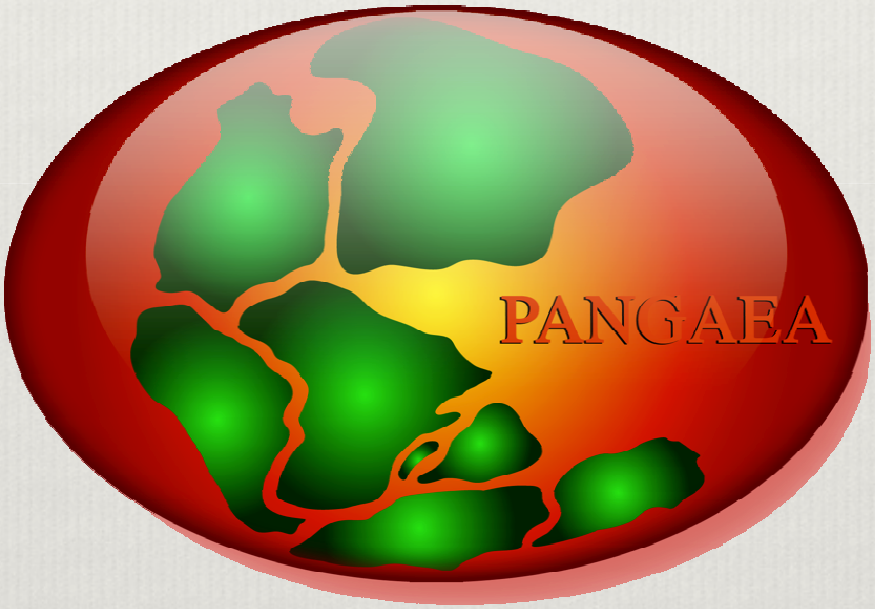
PANGAEA®

Longterm-archive and Library for Multidisciplinary Data from Polar and Marine Research

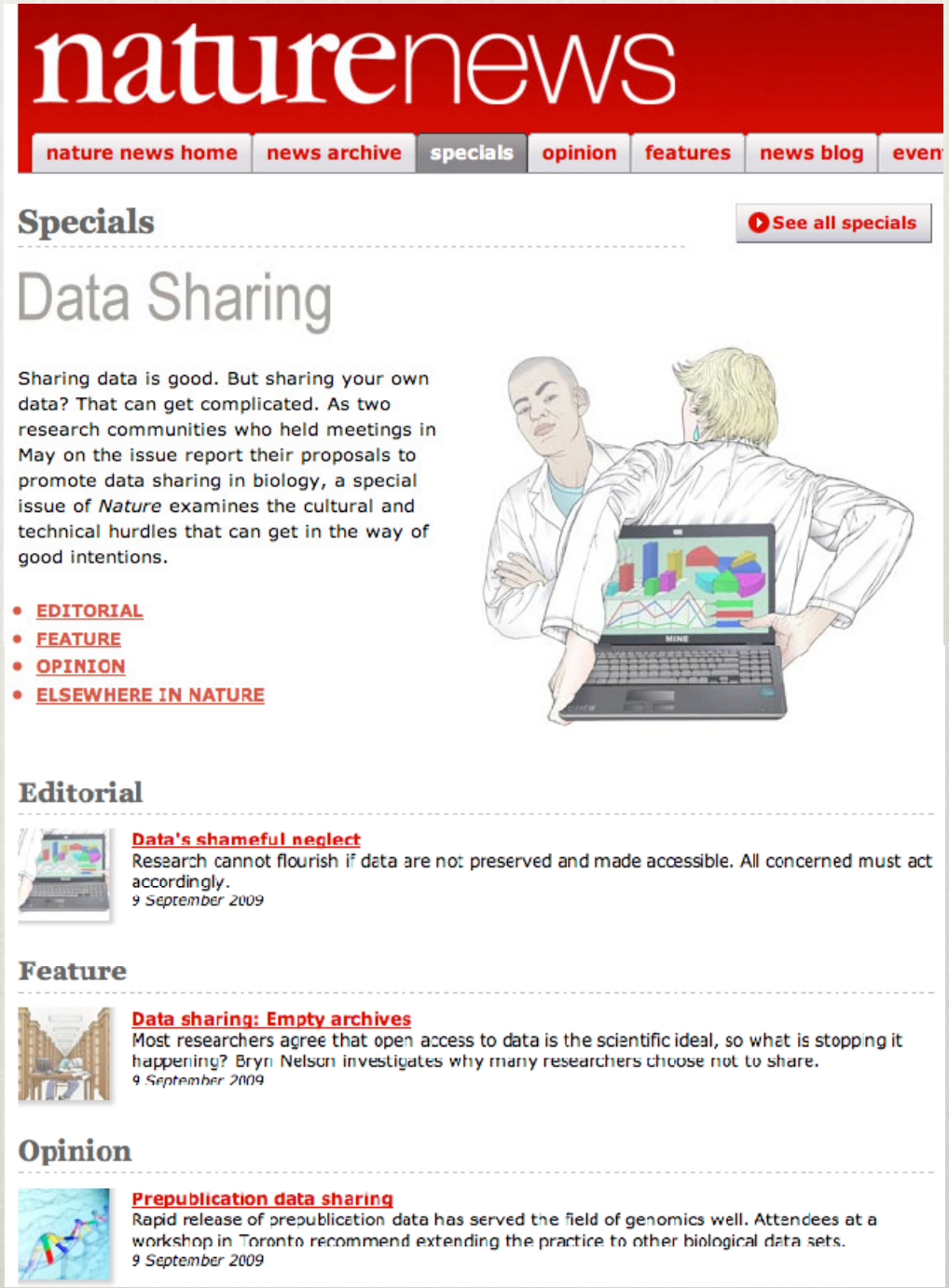


Stefanie Schumacher, Rainer Sieger & Hannes Grobe (2010)

Data sharing and archiving

Nature:
Vol 461, 10 September 2009

doi:10.1038/461145a



nature news

nature news home | news archive | specials | opinion | features | news blog | even

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

DFG Recommendations for *Good Scientific Practice*

DFG

Empfehlungen der Kommission "Selbstkontrolle in der Wissenschaft"

Vorschläge zur Sicherung guter wissenschaftlicher Praxis
Januar 1998

Empfehlung 7

Primärdaten als Grundlagen für Veröffentlichungen sollen auf haltbaren und gesicherten Trägern in der Institution, wo sie entstanden sind, für zehn Jahre aufbewahrt werden.

Good scientific practice in research and scholarship

European Science Foundation (ESF), 2000

Data accumulation, handling, and storage

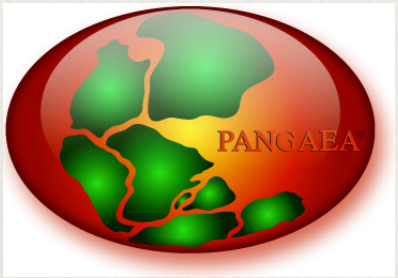
36. Data are produced at all stages in experimental research and in scholarship. Data sets are an important resource, which enable later verification of scientific interpretations and conclusions. They may also be the starting point for further studies. It is vital, therefore, that all primary and secondary 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
Deutsch
Français
На русском
Home
Read the initiative
Sign on to the initiative
View signatures
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
September 29, 2004
Grants for Open Access Journals
Learn More


MAX-PLANCK-GESELLSCHAFT
Program
OA Conference
Program Committee
ECHO Meeting
Conference on
Open Access to Knowledge in the Sciences and Humanities
20 - 22 Oct 2003, Berlin
Berlin Declaration
Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities



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 relational predecessor
- 1996 **PANGAEA**
- 1998 *www.pangaea.de*
- 2001 WDC-MARE
- 2004 OAI and DOI
- 2006 Data citation, Portal software
- 2008 Data warehouse
- 2009 Elsevier-Partnership

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

Digital Object Identifier

SCIENCE DIRECT

Home | Search | Journals | Abstract Databases | Reference Works | My Alerts | My Profile

Quick Search: wdc-mare within This Journal Go Search tips

Computers & Geosciences
Volume 28, Issue 10, December 2002, Pages 1201-1210

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

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] and 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

Received 23 March 2001; revised 20 April 2001; accepted 5 May 2001. Available online 20 September 2002.

