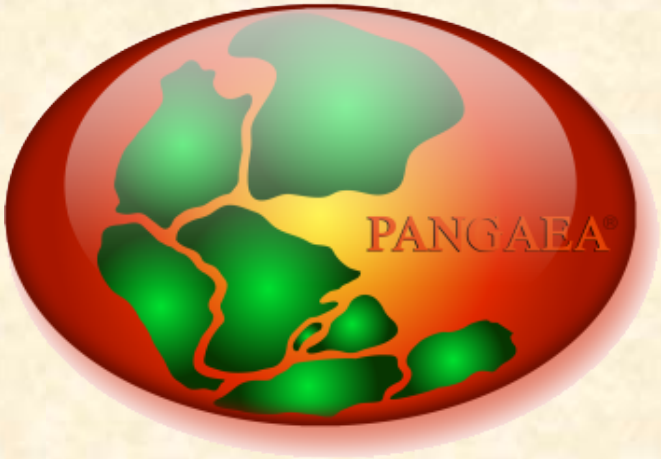
# Introduction to the Data Library PANGAEA®

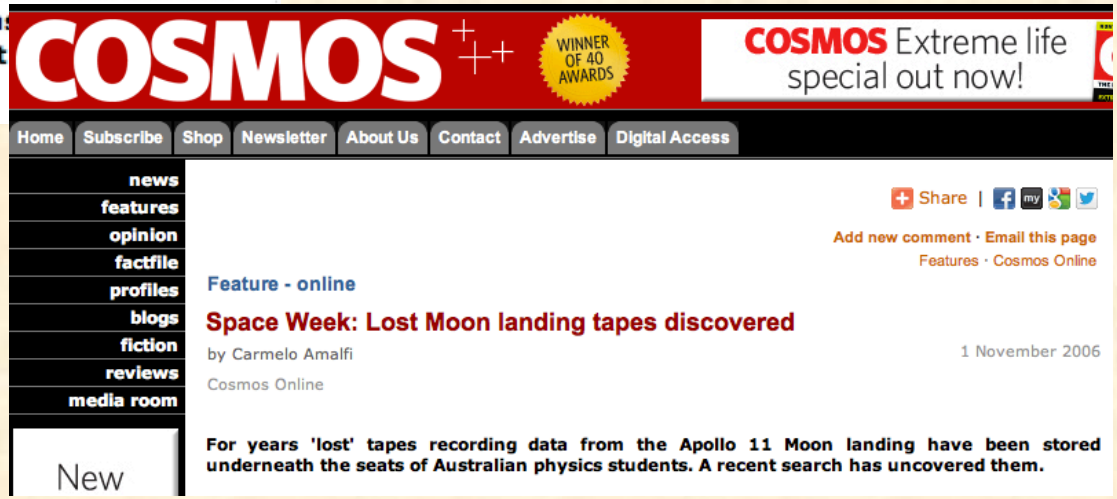
# and submitting data




Stefanie Schumacher

# Why should we archive our data?

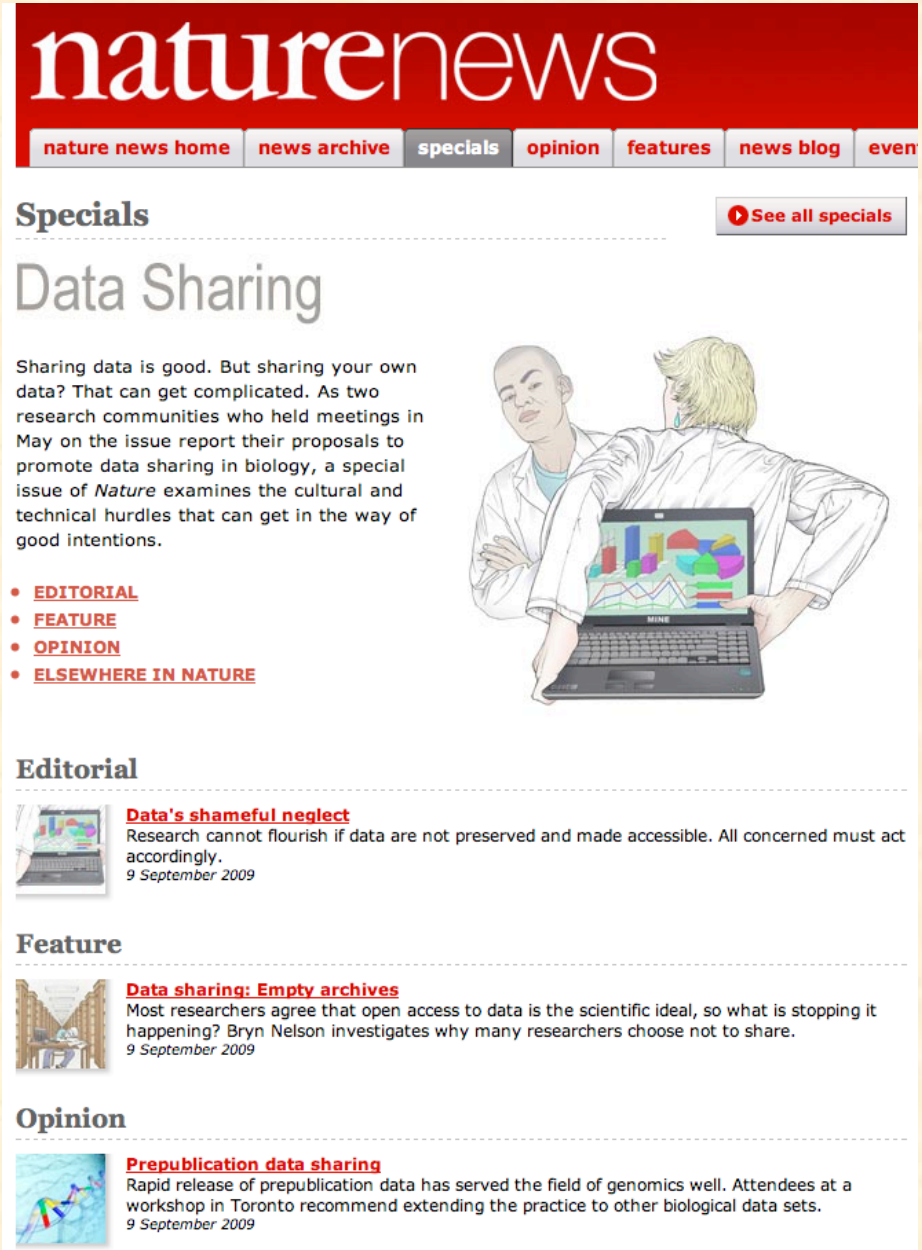

Apollo 11 Moon landing tapes lost



# Data sharing and archiving

Nature:
Vol 461, 10 September 2009

doi:10.1038/461145a



nature news

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## Specials

See all specials

### Data Sharing

Sharing data is good. But sharing your own data? That can get complicated. As two research communities who held meetings in May on the issue report their proposals to promote data sharing in biology, a special issue of *Nature* examines the cultural and technical hurdles that can get in the way of good intentions.

- EDITORIAL
- FEATURE
- OPINION
- ELSEWHERE IN NATURE



### Editorial

**Data's shameful neglect**
Research cannot flourish if data are not preserved and made accessible. All concerned must act accordingly.
*9 September 2009*

### Feature

**Data sharing: 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.
*9 September 2009*

### Opinion

**Prepublication data sharing**
Rapid release of prepublication data has served the field of genomics well. Attendees at a workshop in Toronto recommend extending the practice to other biological data sets.
*9 September 2009*

# Good scientific practice in research and scholarship

European Science Foundation (ESF), 2000

***Data accumulation, handling, and storage***

36. Data are produced at all stages in experimental research and in scholarship. Data sets are an important resource, which enable later verification of scientific interpretations and conclusions. They may also be the starting point for further studies. It is vital, therefore, that all primary and secondary data are stored in a secure and accessible form.

37. Institutions may pay particular attention to documenting and archiving original research and scholarship data. Several codes of good practice recommend a minimum period of 10 years, longer in the case of especially significant or sensitive data. National or regional discipline-based archives should be considered where there are practical or other problems in storing data at the institution where the research was conducted.

# Open Access


Budapest Open Access Initiative
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Budapest Open Access Initiative
The Budapest Open Access Initiative arises from a small but lively meeting convened in Budapest by the Open Society Institute (OSI) on December 1-2, 2001. The purpose of the meeting was to accelerate progress in the international effort to make research articles in all academic fields freely available on the
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20 - 22 Oct 2003, Berlin
Berlin Declaration
Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

# Supplementary data

Marine Micropaleontology 74 (2010) 108–118

Contents lists available at ScienceDirect

Marine Micropaleontology

journal homepage: www.elsevier.com/locate/marmicro

## Paleoceanographic evolution of North Pacific surface water off Japan during the past 150,000 years

Itaru Koizumi [a,*], Hirofumi Yamamoto [b]

[a] Hokkaido University, Japan
[b] Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan

ARTICLE INFO

*Article history:*
Received 19 November 2009
Received in revised form 24 January 2010
Accepted 28 January 2010

*Keywords:*
*Td'* (the ratio of warm- and cold-water diatoms)-derived annual SST (°C)
Wavelet analysis
Last interglacial period
Kuroshio–Kuroshio Extension
Oyashio
Tsugaru Warm Current
Earth's orbital parameters
El Niño–Southern Oscillation (ENSO)

ABSTRACT

Hydrographic variability in the Mixed Water Region of the Northwest Pacific Ocean at latitudes 35°–40°N, between the Kuroshio Extension and Oyashio Front, causes complex upwelling, leading to large primary productivity and thus great fishery resources. We reconstructed the periodicity of the variability in North Pacific Intermediate Water upwelling and surface ocean hydrography based on the high-resolution analysis of diatom assemblages in seven cores, representing the last 150,000 years. We derived annual sea surface temperatures (SSTs) through a diatom-based proxy (*Td'*). The *Td'*-derived annual SSTs (°C) are controlled by orbital forcing, and show a reversed saw-tooth in southern cores, in contrast to a normal saw-tooth pattern in the northern cores. Oceanic diatom abundances along the northern margin of the Mixed Water Region are twice times as high as beneath the axis of the Kuroshio Extension, and fluctuated in a revised saw-tooth pattern with higher overall abundances interglacials. After the last deglaciation, annual SSTs declined markedly during Heinrich and Bond events in the northern North Atlantic, when ice-rafted detritus transported by icebergs was abundant. Wavelet analyses of the record of oceanic diatom abundances show significant variability at 2.0-kyr, 2 to 5.6-kyr and 3.2 to 9.6-kyr periods. Wavelet analyses of the annual SST records show significant periodicity at 1.4 to 2.6-kyr, 3.3 to 4.0-kyr, 7.2 to 12.8-kyr cycles.



### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.marmicro.2010.01.003.

### References

# Open Access ?

**Access Online Article**

**Paleoceanographic evolution of North Pacific surface water off Japan during the past 150,000years** Original Research Article

*Marine Micropaleontology, Volume 74, Issues 3–4, April 2010, Pages 108-118*
Itaru Koizumi, Hirofumi Yamamoto View Abstract

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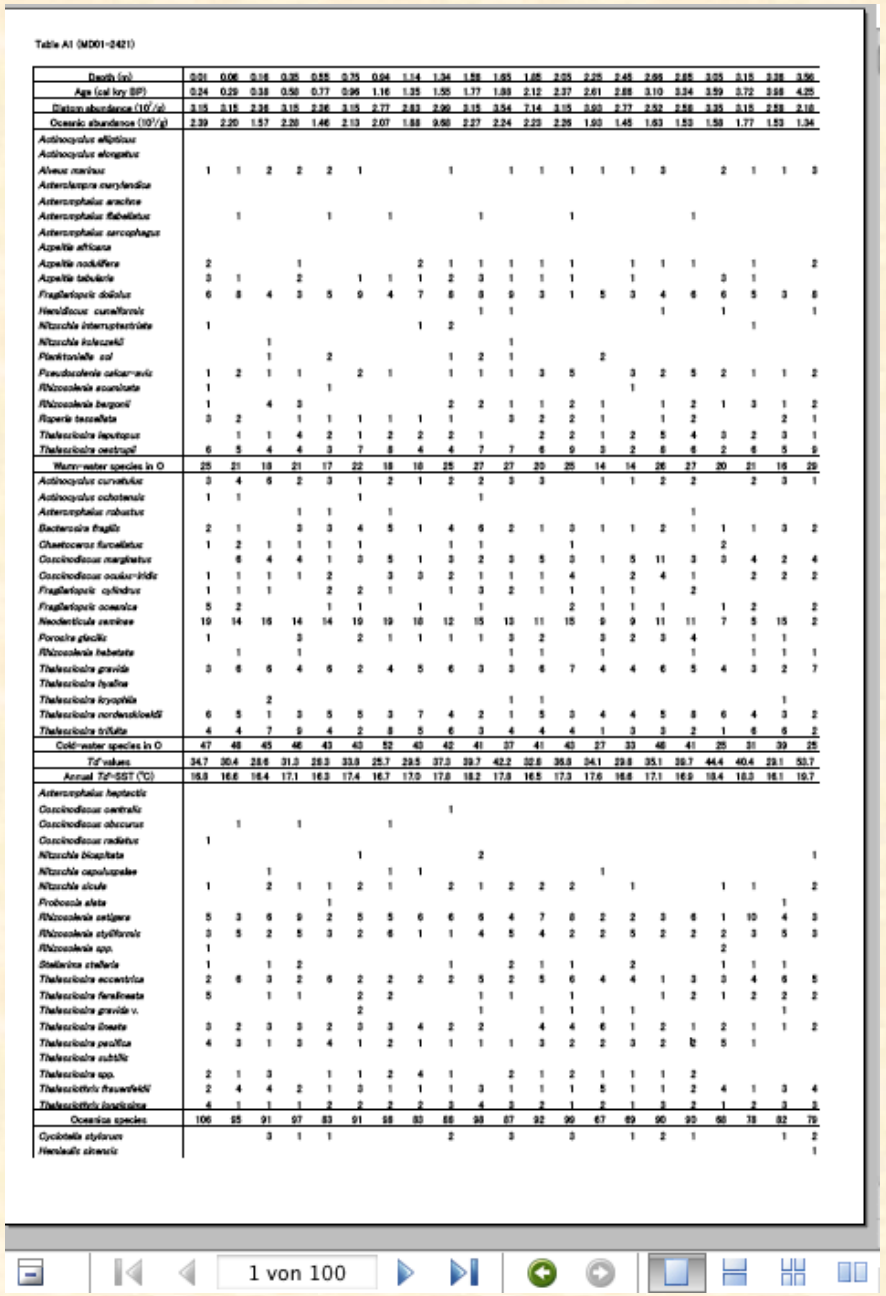
e-mail addresse up-to-date?

