They might be complemented by model simulations that are validated by the available hydrographic and tracer observations, including those of the present study. They also could improve our understanding of the complex interaction of temporally open or sea ice covered continental shelves, the ice shelves, and the ocean interior.

Acknowledgments

We thank the master and the crew of R.V. *Polarstern*, the helicopter team, and the ISPOL scientific party for excellent and fruitful cooperation. Special thanks to K. Bulsiewicz, G. Fraas, W. Plep, J. Sültenfuß, and their student assistants for their excellent work in our CFC and noble gas lab. Further thanks to A. Wisotzki for analysis and assessment of the hydrographic data obtained during ISPOL and to K.-P. Lieckfeldt and M. Schodlok for their assistance during the noble gas and CFC sampling. We also thank K. Heywood and one anonymous reviewer for their helpful comments and suggestions. The tracer measurements and the data analysis carried out by O. Huhn were funded by the Deutsche Forschungsgemeinschaft (DFG), as part of Schwerpunktprogramm Antarktischforschung (SPP 1158).

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Citation: König-Langlo, Gert (2005): Meteorological observations during POLARSTERN cruise ARK-XIX/1. *Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research, Bremerhaven*, doi:10.1594/PANGAEA.269619



no data found ?



might not be the problem of Pangaea ...