Abstract

PANGAEA is an information system for processing, long-term storage, and publication of georeferenced data related to earth science fields.

DOI – Digital Object Identifier

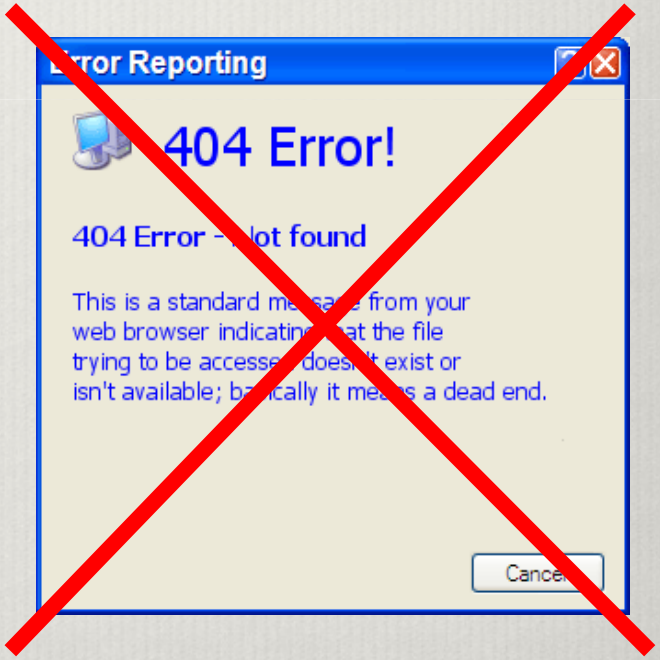
Is a character string used to uniquely identify an electronic document or object.

The DOI for 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 ?

(1) **Alfred Wegener Institute for Polar and Marine Research** (AWI)

member of the Helmholtz Association of National Research Centres
funded by the Federal Ministry of Education and Research (BMBF)

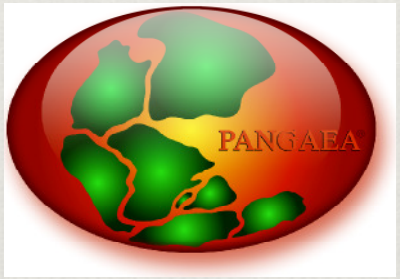
&

(2) **Center for Marine Environmental Sciences** (MARUM)

at Bremen University
funded by the German Research Foundation (DFG)

Both institutions have committed to long-term operate PANGAEA and the World Data Center for Marine Environmental Sciences (WDC-MARE)

Publication of data with PANGAEA



Final data report
for projects

CD/DVD with data and local
search engine

Description and further
information in a booklet

Distribution through 270
libraries with focus on marine
research

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

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

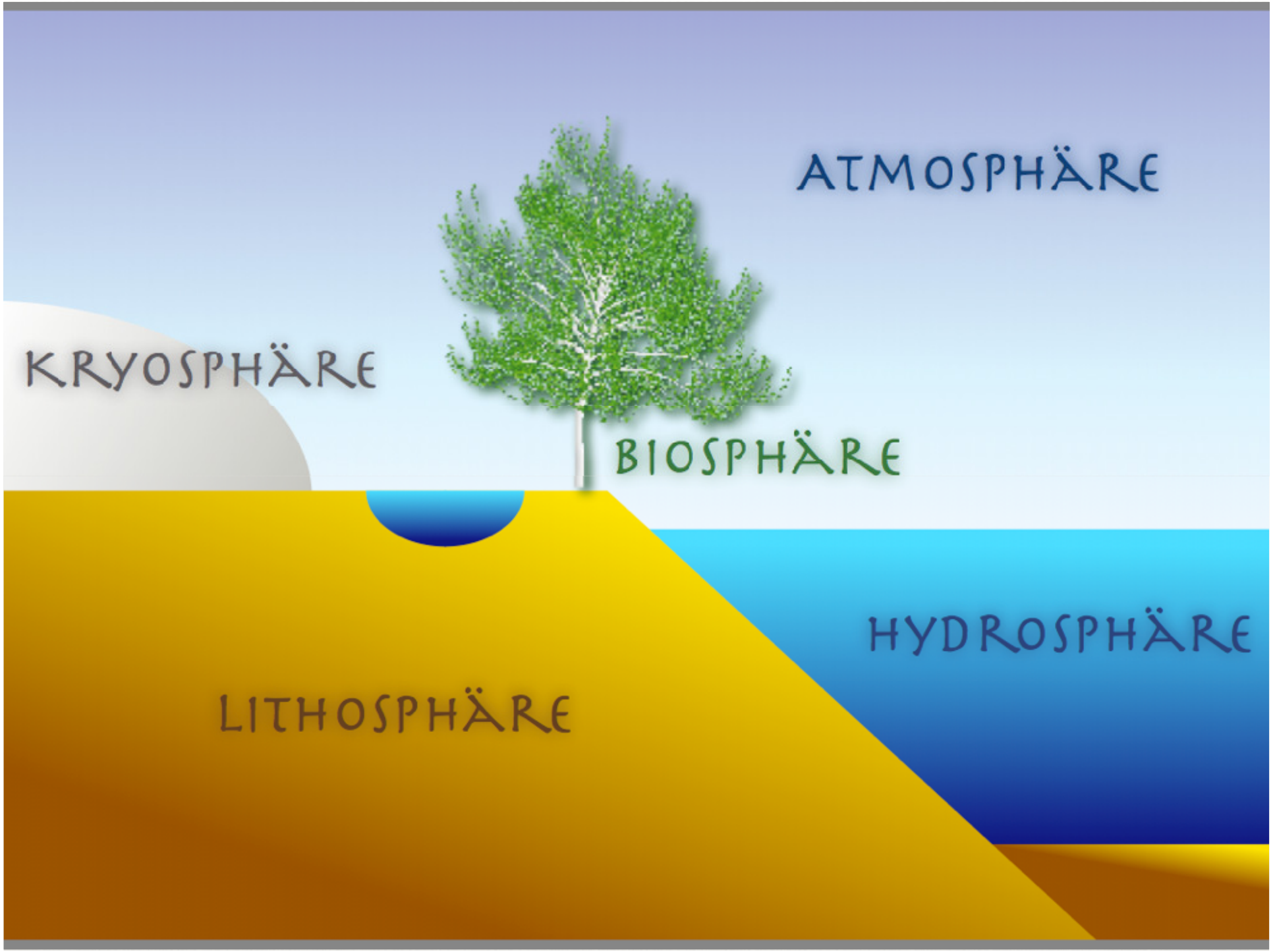
[d] National Oceanography Centre, Southampton, European Way, Southampton SO14 3ZH, United Kingdom

[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.

Abstract

What type of data are archived in PANGAEA ?