Transfer the pdf to excle?

Loss of time for each scientist and incorrect transfer



# Relational database

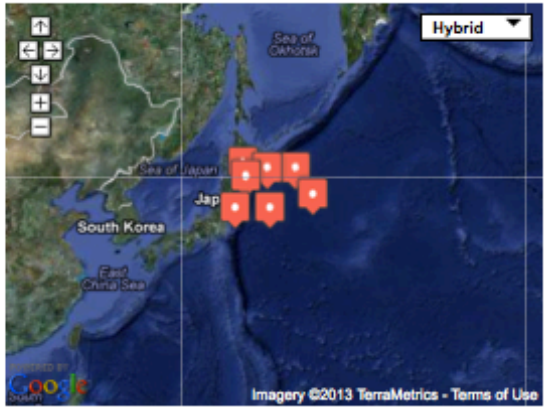
Logged in as **sschumacher** (log out, profile)

**PANGAEA®**
**Data Publisher for Earth & Environmental Science**

Always quote citation when using data!

**Data Description** Show Map | Google Earth | RIS | BibTeX

*Citation:* Koizumi, I; Yamamoto, H (2010): Vertical distribution of diatoms in North Pacific sediments. doi:10.1594/PANGAEA.776366,
*Supplement to:* **Koizumi, Itaru; Yamamoto, Hirofumi (2010):** Paleoceanographic evolution of North Pacific surface water off Japan during the past 150,000 years. *Marine Micropaleontology*, **74(3-4)**, 108-118, doi:10.1016/j.marmicro.2010.01.003




*Abstract:* Hydrographic variability in the Mixed Water Region of the Northwest Pacific Ocean at latitudes 35°-40°N, between the Kuroshio Extension and Oyashio Front, causes complex upwelling, leading to large primary productivity and thus great fishery resources. We reconstructed the periodicity of the variability in North Pacific Intermediate Water upwelling and surface ocean hydrography based on the high-resolution analysis of diatom assemblages in seven cores, representing the last 150,000 years. We derived annual sea surface temperatures (SSTs) through a diatom-based proxy (Td'). The Td'-derived annual SSTs (°C) are controlled by orbital forcing, and show a reversed saw-tooth in southern cores, in contrast to a normal saw-tooth pattern in the northern cores. Oceanic diatom abundances along the northern margin of the Mixed Water Region are twice times as high as beneath the axis of the Kuroshio Extension, and fluctuated in a revised saw-tooth pattern with higher overall abundances interglacials. After the last deglaciation, annual SSTs declined markedly during Heinrich and Bond events in the northern North Atlantic, when ice-rafted detritus transported by icebergs was abundant. Wavelet analyses of the record of oceanic diatom abundances show significant variability at 2.0-kyr, 2 to 5.6-kyr and 3.2 to 9.6-kyr periods. Wavelet analyses of the annual SST records show significant periodicity at 1.4 to 2.6-kyr, 3.3 to 4.0-kyr, 7.2 to 12.8-kyr cycles.

*Project(s):* **Ocean Drilling Program** (ODP)

*Coverage:* *Median Latitude:* 38.477917 * *Median Longitude:* 146.055988 * *South-bound Latitude:* 36.000000 * *West-bound Longitude:* 141.780000 * *North-bound Latitude:* 40.560000 * *East-bound Longitude:* 152.000000

*Minimum Age:* 0.000 ka BP * *Maximum Age:* 152.580 ka BP

*Event(s):* **186-1150A** * *Latitude:* 39.181910 * *Longitude:* 143.331910 * *Date/Time Start:* 1999-06-22T18:30:00 * *Date/Time End:* 1999-06-26T22:15:00 * *Elevation:* -2680.8 m * *Recovery:* 566.40 m * *Penetration:* 722.60 m * *Location:* North Pacific Ocean * *Campaign:* Leg186 * *Basis:* Joides Resolution * *Device:* Drilling * *Comment:* 76 cores; 722.6 m cored; 0 m drilled; 78.4 % recovery

**MD01-2421** (MD012421) * *Latitude:* 36.023500 * *Longitude:* 141.780000 * *Date/Time:* 2001-06-16T04:33:00 * *Elevation:* -2286.0 m * *Recovery:* 45.84 m * *Location:* Japan Trench * *Campaign:* MD122 (IMAGES VII - WEPAMA) * *Basis:* Marion Dufresne * *Device:* Giant piston corer

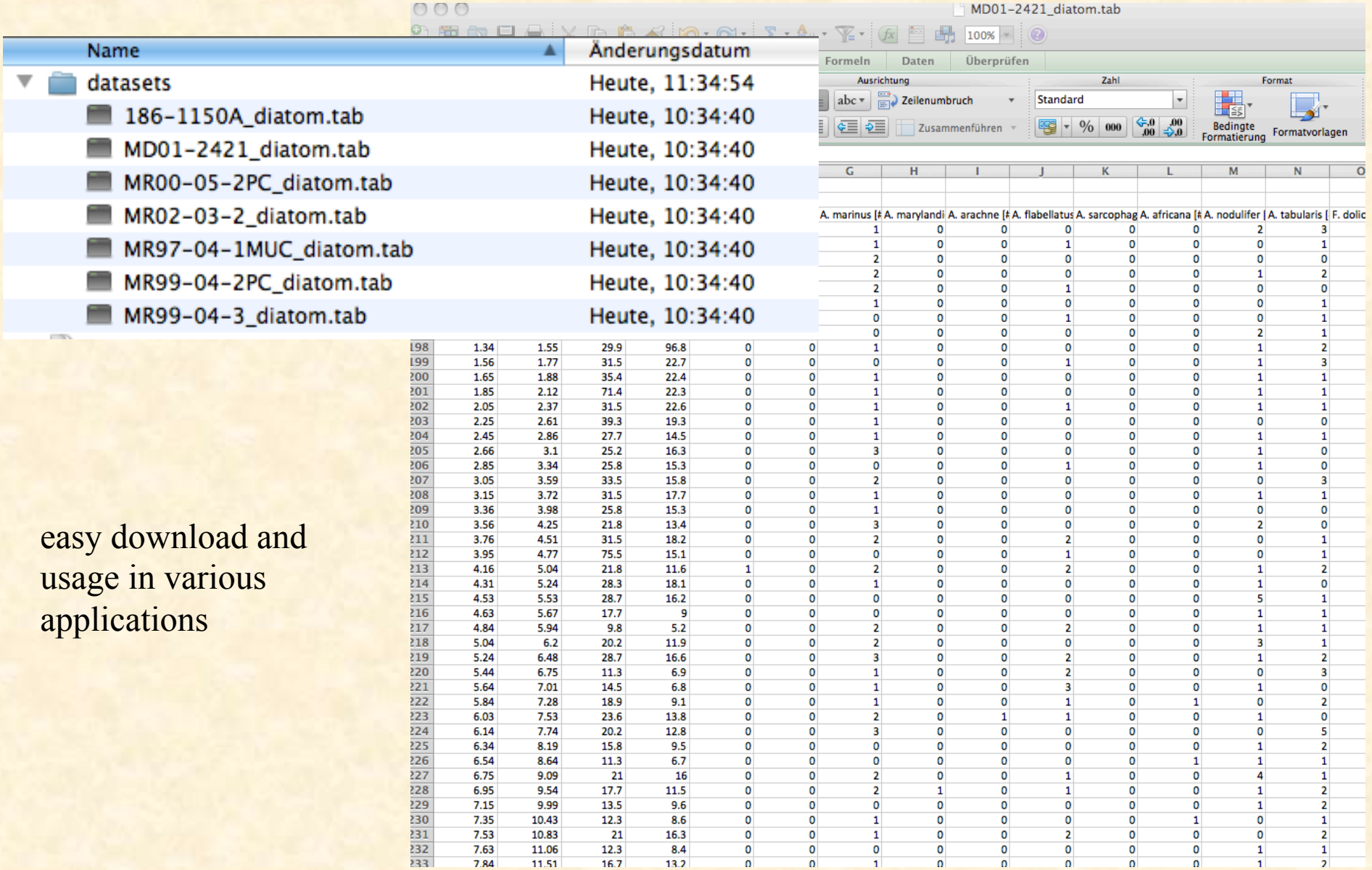
**MR00-05-2PC** * *Latitude:* 40.000000 * *Longitude:* 146.000000 * *Elevation:* -5177.0 m * *Location:* Northwest Pacific * *Device:* Piston corer

*License:* Creative Commons Attribution 3.0 Unported

*Size:* 7 datasets

**Download Data**

Download **ZIP** file containing all datasets as tab-delimited text *(use the following character encoding:* ISO-8859-1: ISO Western (PANGAEA default) *)*

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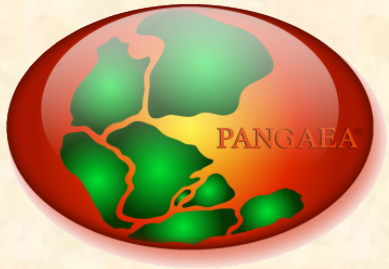



# What is PANGAEA® ?

Pangaea is an open access **data library** for earth system research. Data are stored georeferenced in space and time in a relational database and a tape archive.

The data content is accessible on the internet via a search engine, a data warehouse and web services.

The system is open to any scientist or project to archive and publish data.

# History & Milestones

1987 Core repository database

1989 SEDI/SEDAT proprietary predecessor

1994 SEDAN/SEPAN relation predecessor

1996 PANAGAEA

1998 www.pangaea.de

2001 WDC-MARE

2004 OAI and DOI

2006 Data citation, portal software

2008 Data warehouse

2009 Elsevier-Partnership

2010 AGU-Partnership

…

each dataset can be identified, shared, published and cited by using a Digital Object Identifier (DOI)

# Digital Object Identifier - DOI


doi:10.1016/S0098-3004(02)00039-0

ELSEVIER

Computers & Geosciences

Volume 28, Issue 10, December 2002, Pages 1201–1210

Shareware and freeware in the Geosciences II. A special issue in honour of John Butler

## PANGAEA—an information system for environmental sciences

Michael Diepenbroek[a], Hannes Grobe[b], Manfred Reinke[b], Uwe Schindler[c], Reiner Schlitzer[b], Rainer Sieger[b], Gerold Wefer[a]

[a] Center for Marine Environmental Sciences (MARUM), University Bremen, Bremen 28334, Germany

[b] Alfred Wegener Institute for Polar and Marine Research, Bremerhaven 27515, Germany

[c] Physics Department, University of Erlangen-Nuremberg, Erlangen 91058, Germany

http://dx.doi.org/10.1016/S0098-3004(02)00039-0, How to Cite or Link Using DOI

Permissions & Reprints

DOI – Digital Object Identifier

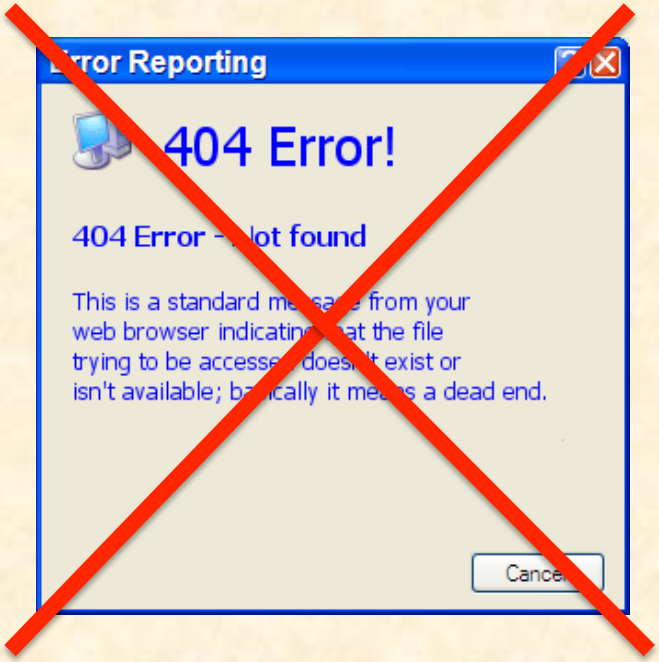
Is a character string used to uniquely identify an electronic document or object.