ATMOSPHÄRE
KRYOSPHÄRE
BIOSPHÄRE
HYDROSPHÄRE
LITHOSPHÄRE

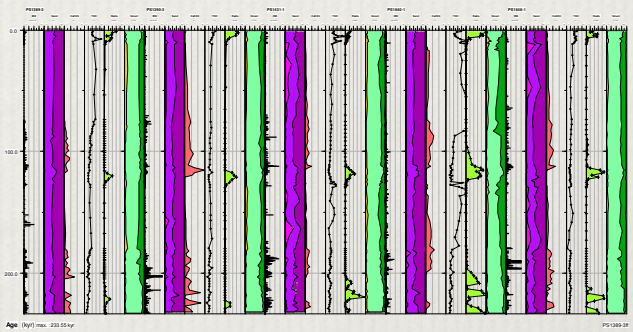
Major Projects

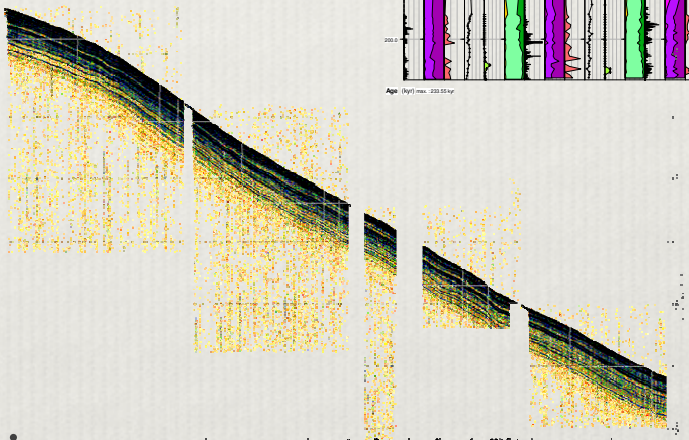
International	EU	National
Radiation	Pollen	Marine environment
JGOFS	CarboOcean	Tree rings
Oceanography	Ocean acidification	HISTRA
Ice cores	HERMES/Hermione	Data archaeology
Marine geology	EPOCA	DFG/BMBF