The DOI of a document is permanent, whereas its location and other metadata may change

Is resolved by a doi-resolver: http://dx.doi.org/

Example:

doi:10.1594/PANGAEA.737668




http://dx.doi.org/10.1594/PANGAEA.737668

# Who are the hosts of PANGAEA ?

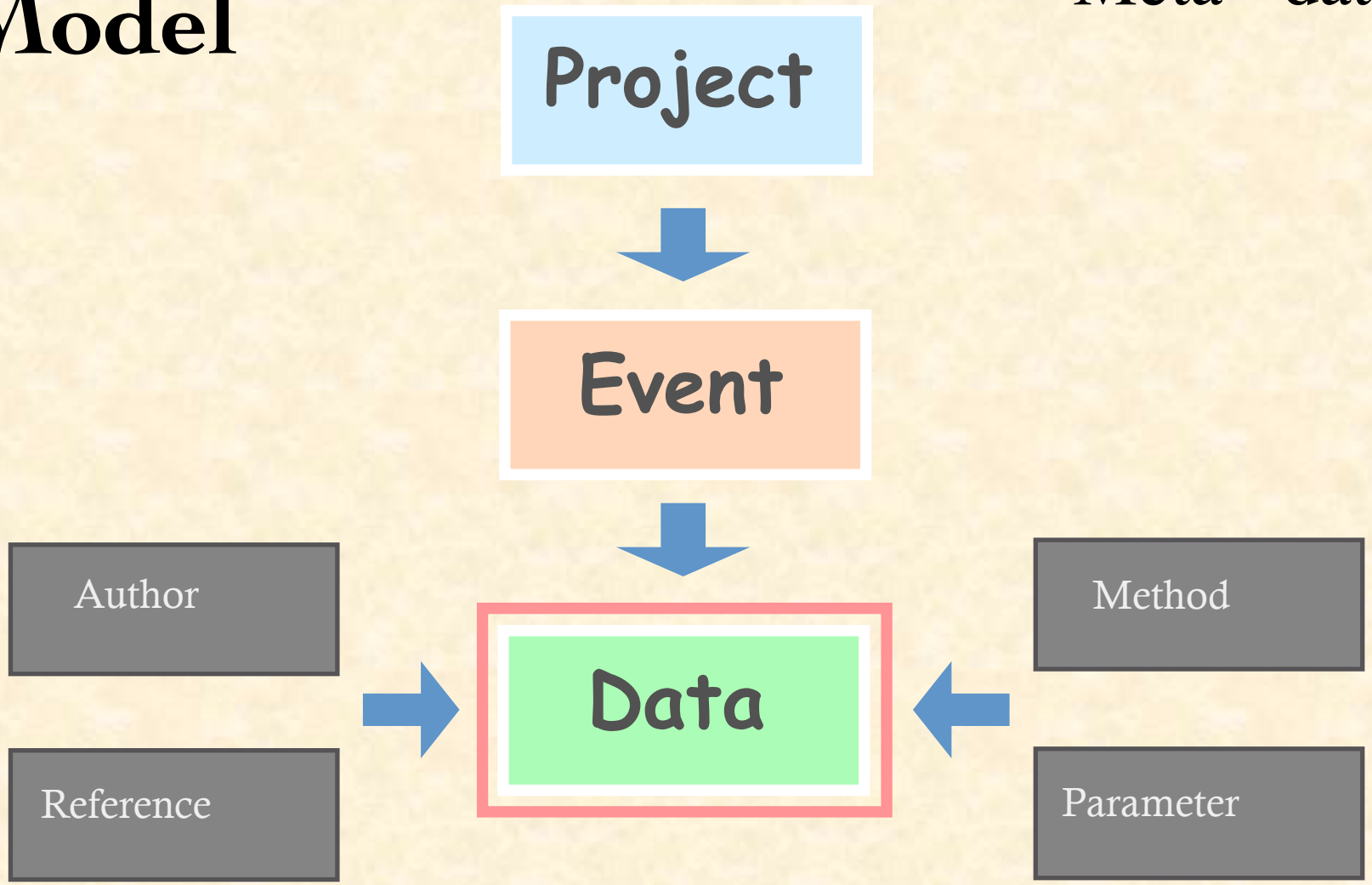
Alfred Wegener Institute for Polar and Marine Research, Bremerhaven

Center for Marine Environmental Sciences, Bremen

*Both institutions have committed to long-term operate PANGAEA*

# Data Model

Meta - data



# Geo-code & meta-data

*when ?*

date/time or age

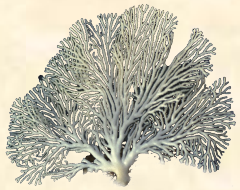
*what ?*

parameter [unit]

*how ?*

method

123.4 text



*where ?*

latitude
longitude

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

*who ?*

investigator
reference

!

*... no data without metadata*

*no metadata without data ...*

!

Marine Micropaleontology
Volume 76, Issues 3-4, September 2010, Pages 92-103

doi:10.1016/j.marmicro.2010.06.002 | How to Cite or Link Using DOI


Research paper

# Ontogenetic effects on stable carbon and oxygen isotopes in tests of live (Rose Bengal stained) benthic foraminifera from the Pakistan continental margin

**Stefanie Schumacher**[a, b], **Frans J. Jorissen**[a, b], **Andreas Mackensen**[c], **Andrew J. Gooday**[d] and **Olivier Pays**[e]

[a] Laboratory of Recent and Fossil Bio-Indicators (BIAF), Angers University, 2 Bd Lavoisier, 49045 Angers Cedex 01, France
[b] Laboratory of Marine Bio-Indicators (LEBIM), Ile d'Yeu, Ker Chalon, France
[c] Alfred Wegener Institute for Polar and Marine Research, Am Alten Hafen 26, 27568 Bremerhaven, Germany
[d] National Oceanography Centre, Southampton, European Way, Southampton SO14 3ZH, United Kingdom
[e] LEESA, Ecology and Conservation Biology group, Angers University, 2 Bd Lavoisier, 49045 Angers Cedex 01, France

Received 11 December 2008; revised 10 June 2010; accepted 17 June 2010. Available online 25 June 2010.

**PANGAEA®**
Data Publisher for Earth & Environmental Science



## Data Description

Show Map | Google Earth | RIS | BibTeX


*Citation:* Schumacher, S et al. (2010): Stable carbon and oxygen isotope ratios for different test sizes of live benthic foraminifera from the Arabian Sea. doi:10.1594/PANGAEA.707882,
*Supplement to:* **Schumacher, Stefanie; Jorissen, Frans J; Mackensen, Andreas; Gooday, Andrew J; Pays, Olivier (2010):** Ontogenetic effects on stable carbon and oxygen isotopes in tests of live (Rose Bengal stained) benthic foraminifera from the Pakistan continental margin. *Marine Micropaleontology*, **76(3-4)**, 92-103, doi:10.1016/j.marmicro.2010.06.002

*Abstract:* We determined the stable oxygen and carbon isotopic composition of live (Rose Bengal stained) tests belonging to different size classes of two benthic foraminiferal species from the Pakistan continental margin. Samples were taken at 2 sites, with water depth of about 135 and 275 m, corresponding to the upper boundary and upper part of the core region of the oxygen minimum zone (OMZ). For Uvigerina ex gr. U. semiornata and Bolivina aff. B. dilatata, delta13C and delta18O values increased significantly with increasing test size. In the case of U. ex gr. U. semiornata, delta13C increased linearly by about 0.105 per mil for each 100-µm increment in test size, whereas delta18O increased by 0.02 to 0.06 per mil per 100 µm increment. For B. aff. B. dilatata the relationship between test size and stable isotopic composition is better described by logarithmic equations. A strong positive linear correlation is observed between delta18O and delta13C values of both taxa, with a constant ratio of delta18O and delta13C values close to 2:1. This suggests that the strong ontogenetic effect is mainly caused by kinetic isotope fractionation during CO2 uptake. Our data underline the necessity to base longer delta18O and delta13C isotope records derived from benthic foraminifera on size windows of 100 µm or less. This is already common practice in down-core isotopic studies of planktonic foraminifera.

*Project(s):* **Paleoenvironmental Reconstructions from Marine Sediments @ AWI** (AWI_Paleo)

*Coverage:* *Median Latitude:* 23.246609 * *Median Longitude:* 66.634777 * *South-bound Latitude:* 23.214720 * *West-bound Longitude:* 66.567830 * *North-bound Latitude:* 23.289160 * *East-bound Longitude:* 66.719720

*Event(s):*
**CD145_55803#5** (A300) * *Latitude:* 23.214720 * *Longitude:* 66.567830 * *Date/Time:* 2003-03-22T00:00:00 * *Elevation:* -306.0 m * *Recovery:* 0.10 m * *Location:* Arabian Sea * *Campaign:* CD145 * *Basis:* Charles Darwin * *Device:* MultiCorer

**CD146_55901#11** (A140) * *Latitude:* 23.289160 * *Longitude:* 66.719720 * *Date/Time:* 2003-04-23T00:00:00 * *Elevation:* -133.0 m * *Recovery:* 0.10 m * *Location:* Arabian Sea * *Campaign:* CD146 * *Basis:* Charles Darwin * *Device:* MultiCorer

**CD151_56101#7** (A140) * *Latitude:* 23.280167 * *Longitude:* 66.711833 * *Date/Time:* 2003-09-20T07:30:00 * *Elevation:* -133.0 m * *Recovery:* 0.10 m * *Location:* Arabian Sea * *Campaign:* CD151 * *Basis:* Charles Darwin * *Device:* MultiCorer



*Size:* 10 datasets

## Download Data

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## Datasets listed in this Collection

1. **Schumacher, S; Jorissen, FJ; Mackensen, A et al. (2010):** (Table 2) Stable carbon and oxygen isotope ratios of live Uvigerina ex gr. U. semiornata from sediment core CD145_55803#5. doi:10.1594/PANGAEA.707872
2. **Schumacher, S; Jorissen, FJ; Mackensen, A et al. (2010):** (Table 2) Stable carbon and oxygen isotope ratios of live Uvigerina ex gr. U. semiornata from sediment core CD146_55901#11. doi:10.1594/PANGAEA.707873

## Data Description

Show Map | Google Earth

*Citation:* Schumacher, S et al. (2010): (Table 2) Stable carbon and oxygen isotope ratios of live Uvigerina ex gr. U. semiornata from sediment core CD145_55803#5. doi:10.1594/PANGAEA.707872,
*In Supplement to:* **Schumacher, Stefanie; Jorissen, Frans J; Mackensen, Andreas; Gooday, Andrew J; Pays, Olivier (2010):** Ontogenetic effects on stable carbon and oxygen isotopes in tests of live (Rose Bengal stained) benthic foraminifera from the Pakistan continental margin. *Marine Micropaleontology*, **76(3-4)**, 92-103, doi:10.1016/j.marmicro.2010.06.002

*Project(s):* **Paleoenvironmental Reconstructions from Marine Sediments @ AWI** (AWI_Paleo)

*Coverage:* *Latitude:* 23.214720 * *Longitude:* 66.567830

*Minimum DEPTH, sediment:* 0.0 m * *Maximum DEPTH, sediment:* 0.0 m

*Event(s):* **CD145_55803#5** (A300) * *Latitude:* 23.214720 * *Longitude:* 66.567830 * *Date/Time:* 2003-03-22T00:00:00 * *Elevation:* -306.0 m * *Recovery:* 0.10 m * *Location:* Arabian Sea * *Campaign:* CD145 * *Basis:* Charles Darwin * *Device:* MultiCorer


*Parameter(s):*

| # | Name | Short Name | Unit | Principal Investigator | Method | Comment |
|---|---|---|---|---|---|---|
| 1 | DEPTH, sediment | Depth | m | | | Geocode |
| 2 | Depth, top/min | Depth top | m | Schumacher, Stefanie | | |
| 3 | Depth, bottom/max | Depth bot | m | Schumacher, Stefanie | | |
| 4 | Foraminifera, benthic, size average | Foram bent size | µm | Schumacher, Stefanie | Measured with object micrometer | |
| 5 | Standard deviation | Std dev | ± | Schumacher, Stefanie | calculated | test size |
| 6 | Number of tests | Tests | # | Schumacher, Stefanie | | |
| 7 | Uvigerina ex gr. U. semiornata, d13C | U. ex gr. U. semiornata d13C | per mil PDB | Schumacher, Stefanie | Mass spectrometer Finnigan MAT 251 | |
| 8 | Uvigerina ex gr. U. semiornata, d18O | U. ex gr. U semiornata d18O | per mil PDB | Schumacher, Stefanie | Mass spectrometer Finnigan MAT 251 | |



*Size:* 77 data points

## Data

Download dataset as tab-delimited text *(use the following character encoding:* ISO-8859-1: ISO Western (PANGAEA default) *)*

| 1 Depth [m] | 2 Depth top [m] | 3 Depth bot [m] | 4 Foram bent size [µm] | 5 Std dev [±] | 6 Tests [#] | 7 U. ex gr. U. semiornata d13C [per mil PDB] | 8 U. ex gr. U semiornata d18O [per mil PDB] |
|---|---|---|---|---|---|---|---|
| 0.0025 | 0.000 | 0.005 | 207 | 18.9 | 10 | -1.26 | 0.65 |
| 0.0025 | 0.000 | 0.005 | 225 | 19.9 | 20 | -1.09 | 0.75 |
| 0.0025 | 0.000 | 0.005 | 294 | 11.1 | 10 | -1.20 | 0.55 |
| 0.0025 | 0.000 | 0.005 | 392 | 16.3 | 8 | -1.01 | 0.66 |
| 0.0025 | 0.000 | 0.005 | 479 | 10.4 | 7 | -0.92 | 0.79 |
| 0.0025 | 0.000 | 0.005 | 592 | 23.6 | 6 | -0.80 | 0.85 |

PANGAEA is a designated archive for the journal Earth System Science Data (ESSD)

doi:10.1594/PANGAEA.547983

Earth Syst. Sci. Data, 1, 1–5, 2009
www.earth-syst-sci-data.net/1/1/2009/


Earth System Science Data

# Compilation of ozonesonde profiles from the Antarctic Georg-Forster-Station from 1985 to 1992

**G. König-Langlo and H. Gernandt**

Alfred Wegener Institute for Polar and Marine Research, Bussestraße 24, 27570 Bremerhaven, Germany

Received: 29 July 2008 – Published in Earth Syst. Sci. Data Discuss.: 22 September 2008
Revised: 1 December 2008 – Accepted: 23 December 2008 – Published: 12 January 2009

**Abstract.** On 22 May 1985 the first balloon-borne ozonesonde was successfully launched by the staff of Georg-Forster-Station (70°46′ S, 11°41′ E). The subsequent weekly ozone soundings mark the beginning of a continuous investigation of the vertical ozone distribution in the southern hemisphere by Germany.

The measurements began the year the ozone hole was discovered. They significantly contribute to other measurements made prior to and following 1985 at other stations. The regular ozone soundings from 1985 until 1992 are a valuable reference data set since the chemical ozone loss became a significant feature in the southern polar stratosphere.

The balloon-borne soundings were performed at the upper air sounding facility of the neighbouring station Novolazarevskaya, just 2 km from Georg-Forster-Station. Until 1992, ozone soundings were taken without interruption. Thereafter, the ozone sounding program was moved to Neumayer-Station (70°39′ S, 8°15′ W) 750 km further west.

## Data coverage and parameter measured

Repository-Reference: doi:10.1594/PANGAEA.547983
Coverage: East: 11.8300; South: −70.7700;
Location Name: Georg-Forster-Station, Antarctica
Date/Time Start: 1985-05-22T05:19:00
Date/Time End: 1992-01-29T01:19:00

| Parameter | Short Name | Unit | Comment |
|---|---|---|---|
| Altitude | Altitude | m | height above mean sea level |
| Date/Time | Date/Time | | universal time code (UTC) |
| Longitude | Longitude | | at launching point |
| Latitude | Latitude | | at launching point |
| Ozone, partial pressure | $O_3$ | mPa | |
| Pressure, at given altitude | PPPP | hPa | |
| Temperature, air | TTT | degC | |
| Wind direction | dd | deg | |
| Wind speed | ff | m/sec | |

*Correspondence to:* G. König-Langlo
(gert.koenig-langlo@awi.de)

Published by Copernicus Publications.