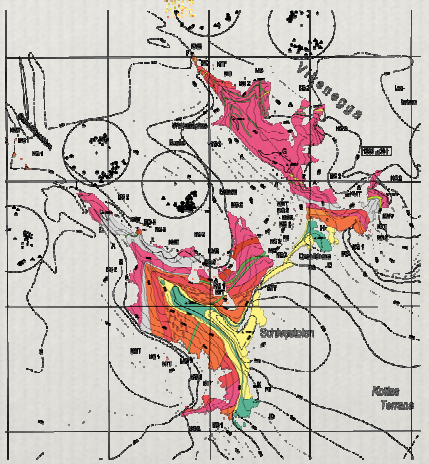
http://www.pangaea.de/projects/

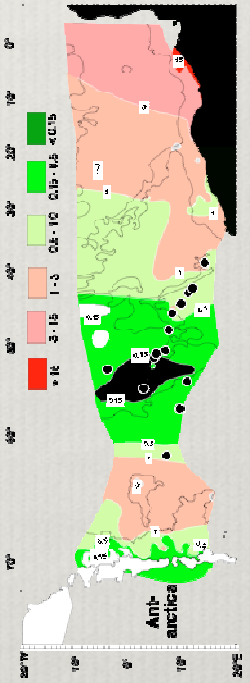
Examples from Geoscientific Research

- Sediment profile
- Seismic profile
- Mineral distribution
- Geological map





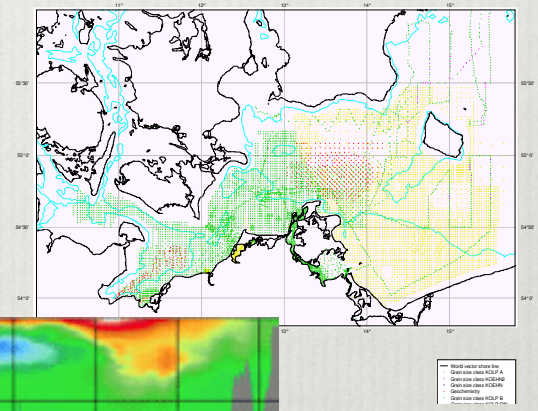




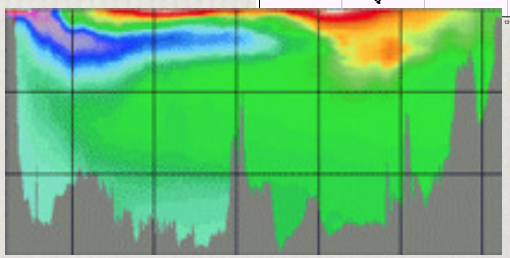
Examples from Environmental Research

- Images

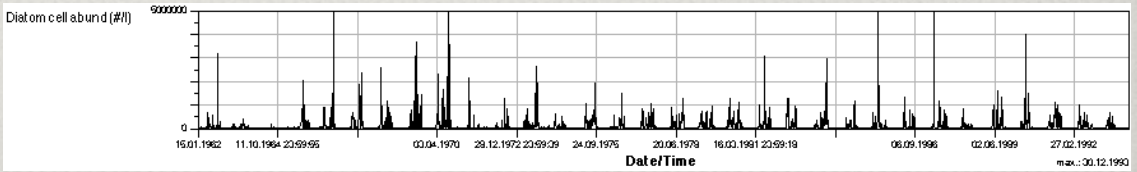
- Distributed samples



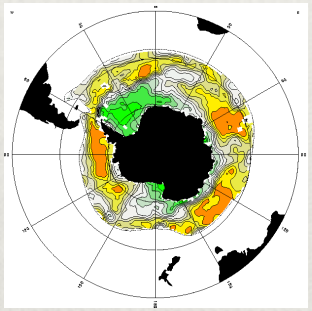
- Hydrographic profiles



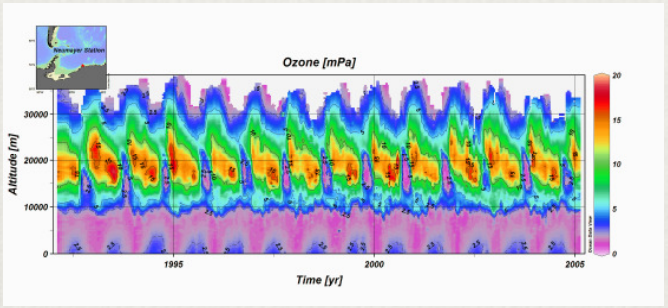
- Times Series



Examples from Antarctic Research

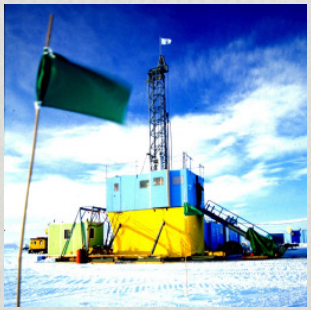


Southern Ocean Atlas

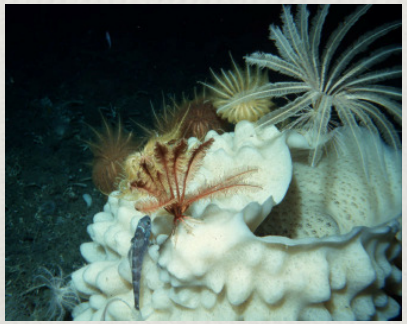


Ozone profiles

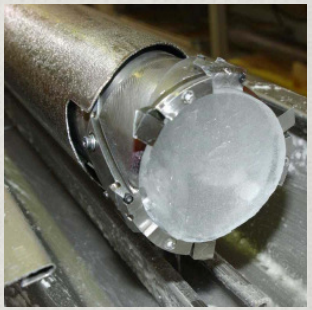
Sediments and Rocks



CRP
Cape Roberts Project



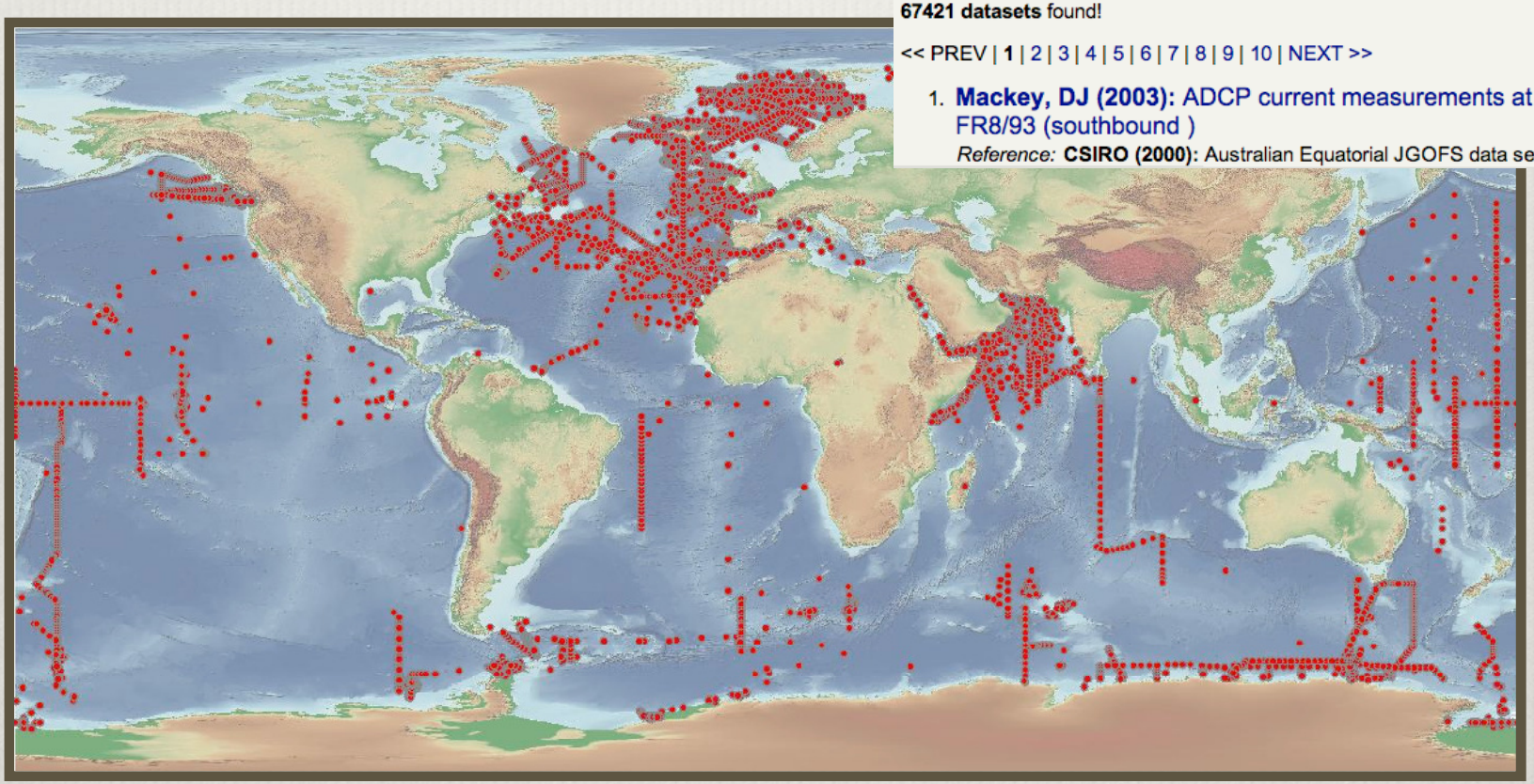
Archive of
Underwater Imaging



EPICA
European Project for
Ice Coring in Antarctica

JGOFS

Joint Global Ocean Flux Studies



Please quote reference and citation when using data!

PANGAEA

Data | Software | Info | Links

PangaVista | ART | Projects | Institutes | PanCore

You are not logged in (LOG IN)

Search for:

project:jgofs Search Help

Show map

Clear

67421 datasets found!

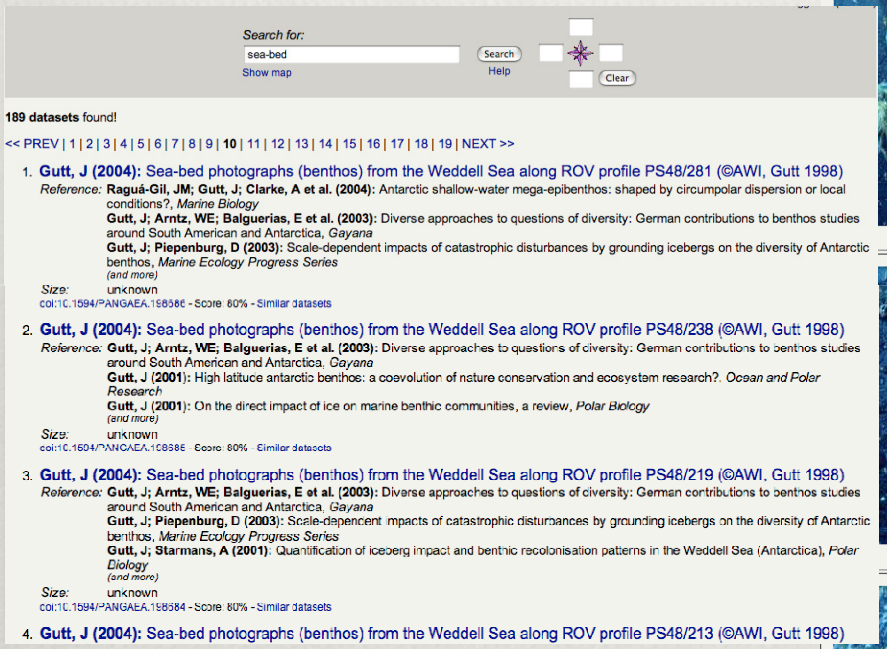
<< PREV | **1** | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | NEXT >>