## 1 Introduction

The first permanently operated German research base – later named Georg-Forster-Station – was established in 1976 in the Schirmacher Oasis at 70°46′ S, 11°41′ E. The station was permanently used and operated as an annex to the Russian station Novolazarevskaya until 1987, and then as a German Antarctic station named after the German natural scientists, author and revolutionary Georg Forster (1754–1794) until 1993.

Long-term studies of magnetospheric-ionospheric processes, geophysical investigations, biological studies and sea ice observations using satellite imaging were performed.

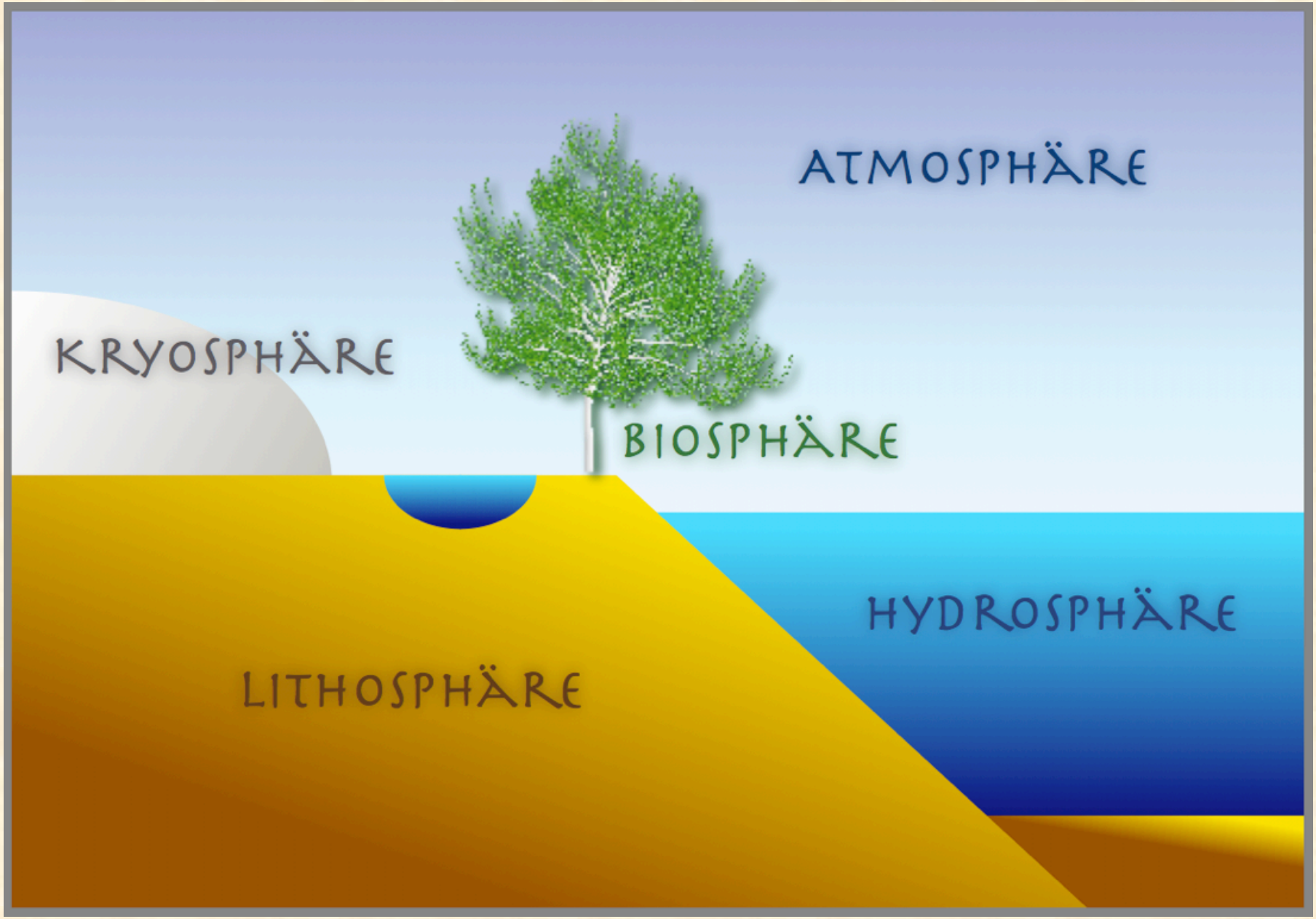
The station became known to the international scientific community when the vertical extent of the "ozone hole" in the southern polar stratosphere was firstly recorded by regular balloon-borne ozone observations in 1985 (Gernandt, 1987a, b).

The ozone sounding programme was a major contribution of the Meteorological Service to the Antarctic research of the German Democratic Republic (GDR). The station was established as a long-term ozone-sonde observatory in cooperation with the Russian Arctic and Antarctic Research Institute (AARI) and the Aerological Observatory Lindenberg (AOL) in order to study the climatology of the ozone layer in

# What kind of data can I found -

# what kind of data can be published/archived

# in PANGAEA


ATMOSPHÄRE
KRYOSPHÄRE
BIOSPHÄRE
HYDROSPHÄRE
LITHOSPHÄRE

# Major Projects

| International | EU | National |
|---|---|---|
| BSRN | ONARC | PANGAEA |
| JGOFS | CarboOcean | SFB RO |
| WOCE | EUR-Oceans | HISTRA |
| EPICA | HERMES/Hermione | ARCOD |
| IODP | EPOCA | DFG/BMBF |

Radiation

Pollen

Marine environment

Tree rings

Oceanography

Ocean acidification

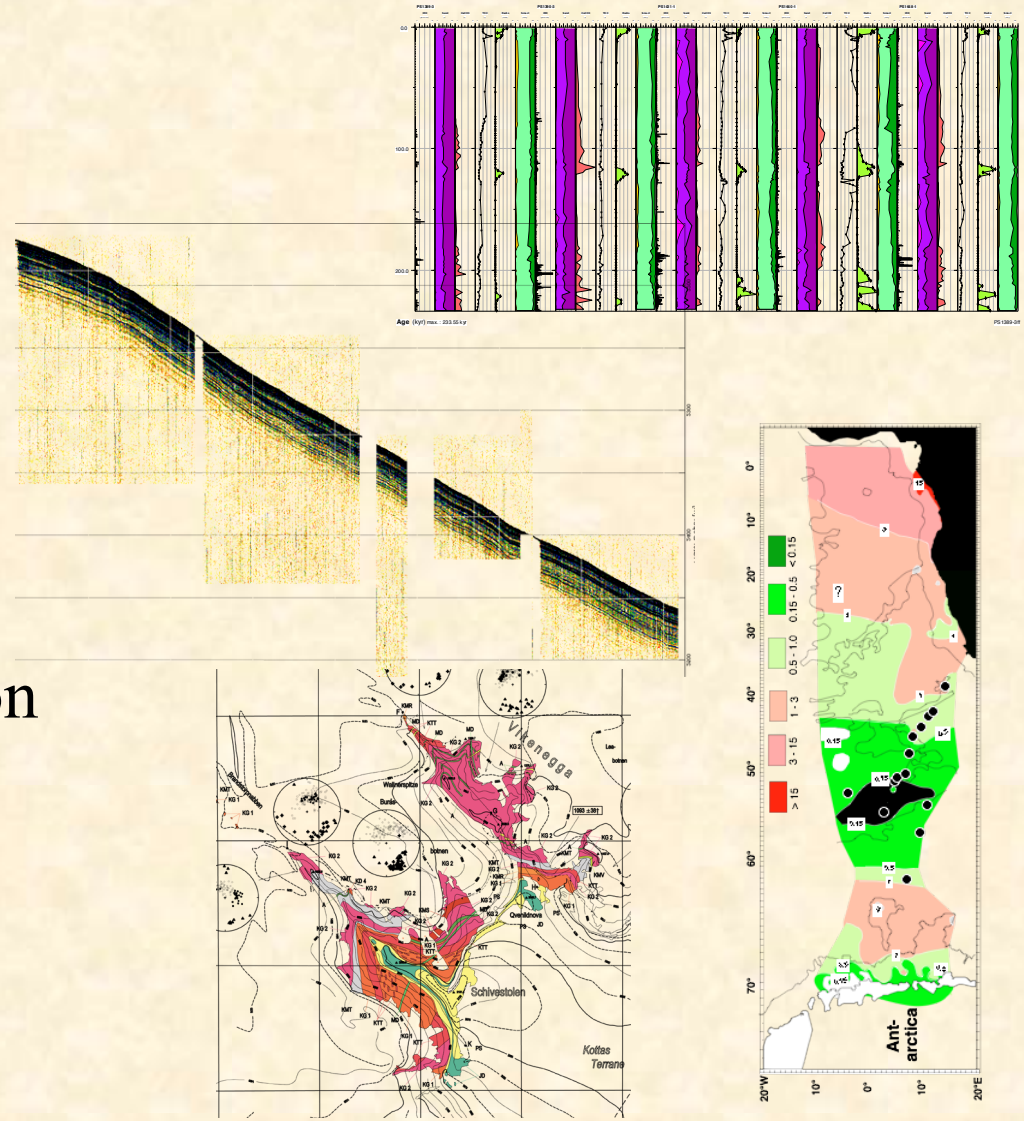
Ice cores

Data archaeology

Marine geology

# Examples from Geoscientific Research

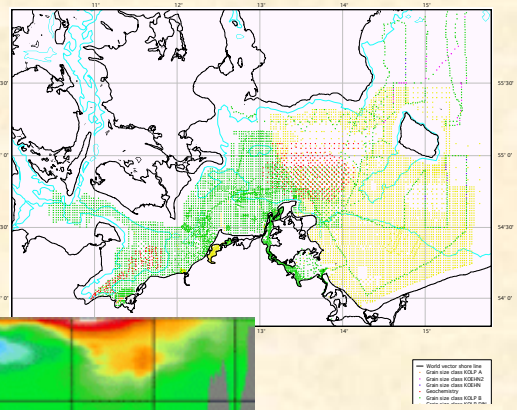
- Sediment profile
- Seismic profile
- Faunal distribution
- Geological map