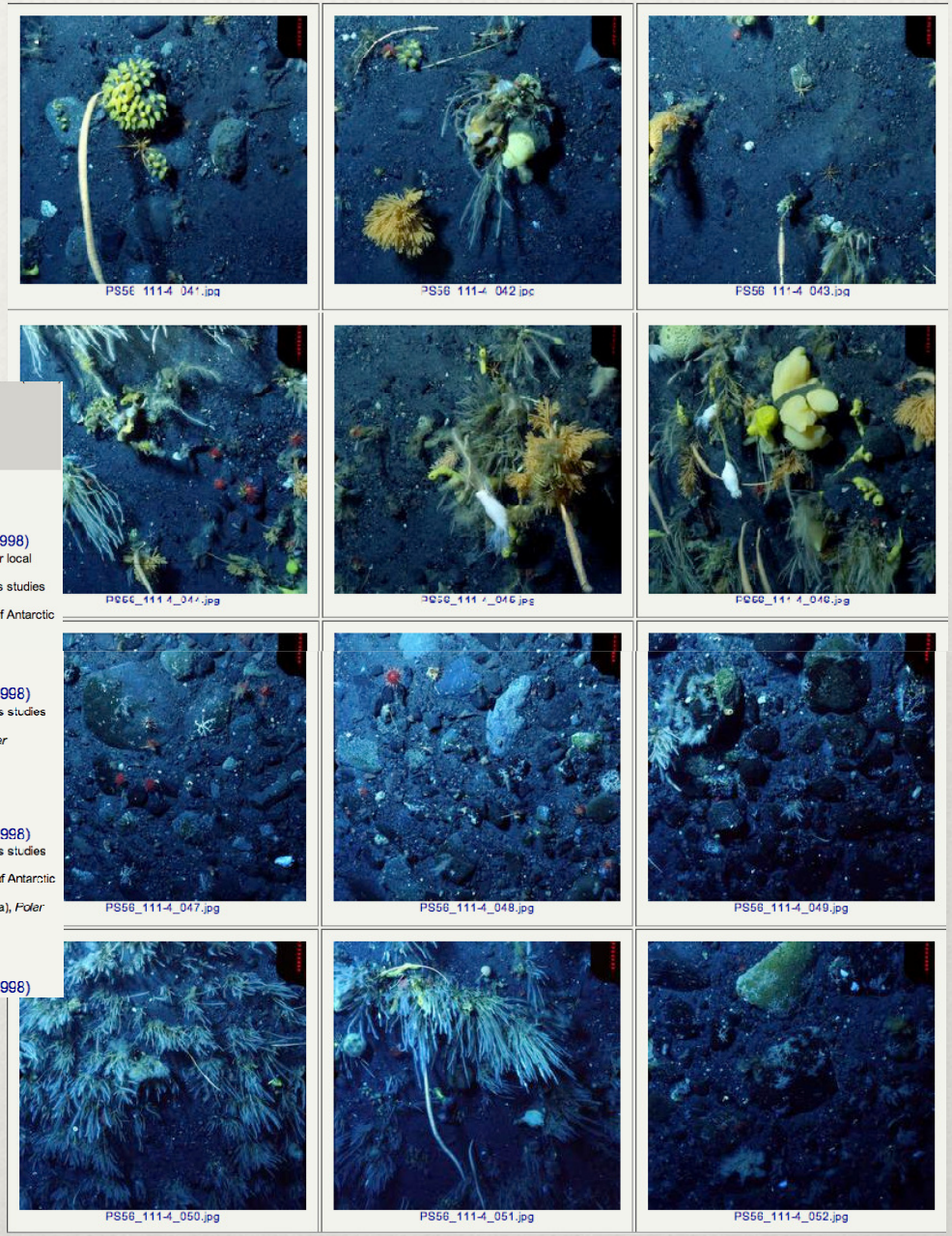
1. **Mackey, DJ (2003):** ADCP current measurements at cruise FR8/93 (southbound)
   Reference: **CSIRO (2000):** Australian Equatorial JGOFS data set,