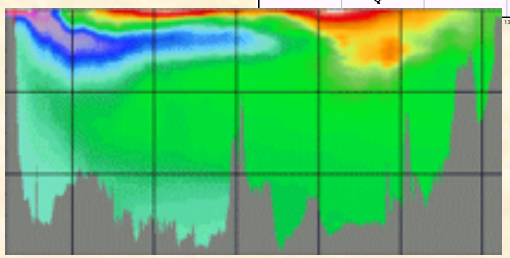
# Examples from Environmental Research

- Images

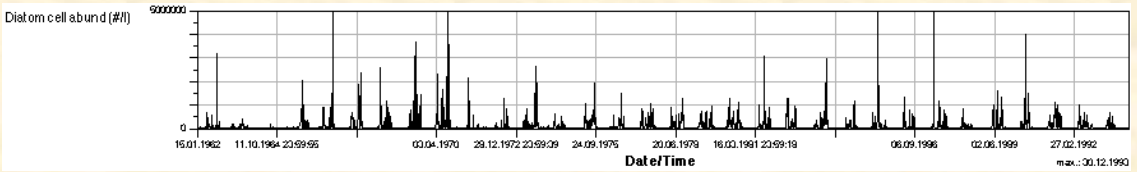
- Distributed samples



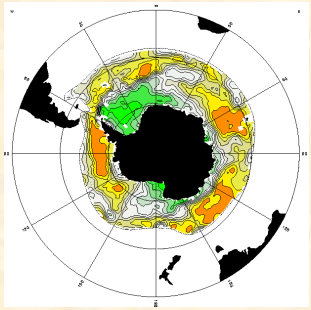
- Hydrographic profiles



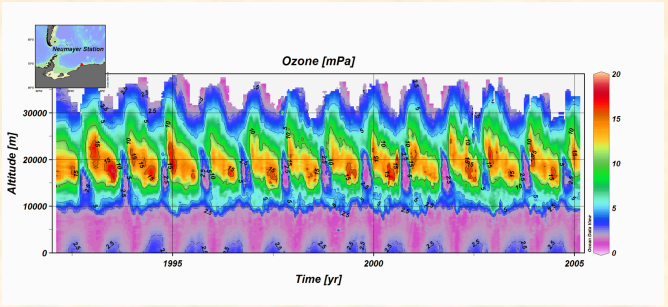
- Times Series



# Examples from Antarctic Research

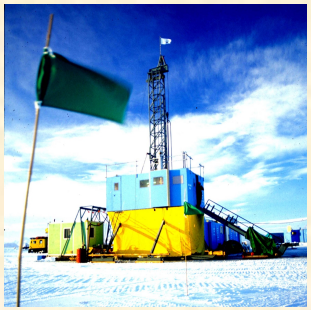


Southern Ocean Atlas

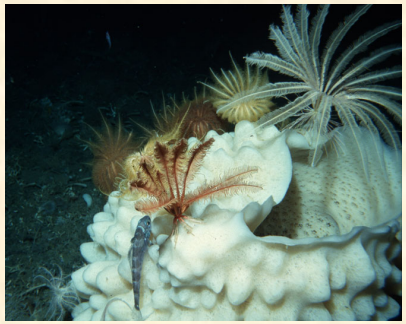



Ozone profiles

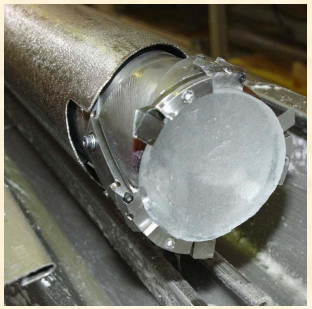
Sediments and Rocks



CRP
Cape Roberts Project



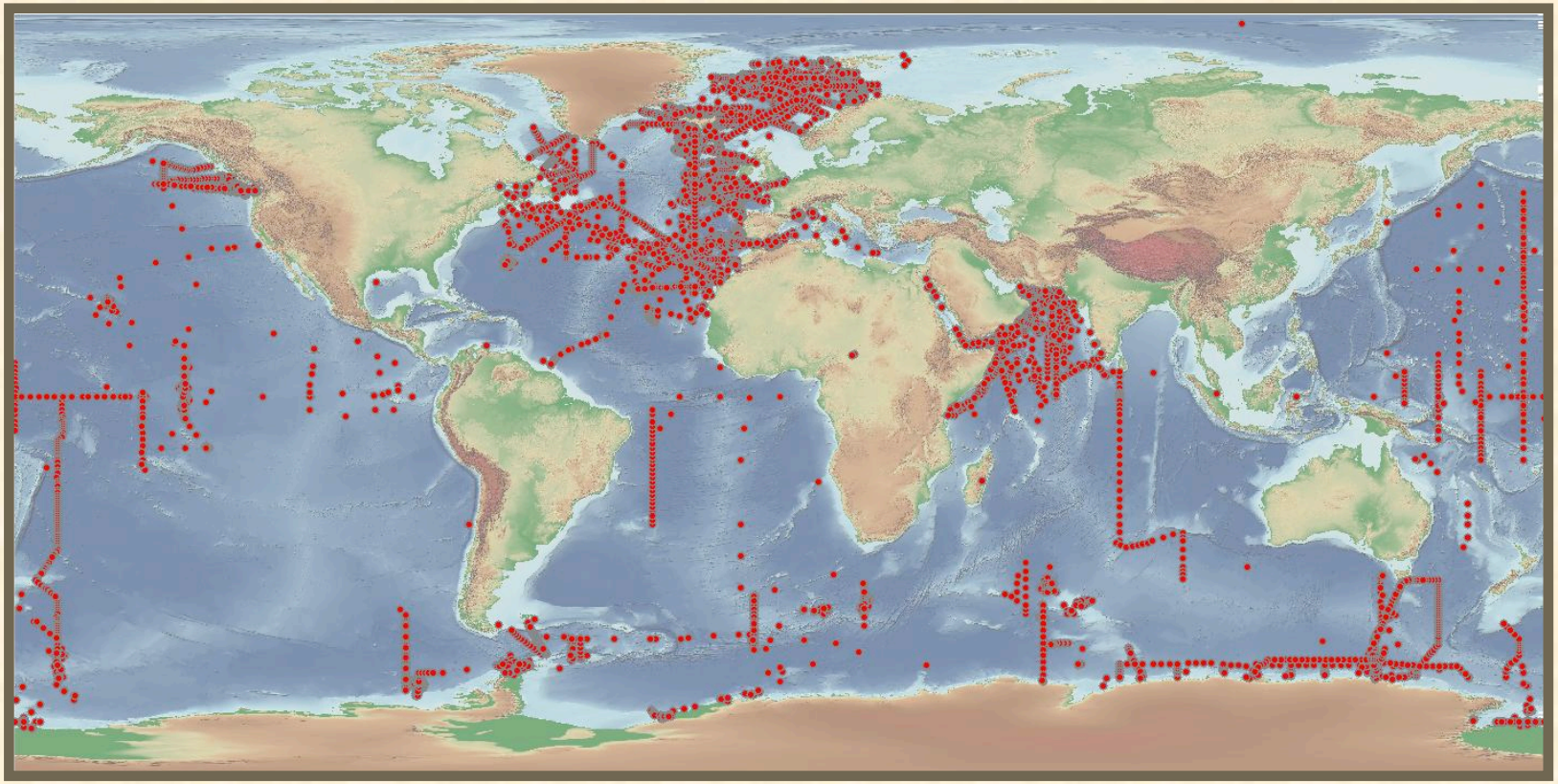
Archive of
Underwater Imaging



EPICA
European Project for
Ice Coring in Antarctica

# JGOFS

**Joint Global Ocean Flux Studies**



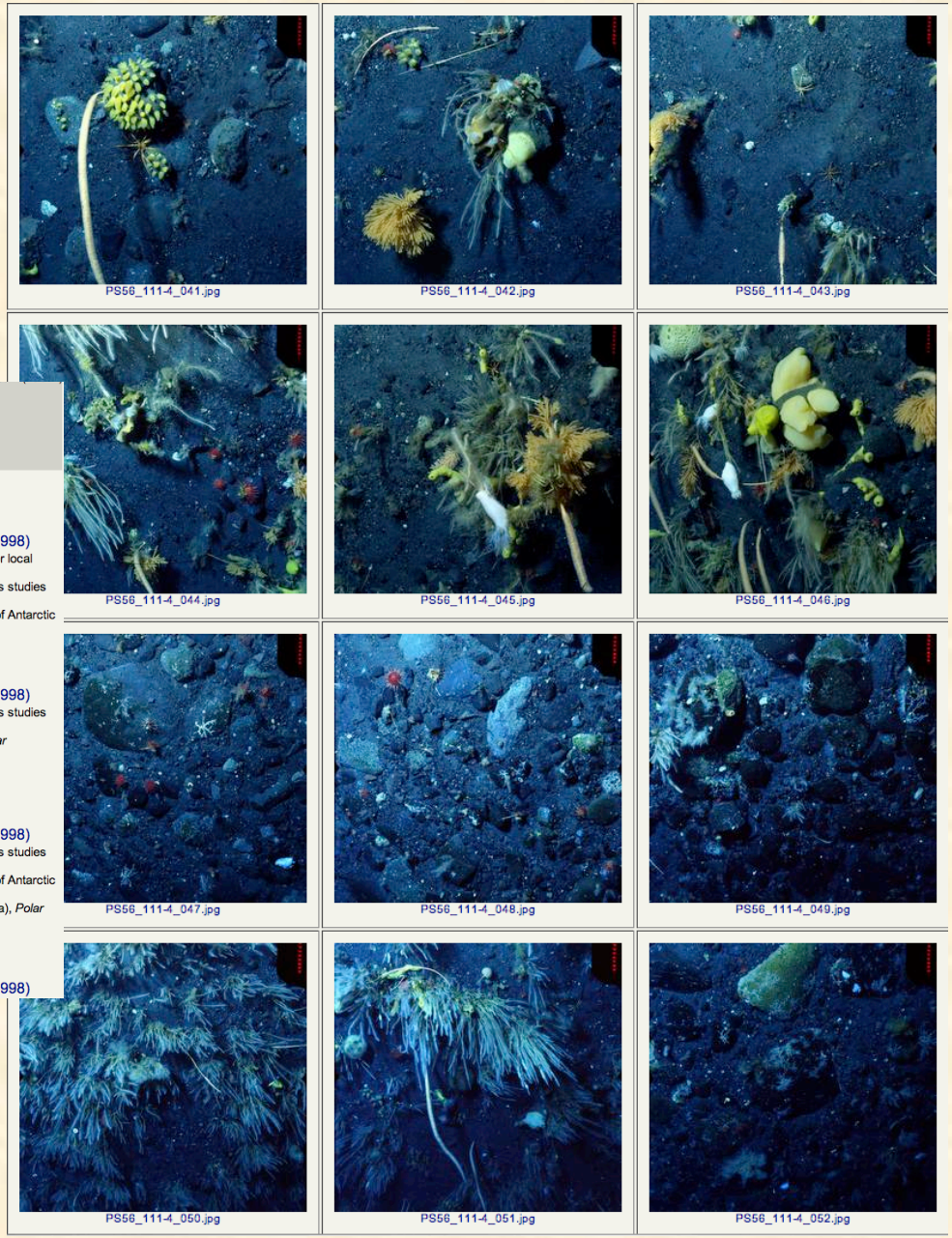
# Sea-bed photos

Search for: sea-bed Search Help Show map Clear

**189 datasets** found!

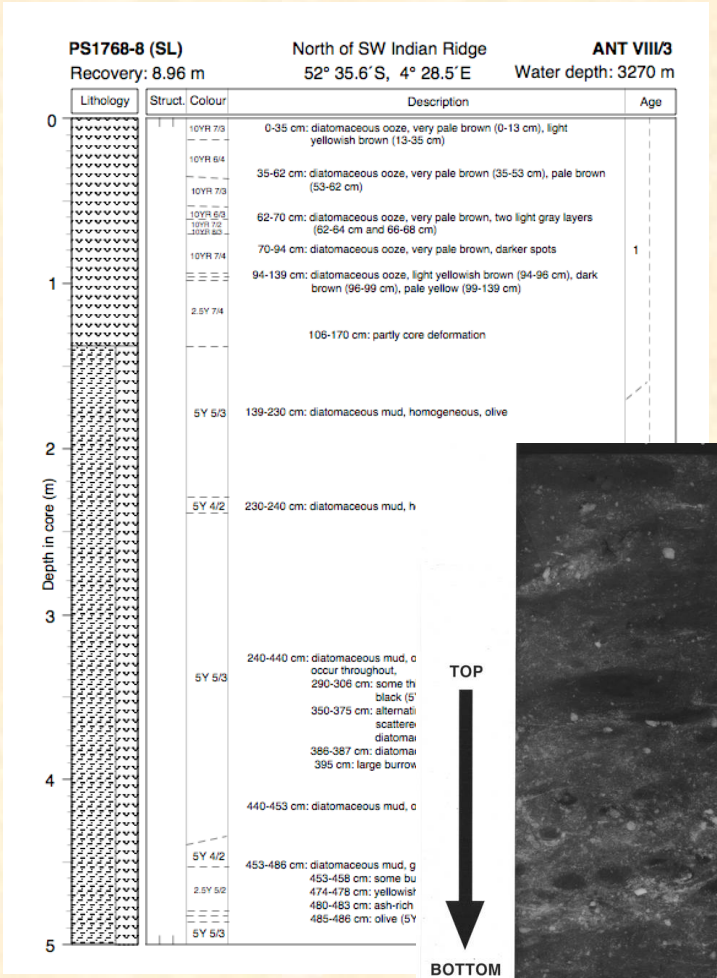
<< PREV | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | **10** | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | NEXT >>

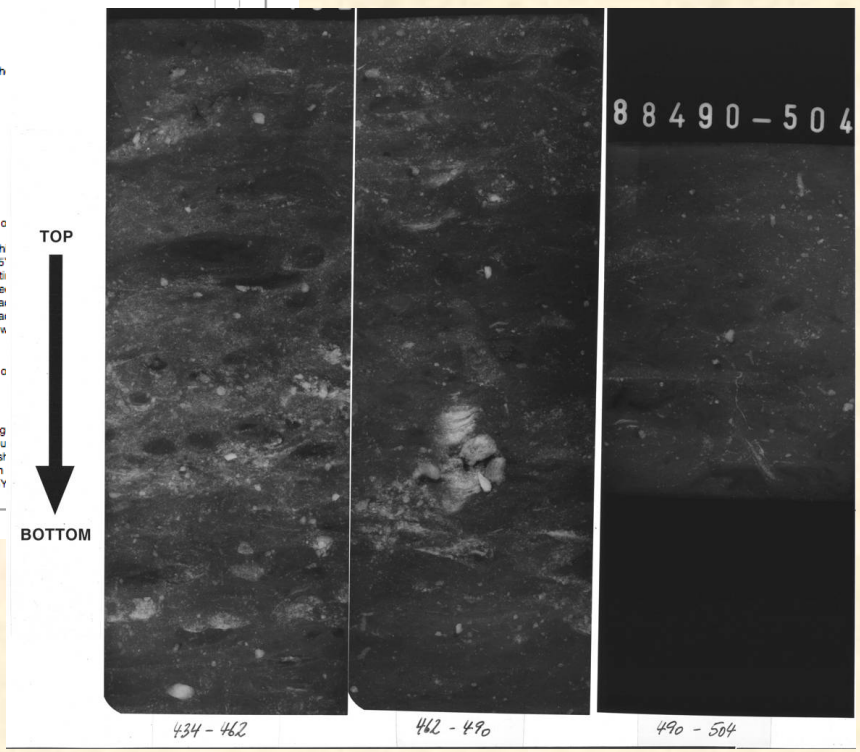
1. **Gutt, J (2004):** Sea-bed photographs (benthos) from the Weddell Sea along ROV profile PS48/281 (©AWI, Gutt 1998)
   *Reference:* **Raguá-Gil, JM; Gutt, J; Clarke, A et al. (2004):** Antarctic shallow-water mega-epibenthos: shaped by circumpolar dispersion or local conditions?, *Marine Biology*
   **Gutt, J; Arntz, WE; Balguerias, E et al. (2003):** Diverse approaches to questions of diversity: German contributions to benthos studies around South American and Antarctica, *Gayana*
   **Gutt, J; Piepenburg, D (2003):** Scale-dependent impacts of catastrophic disturbances by grounding icebergs on the diversity of Antarctic benthos, *Marine Ecology Progress Series*
   *(and more)*
   *Size:* unknown
   doi:10.1594/PANGAEA.198686 - Score: 80% - Similar datasets
2. **Gutt, J (2004):** Sea-bed photographs (benthos) from the Weddell Sea along ROV profile PS48/238 (©AWI, Gutt 1998)
   *Reference:* **Gutt, J; Arntz, WE; Balguerias, E et al. (2003):** Diverse approaches to questions of diversity: German contributions to benthos studies around South American and Antarctica, *Gayana*
   **Gutt, J (2001):** High latitude antarctic benthos: a coevolution of nature conservation and ecosystem research?, *Ocean and Polar Research*
   **Gutt, J (2001):** On the direct impact of ice on marine benthic communities, a review, *Polar Biology*
   *(and more)*
   *Size:* unknown
   doi:10.1594/PANGAEA.198685 - Score: 80% - Similar datasets
3. **Gutt, J (2004):** Sea-bed photographs (benthos) from the Weddell Sea along ROV profile PS48/219 (©AWI, Gutt 1998)
   *Reference:* **Gutt, J; Arntz, WE; Balguerias, E et al. (2003):** Diverse approaches to questions of diversity: German contributions to benthos studies around South American and Antarctica, *Gayana*
   **Gutt, J; Piepenburg, D (2003):** Scale-dependent impacts of catastrophic disturbances by grounding icebergs on the diversity of Antarctic benthos, *Marine Ecology Progress Series*
   **Gutt, J; Starmans, A (2001):** Quantification of iceberg impact and benthic recolonisation patterns in the Weddell Sea (Antarctica), *Polar Biology*
   *(and more)*
   *Size:* unknown
   doi:10.1594/PANGAEA.198684 - Score: 80% - Similar datasets
4. **Gutt, J (2004):** Sea-bed photographs (benthos) from the Weddell Sea along ROV profile PS48/213 (©AWI, Gutt 1998)

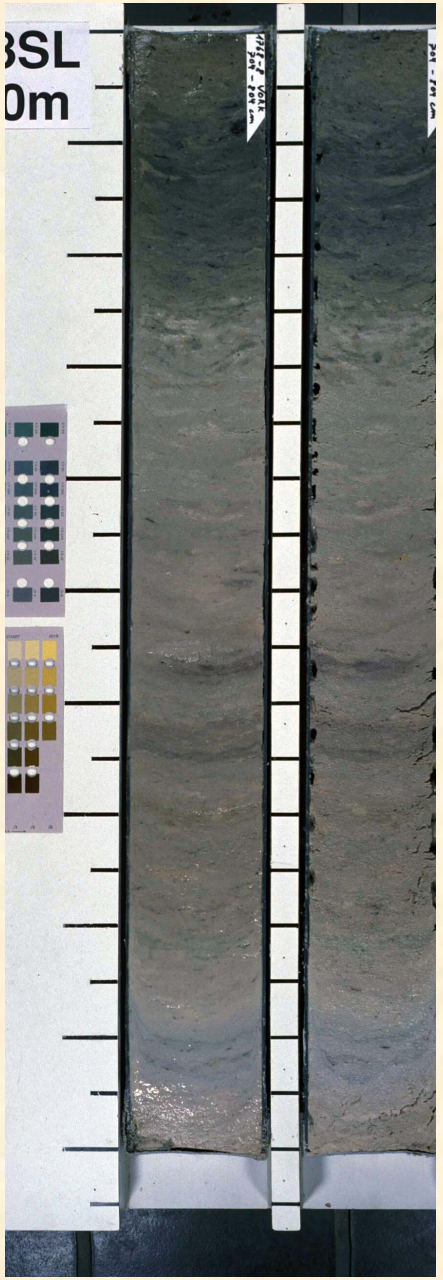



doi:10.1594/PANGAEA.319877

# Sediment core documentation

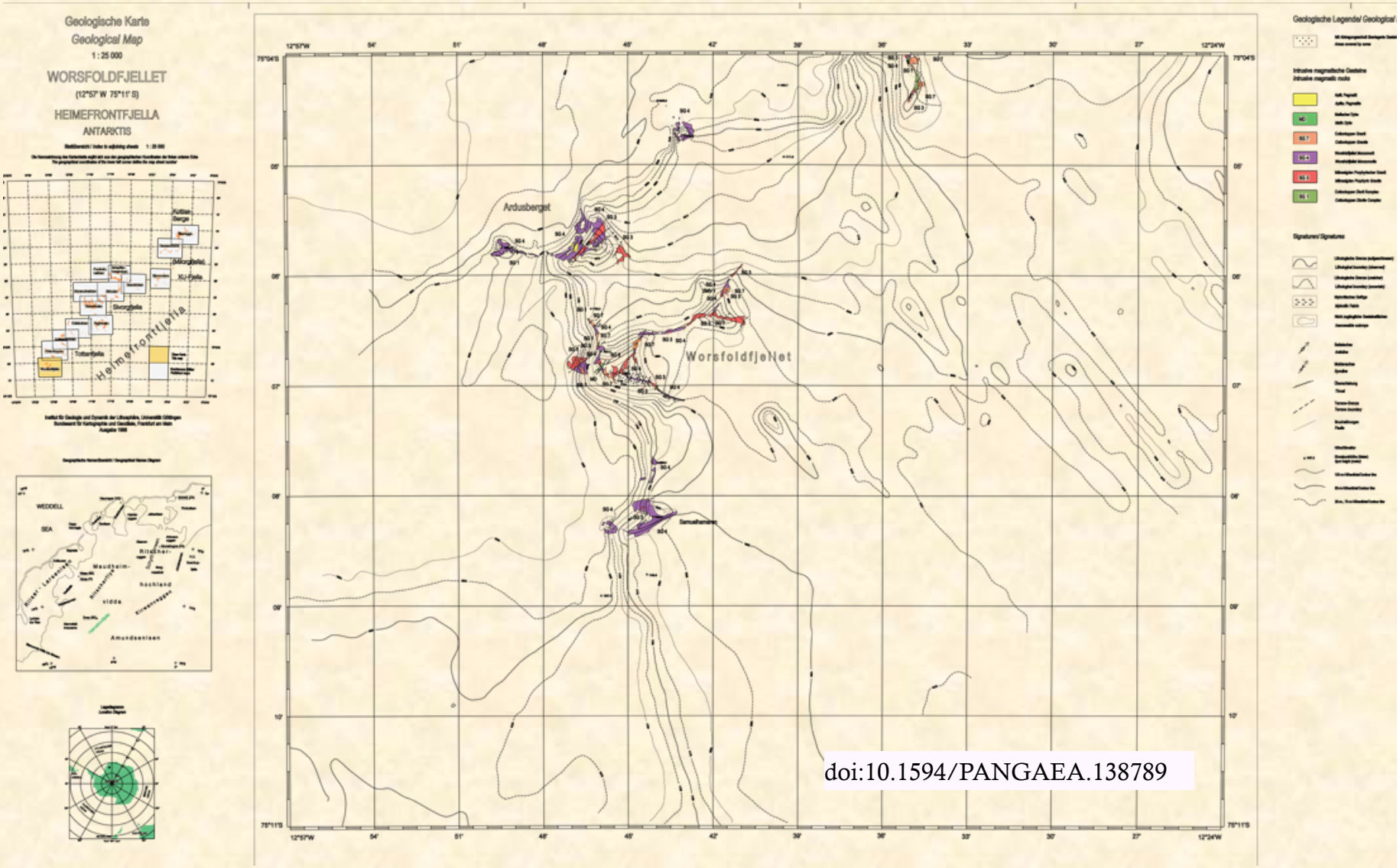


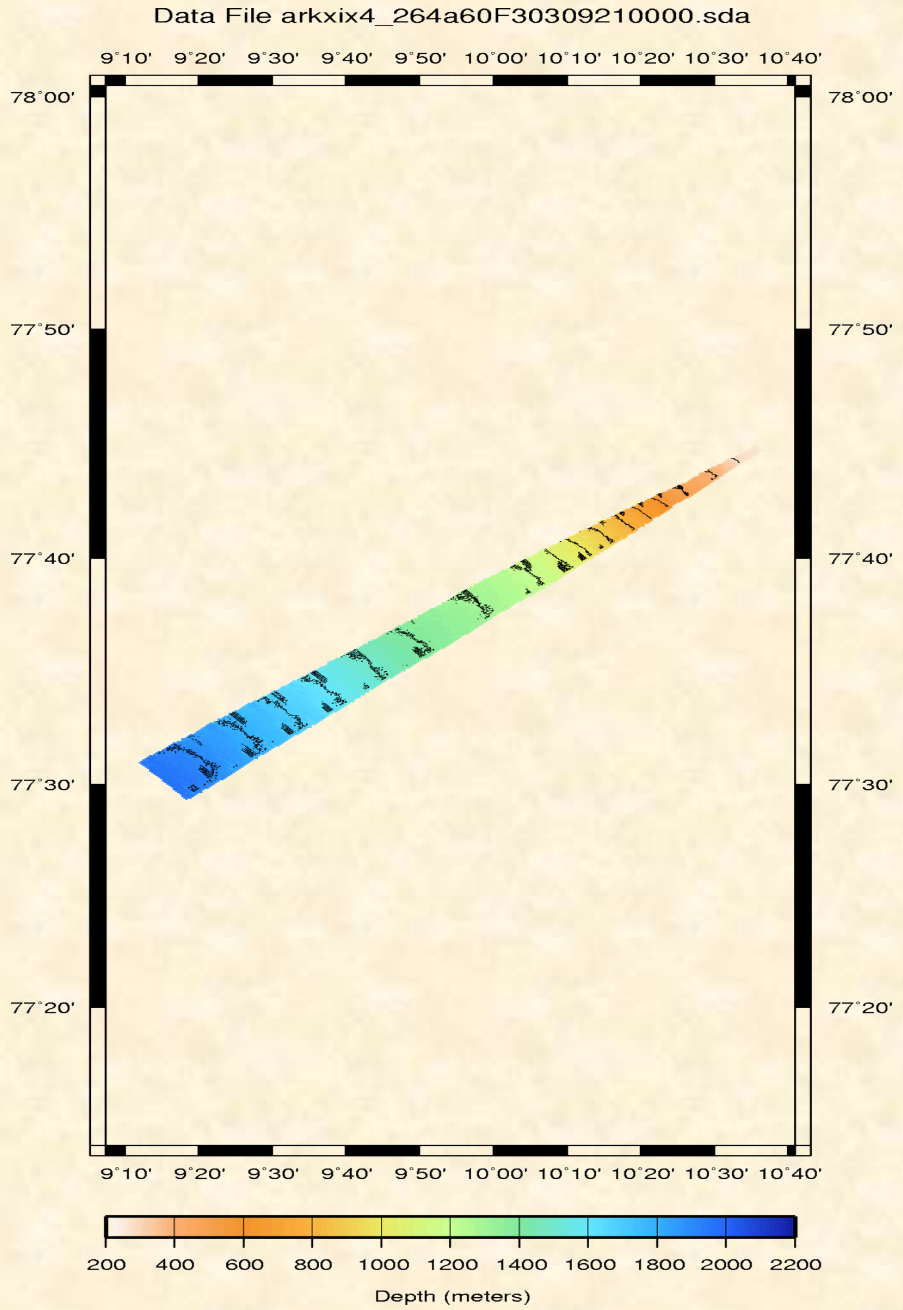
doi:10.1594/PANGAEA.108079

# Geological map



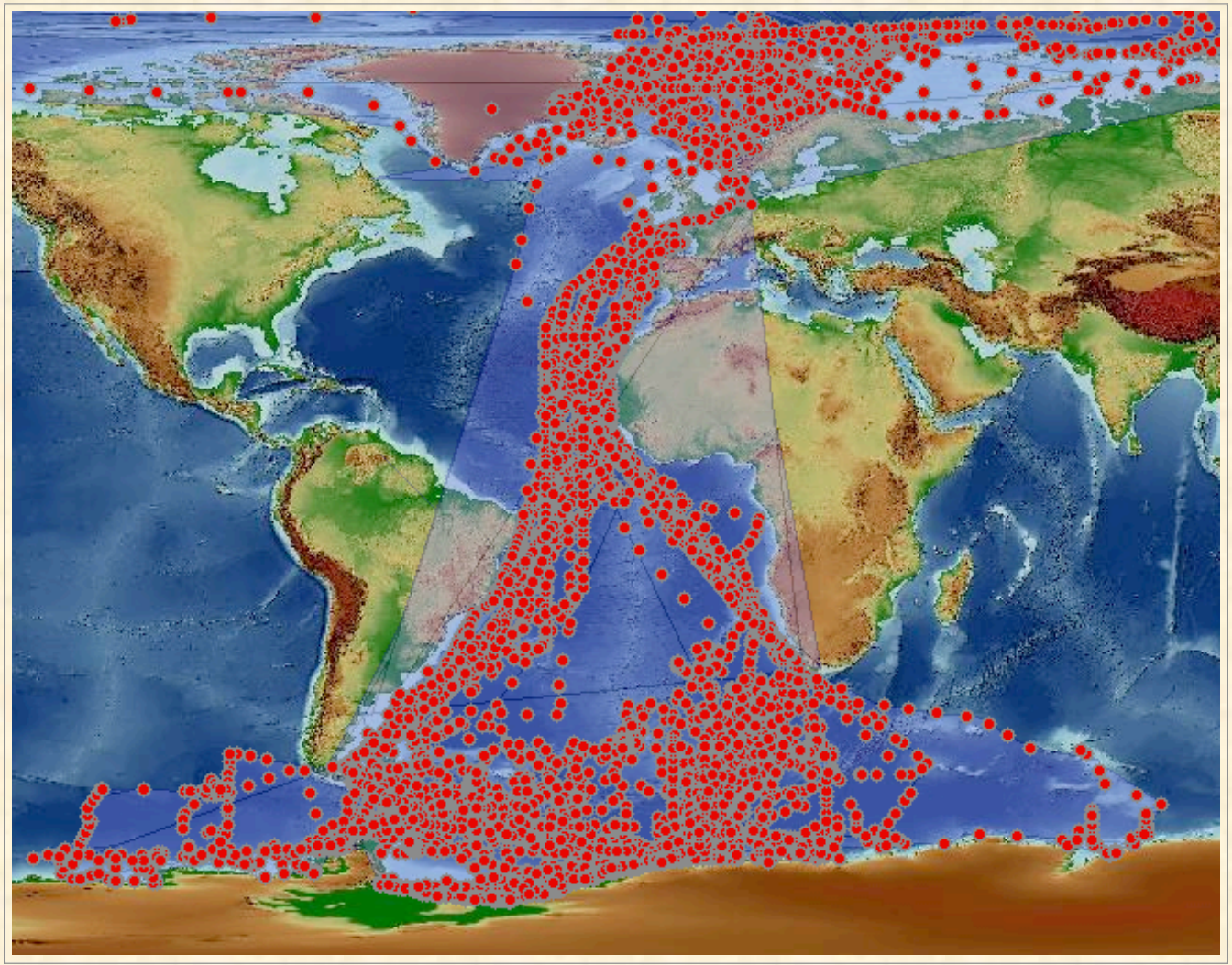

DOI TIBOrder Google

# Bathymetry

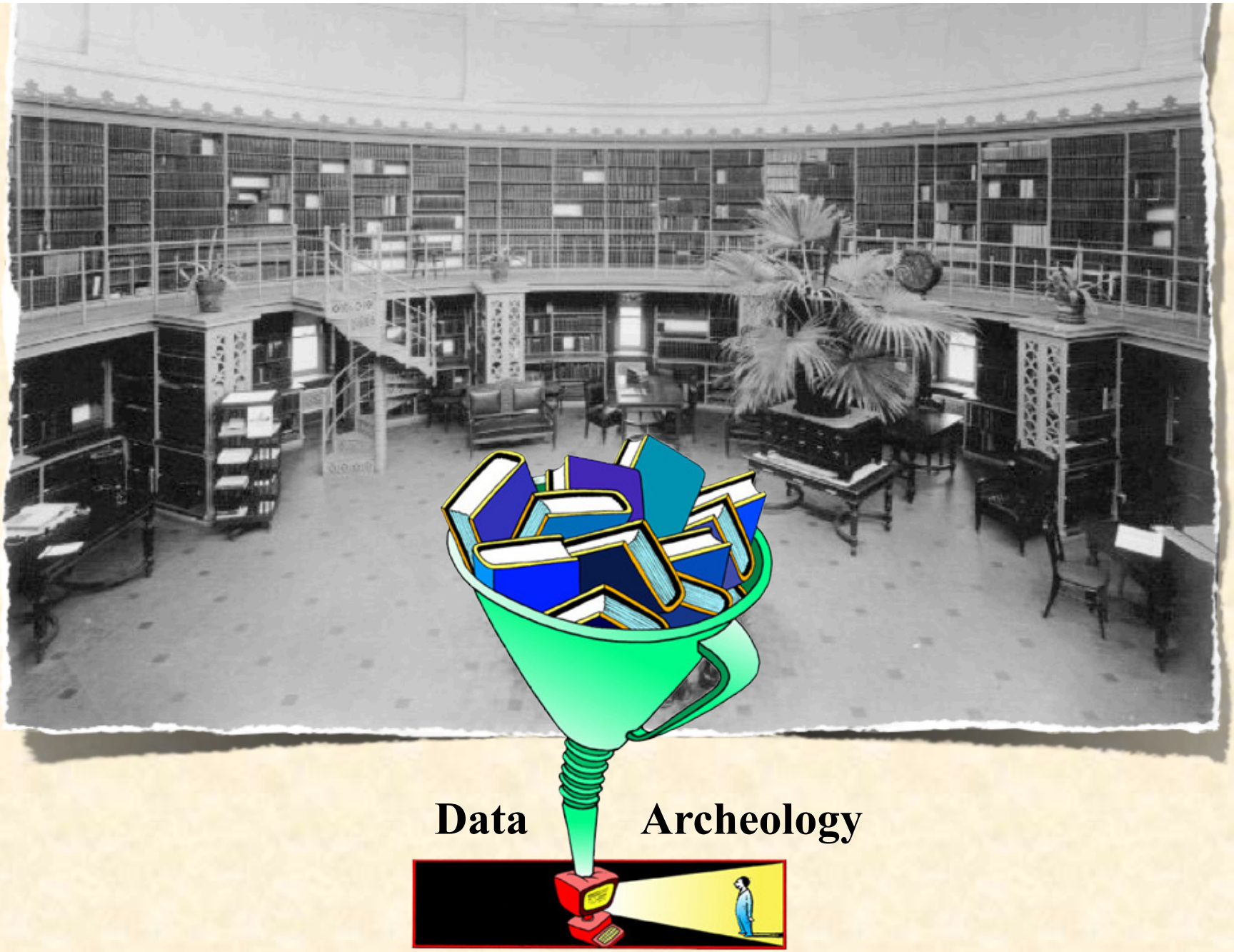



doi:10.1594/PANGAEA.351142

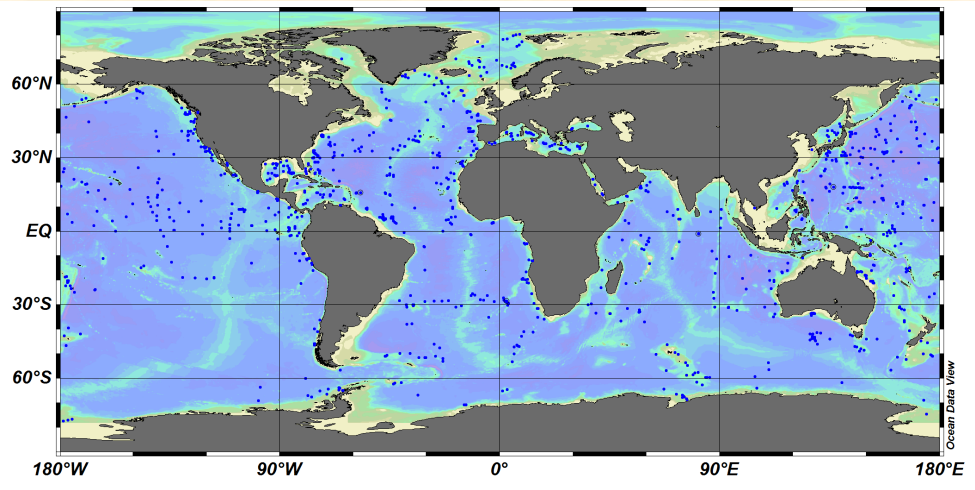
# Meteorological observations



doi:10.1594/PANGAEA.269619

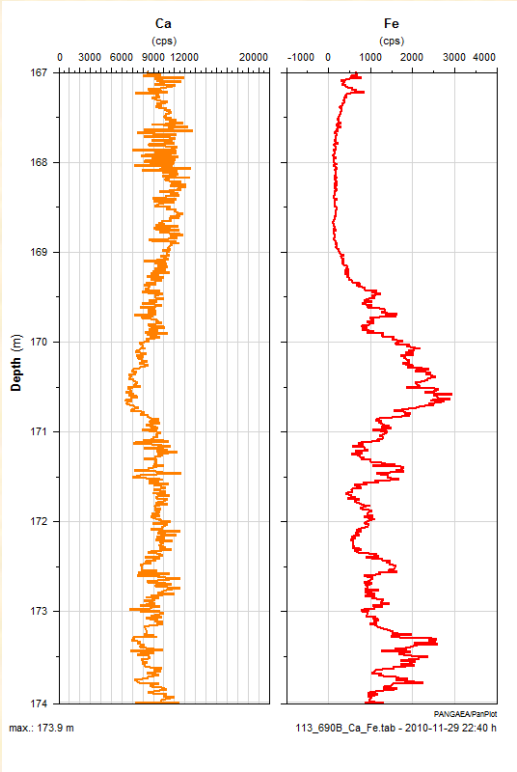

Data Archeology

# DSDP / ODP / IODP

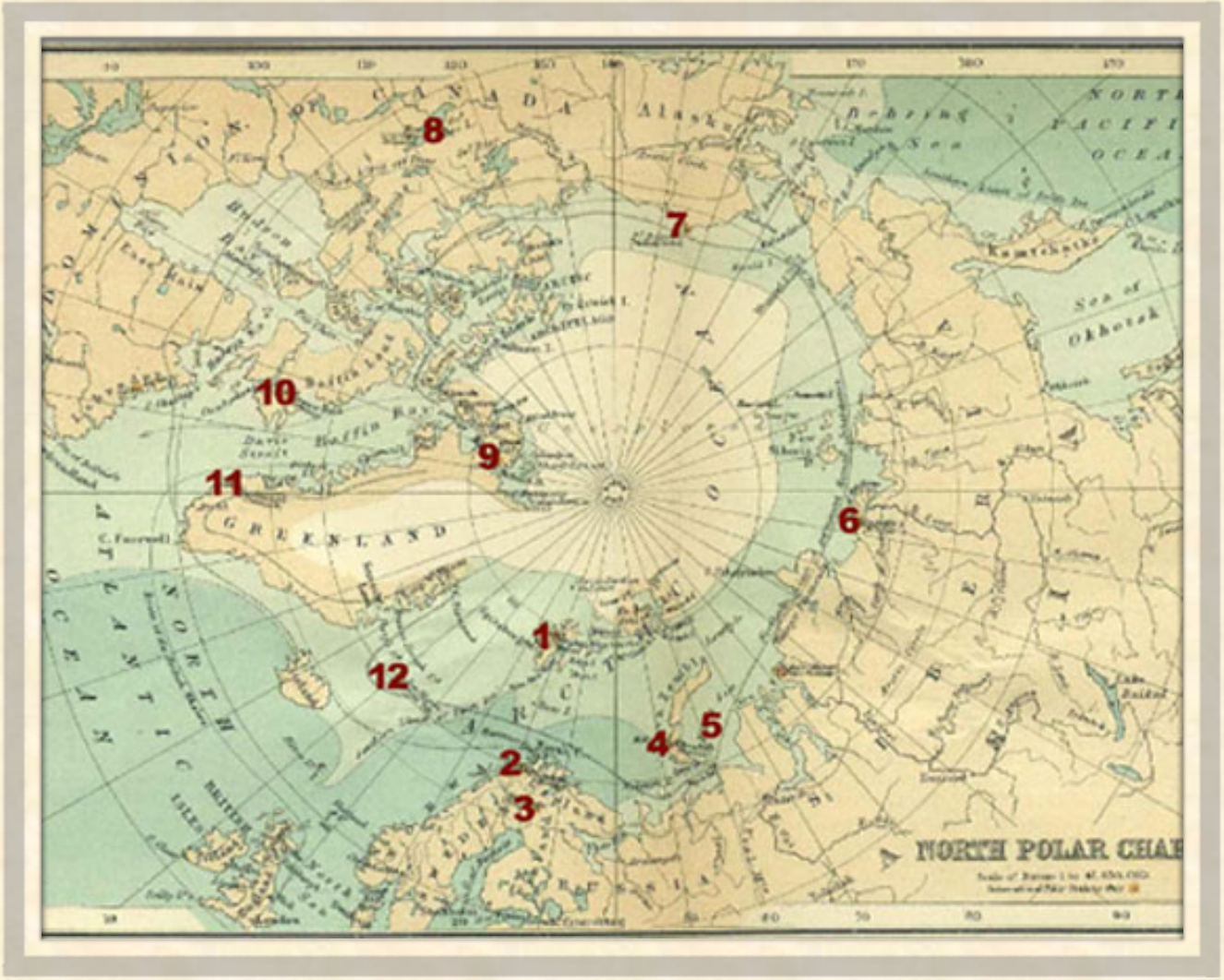



Shipboard data: Initial Reports/JANUS

Post-Cruise data: Scientific Results and non-DSDP/ODP/IODP journals




Röhl et al. 2000
doi:10.1594/PANGAEA.57539




# International Polar Year (1882-1883)

# Data Access

Search engine > works like Google



Web service > exchange with portals

**410 datasets** found on search for **»Globobulimina...«**

Show Map | Google Earth | Data Warehouse

**<< PREV | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | NEXT >>**

1. **Schmiedl, G; Pfeilsticker, M; Hemleben, C et al. (2004):** Stable oxygen and carbon isotope composition of benthic foraminifera from the western Mediterranean Sea

   *Supplement to:* **Schmiedl, G; Pfeilsticker, M; Hemleben, C et al. (2004):** Environmental and biological effects on the stable isotope composition of recent deep-sea benthic foraminifera from the western Mediterranean Sea. *Marine Micropaleontology*

   *Size:* 5 datasets

   doi:10.1594/PANGAEA.728234 - Score: 100% - Similar datasets

2. **Mackensen, A; Licari, L (2004):** Standing stocks and carbon isotopes of live benthic foraminifera from the South Atlantic

   *Supplement to:* **Mackensen, A; Licari, L (2004):** Carbon isotopes of live benthic foraminifera from the South Atlantic: Sensitivity to bottom water carbonate saturation state and organic matter rain rates. *In: Wefer, G; Mulitza, S & Ratmeyer, V (eds.), The South Atlantic in the Late Quaternary: Reconstruction of Material Budgets and Current Systems, Springer, Berlin, Heidelberg, New York*

   *Size:* 3 datasets

   doi:10.1594/PANGAEA.728233 - Score: 74% - Similar datasets

3. **Hayward, BW; Carter, R; Grenfell, HR et al. (2001):** Distribution of deep-sea foraminifera in surface sediments east of New Zealand