Air photos

doi:10.1594/PANGAEA.323540

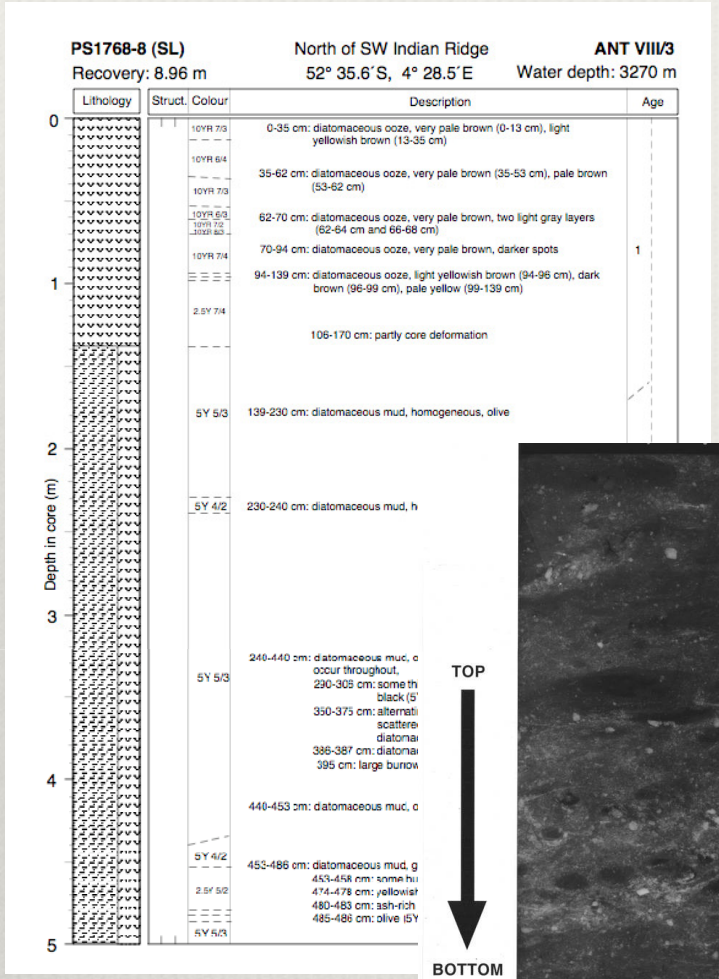
Sea-bed photos

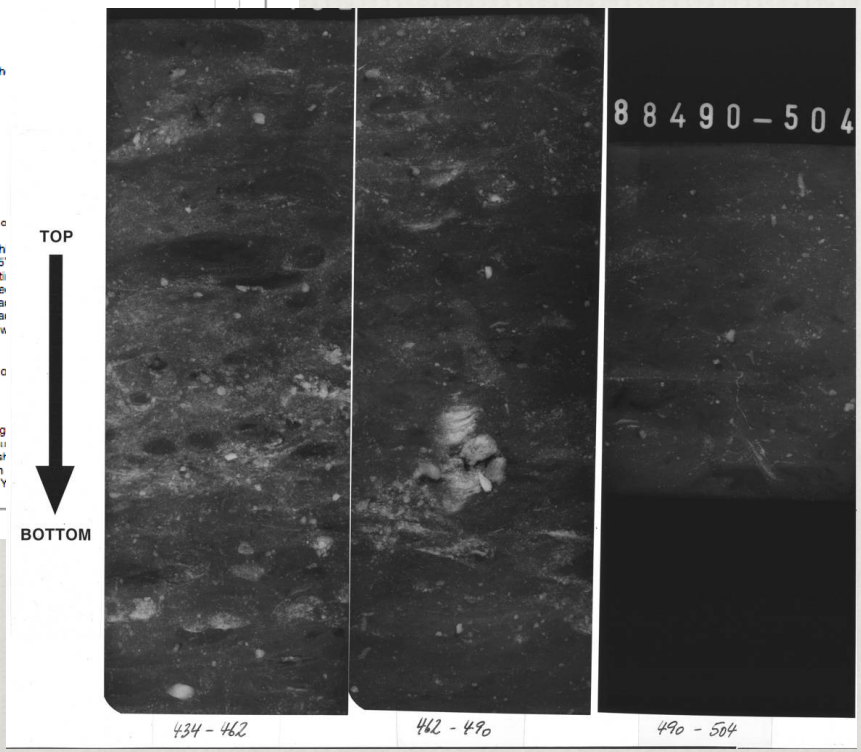




doi:10.1594/PANGAEA.319877

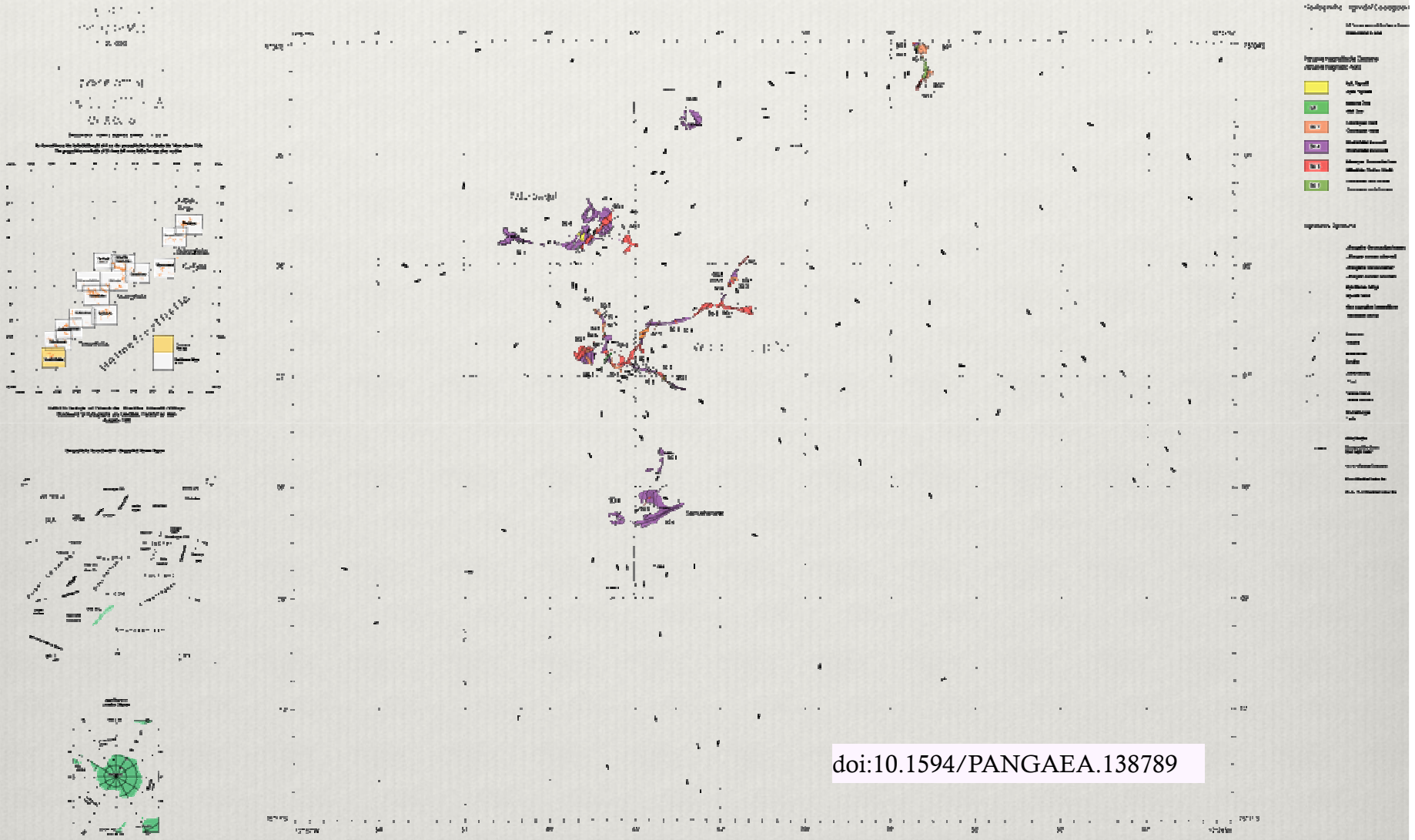
Sediment core documentation





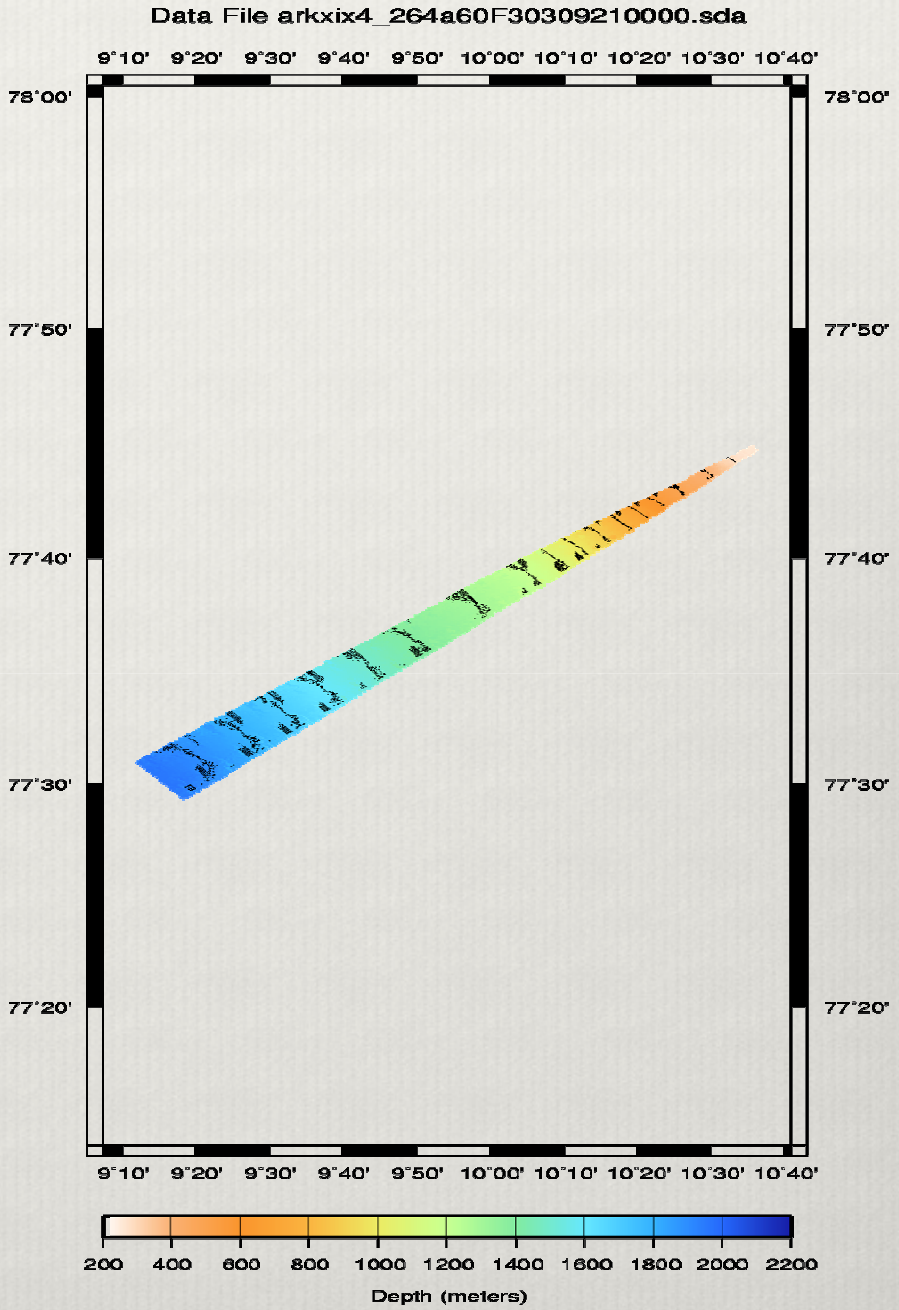
doi:10.1594/PANGAEA.108079

Geological map



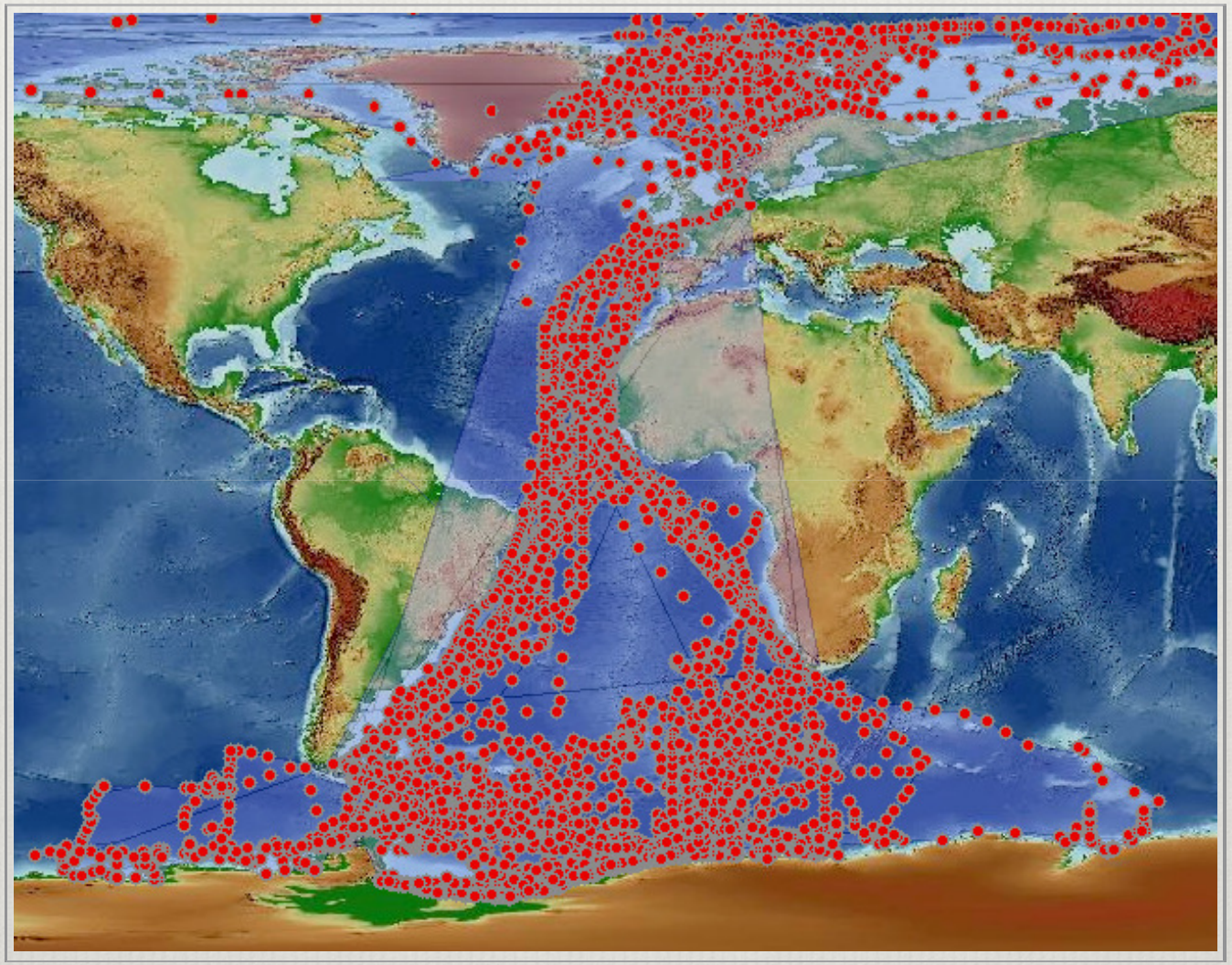
DOI TIBOrder Google

Bathymetry



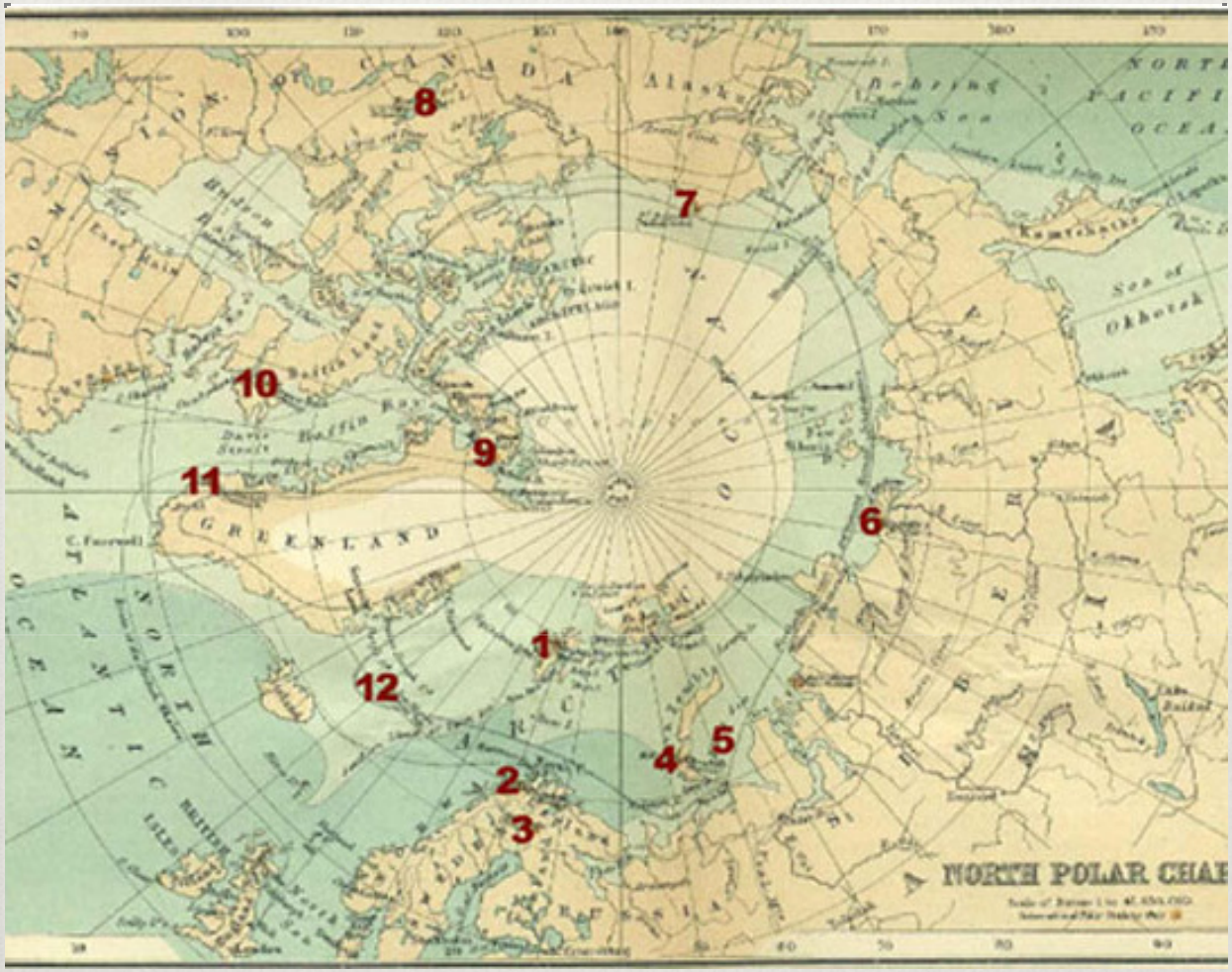
doi:10.1594/PANGAEA.351142

Meteorological observations

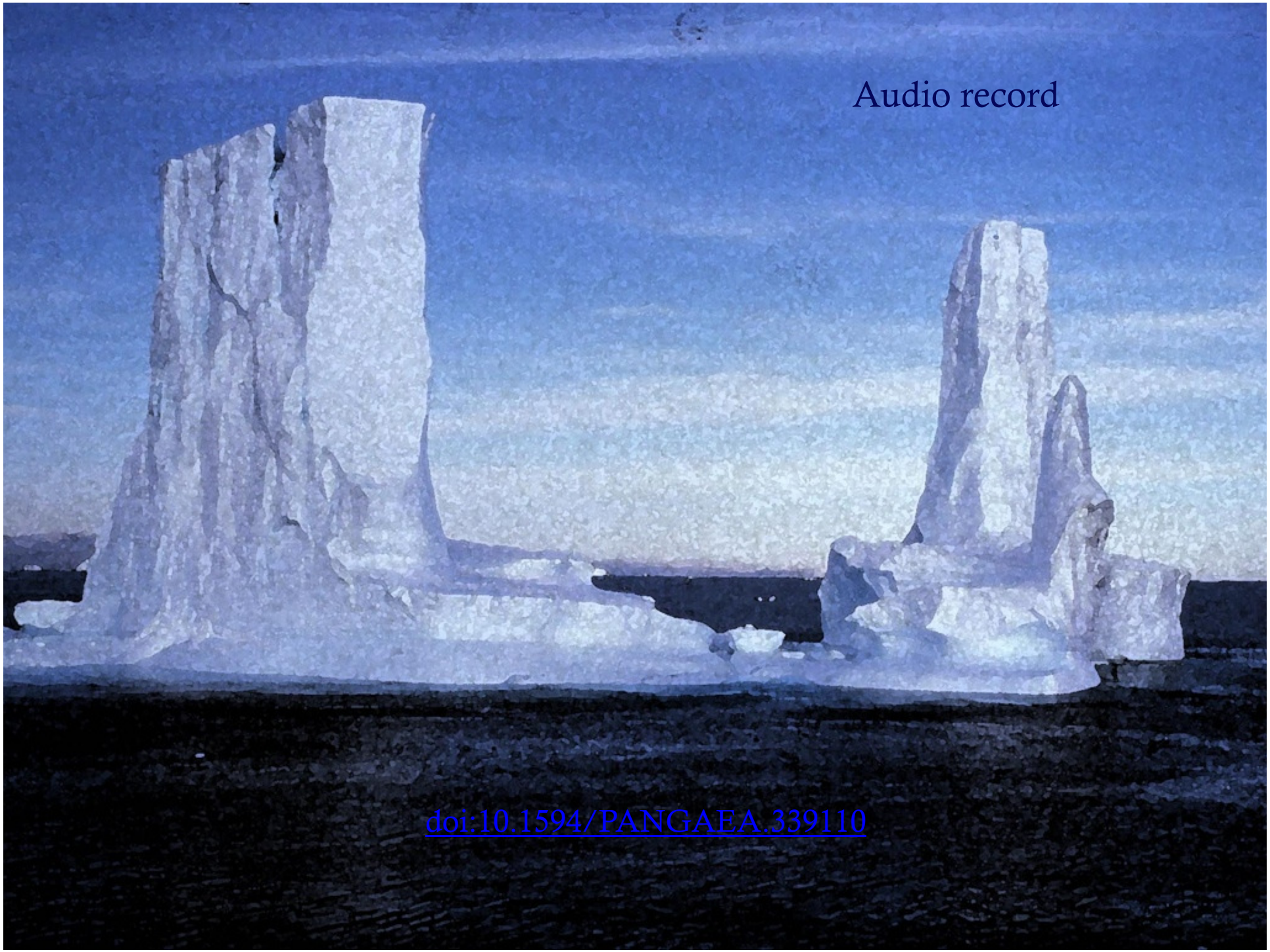