   *Supplement to:* **Hayward, BW; Carter, R; Grenfell, HR et al. (2001):** Depth distribution of Recent deep-sea benthic foraminifera east of New Zealand, and their potential for improving paleobathymetric assessments of Neogene microfaunas. *New Zealand Journal of Geology and Geophysics*

   *Reference:* **Hayward, BW; Neil, HL; Carter, R et al. (2002):** Factors influencing the distribution patterns of Recent deep-sea benthic foraminifera, east of New Zealand, Southwest Pacific Ocean. *Marine Micropaleontology*

   *Size:* 3 datasets

   doi:10.1594/PANGAEA.705250 - Score: 35% - Similar datasets

# Data Warehouse search for *Globobulimina affinis*

Logged in as **sschumacher** (log out, profile)

**PANGAEA®**
**Data Publisher for Earth & Environmental Science**

Always quote citation when using data!

## Data Warehouse Download *(BETA)* on query for »Globobulimina...«

To start a data warehouse download, add geocodes *(colored red/blue)* and parameters to the configuration by dragging or double-clicking them. It is recommended to first choose a vertical geocode *(colored red)* to further reduce the list of available parameters. Order of geocodes and parameters in the download matrix may be changed by dragging rows in the configuration list. For best results put latitude/longitude in one of the first columns, as the download matrix is ordered by the primary geocode! Depending on size of result set, the query may take some time until file download starts.

### Available Parameters and Geocodes

Page 1 of 217 < prev 1 2 3 4 5 6 next >

| Score ▾ | Parameter/Geocode | |
|---|---|---|
| | DEPTH, sediment [m] | ✚ |
| | LATITUDE | ✚ |
| | LONGITUDE | ✚ |
| | DATE/TIME | ✚ |
| | AGE [ka BP] | ✚ |
| 100.0% | Globobulimina affinis | ✚ |
| 37.8% | Globobulimina affinis [#/10 $cm^3$] | ✚ |
| 19.9% | Sample code/label | ✚ |
| 17.9% | Globobulimina affinis [#/g] | ✚ |
| 15.6% | Globobulimina pacifica | ✚ |
| 14.0% | Melonis pompilioides | ✚ |
| 13.5% | Pullenia bulloides | ✚ |
| 13.1% | Globobulimina affinis [%] | ✚ |
| 12.0% | Depth, composite [mcd] | ✚ |
| 11.8% | Uvigerina peregrina | ✚ |

### Configuration

Page 1 of 1 < prev 1 next >

| Parameter/Geocode | Method | |
|---|---|---|
| LATITUDE | | ⇩ 🗑 |
| LONGITUDE | | ⇧ ⇩ 🗑 |
| DEPTH, sediment [m] | | ⇧ ⇩ 🗑 |
| AGE [ka BP] | | ⇧ ⇩ 🗑 |
| Globobulimina affinis [#/10 $cm^3$] | <any> | ⇧ 🗑 |

☐ Implicit averaging

☐ Calculate standard deviation of averaged values

*Download data in the following character encoding:* x-MacRoman: Macintosh Roman

Start Data Warehouse Query

# Data Warehouse search for *Globobulimina affinis*

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Latitude | Longitude | Depth [m] | Age [ka BP] | G. affinis | G. affinis [#/10 cm**3] | G. affinis [#/g] | G. affinis [%] | Origin of Values | | | |
| 2 | -45.85 | -75.6922 | 0.45 | | R | | | | http://doi.pangaea.de/10.1594/PANGAEA.299500 | | | |
| 3 | -45.85 | -75.6917 | 478.12 | | R | | | | http://doi.pangaea.de/10.1594/PANGAEA.299501 | | | |
| 4 | -31.785 | 15.5 | 0 | | | | | 0 | http://doi.pangaea.de/10.1594/PANGAEA.511340 | | | |
| 5 | -31.785 | 15.5 | 0 | | | | | 0 | http://doi.pangaea.de/10.1594/PANGAEA.511368 | | | |
| 6 | -31.785 | 15.5 | 0 | | | 0 | | | http://doi.pangaea.de/10.1594/PANGAEA.511349 | | | |
| 7 | -31.785 | 15.5 | 0.02 | | | 0.12 | | | http://doi.pangaea.de/10.1594/PANGAEA.511349 | | | |
| 8 | -31.785 | 15.5 | 0.02 | | | | | 4.6 | http://doi.pangaea.de/10.1594/PANGAEA.511342 | | | |
| 9 | -31.785 | 15.5 | 0.02 | | | 0.26 | | 0.3 | http://doi.pangaea.de/10.1594/PANGAEA.511345; | | | |
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| 16 | -28.998333 | 13.836667 | 0.04 | | | 0.26 | | | http://doi.pangaea.de/10.1594/PANGAEA.511339 | | | |
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| 23 | -27.951667 | 14.005 | 0.02 | | | 0 | | 0 | http://doi.pangaea.de/10.1594/PANGAEA.511345; | | | |
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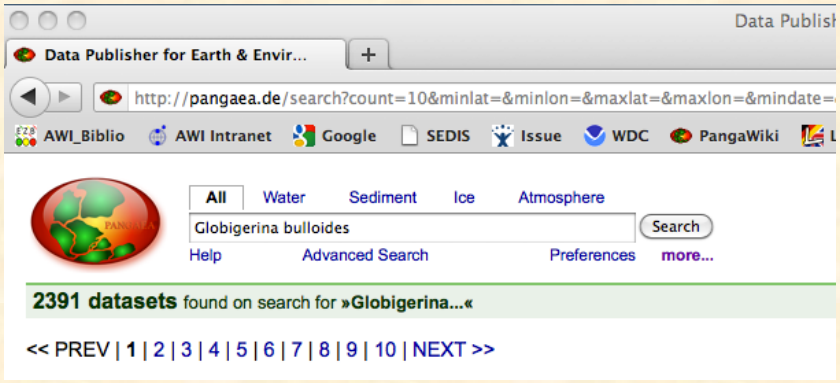
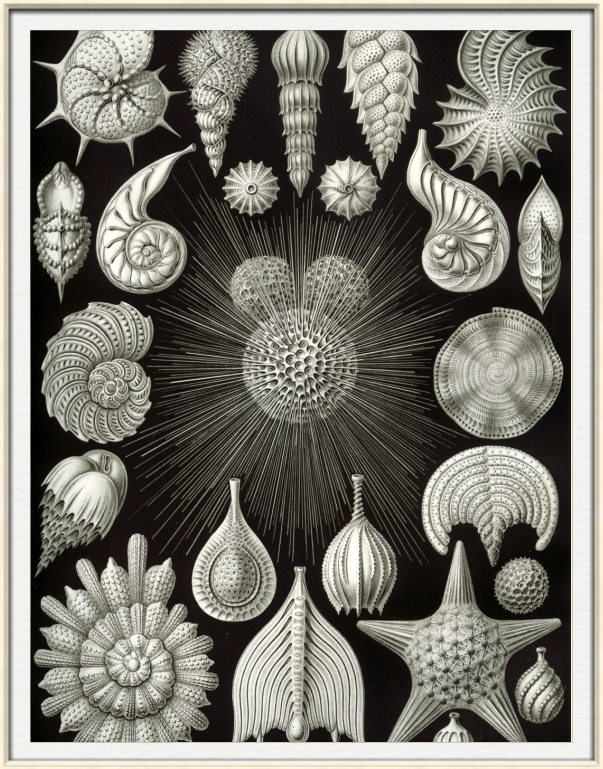
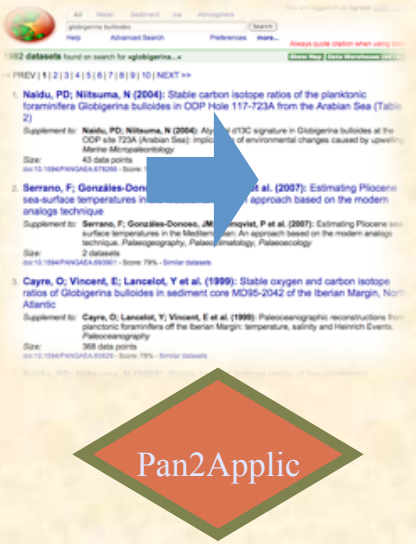
| 39 | -25.516667 | 13.233333 | 0.04 | | | 1.98 | | | http://doi.pangaea.de/10.1594/PANGAEA.511352 | | | |

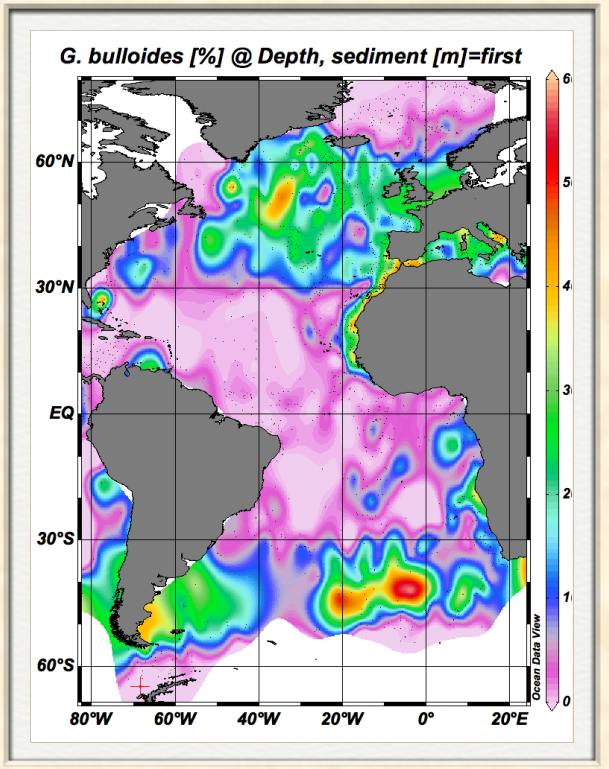
Data-Warehouse > retrieval & compilation



*Globigerina bulloides*




Distribution map (ODV)

# 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.


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 postmortem[1], "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

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

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

ILLUSTRATIONS BY J. H. VANDIERENDONCK

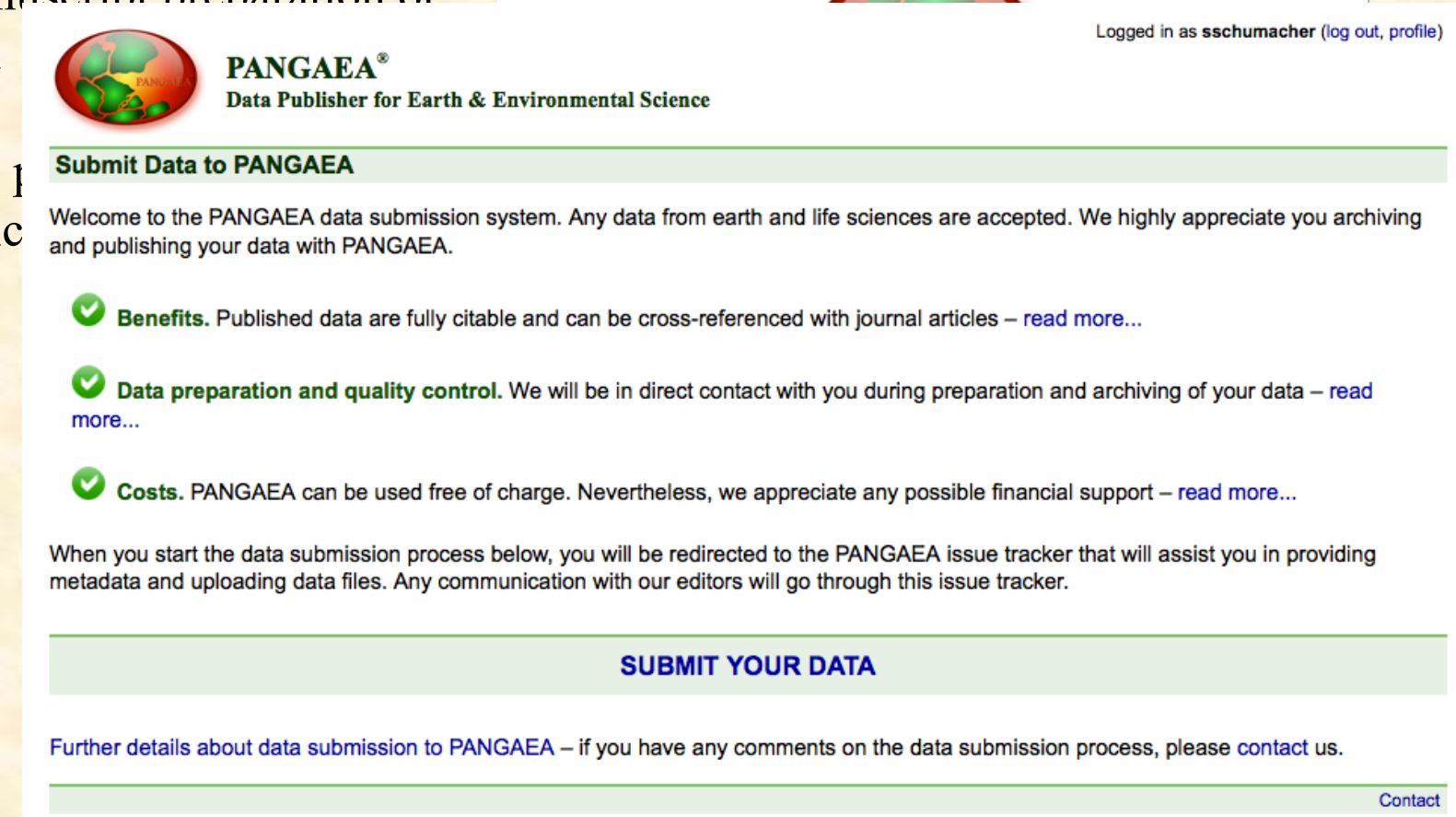
# Submit data

## Provision of data

Data provided by author/ principle investigator

During manuscript preparation or submission

data can be p
paper public

Project **PANGAEA Data Archiving & Publication**

Issue Type **Data Submission**

Summary * Data submission 2013-01-10T08:52:57Z (Stefanie Schumacher, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven)

The summary (subject) is used as identifier in the further communication.

Author(s) * Schumacher, Stefanie

Please, enter the author(s) (the principal investigators) for the data set(s) you want to submit.
One author per line; example: *Smith, Joe Peter*

Title Live benthic foraminifera of the Arabian Sea

The title should ideally reflect what has been measured, observed, or calculated, when, where, and how.

Description Abstract:Live (Rose Bengal stained) and dead benthic foraminiferal communities (hard-shelled species only) from the Pakistan continental margin oxygen minimum zone (OMZ) have been studied in order to determine the relation between faunal composition and the oxygenation of bottom waters. During R.R.S. Charles Darwin Cruises 145 and 146 (12 March to May 28 2003), 11 multicores were taken on the continental margin off Karachi, Pakistan. Two transects were sampled, constituting a composite bathymetric profile from 136 m (above the OMZ in spring 2003) down to 1870 m water depth. Cores (surface area 25.5 cm2) were processed as follows: for stations situated above, and in the upper part of the OMZ, sediment slices were taken for the 0-0.5 and 0.5-1 cm intervals, and then in 1 cm intervals down to 10 cm.

**ABSTRACT** and/or further details describing the data.

Keywords

Separate keywords by comma or semicolon.

Attachment ☑ Arab_Meer_tot_monsoon.xlsx

Durchsuchen...

The maximum file upload size is 100.00 MB.
For larger files leave a corresponding note in the description – **DATA FILE(S) ARE REQUIRED!**
For data submissions, read our format guide.

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Labels

Begin typing to find and create labels or press down to select a suggested label.
Context of the data submission, e.g. **PROJECT, Institute,** etc.
Labels have to be one word!

ed Article(s) Schumacher, Stefanie; Jorissen, Frans J; Dissard, Delphine; Larkin, Kate E; Gooday, Andrew J (2007): Live (Rose Bengal stained) and dead benthic foraminifera from the oxygen minimum zone of the Pakistan continental margin (Arabian Sea). Marine Micropaleontology, 62(1), 45-73, doi:10.1016/j.marmicro.2006.07.004

Please, specify any references to science articles related to your data, in particular if your data are a **supplement** to an article.
Copy/paste the full citation, preferably with a Digital Object Identifier (DOI name).

Create Cancel

# Workflow in data publishing

**Editorial**

- Provision of data (PI)
- Import to PANGAEA (curator)
- Proof-Read (PI)

**Review**

- Corrections (curator/editor)
- Peer review (reviewer ?)
- Publication with DOI & citation

**Your benefit**:

citeable data and can be cross-referenced with journal articles

**Acknowledgements**

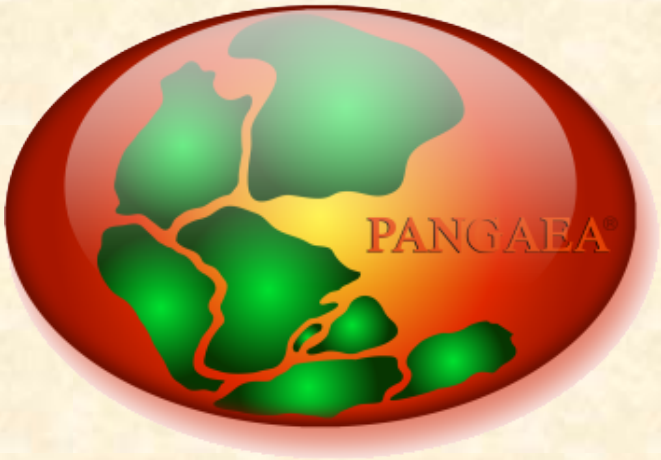
For supplementary data see: doi:10.1594/PANGAEA.707882.

open acces to data

data in several widely accepted machine-readable formats

persistant identifier (DOI)

quality assurance on metadata




www.pangaea.de

We are looking forward to archive Your data.

Thank You