doi:10.1594/PANGAEA.269619

Data Archeology

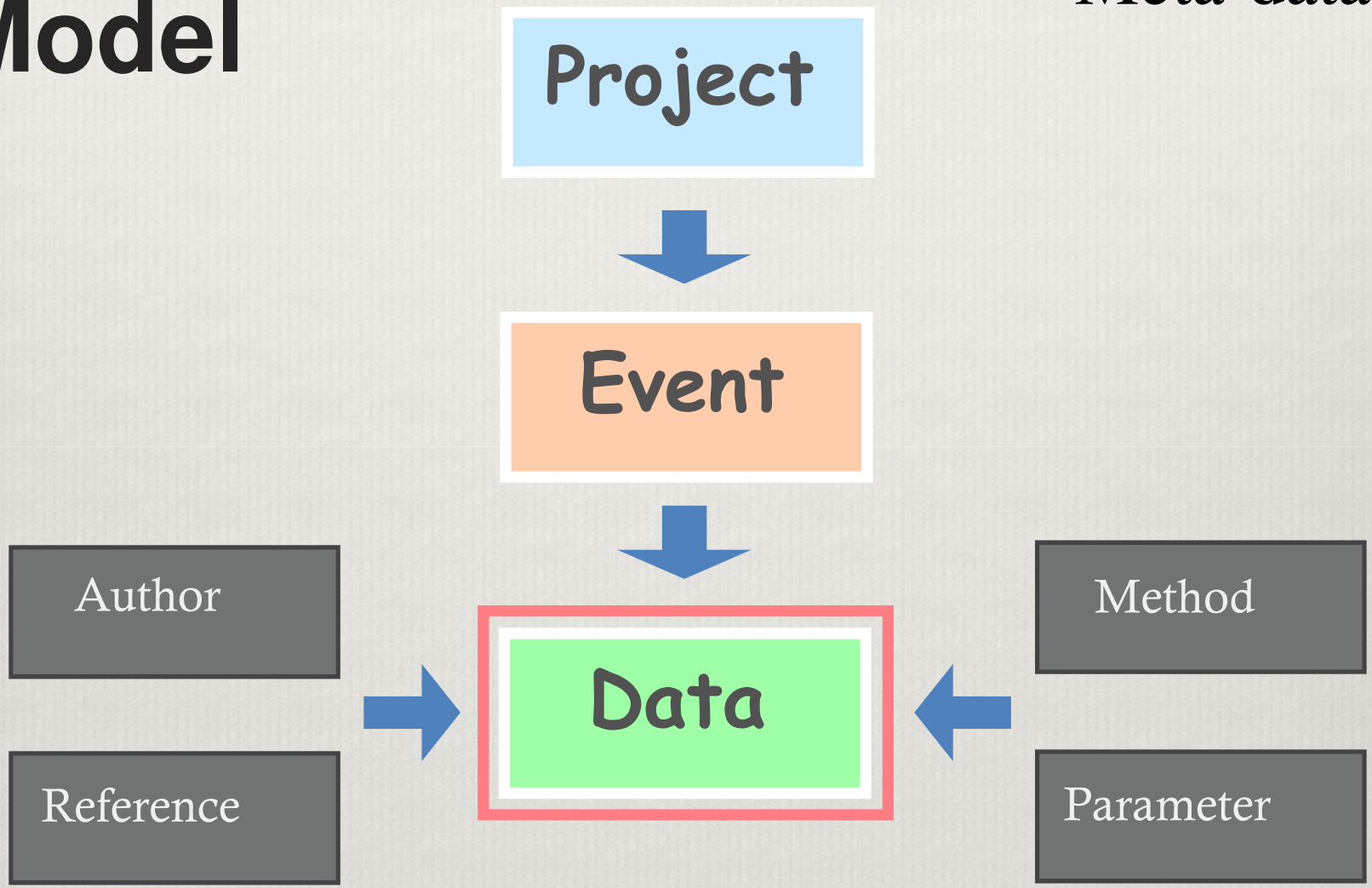


International Polar Year (1882-1883)


Audio record
doi:10.1594/PANGAEA.339110

Data Model

Meta-data



Geo-code & meta-data

when ?

date/time
age

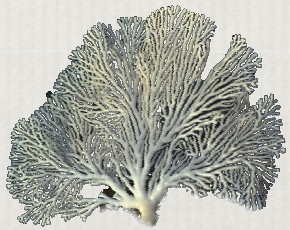
what ?

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 ...

!

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

Workflow in data publishing

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

Editorial

- Corrections (curator/editor)

Review

- Peer review (reviewer ?)
- Publication with DOI & citation

Keep in mind:

Submit your data to PANGAEA before your manuscript is in press

Reference in the paper to your data by doi:

For supplementary data see doi:10.1594/PANGAEA.472241

Data can be pass-word protected until the paper is published

Data formats: Preferred format for data tables is TAB-delimited TEXT-files (ASCII), submitted as ZIP-archive, or excel-format

Curator for AWI-related data is Rainer Sieger

See also: http://wiki.pangaea.de/wiki/Main_Page

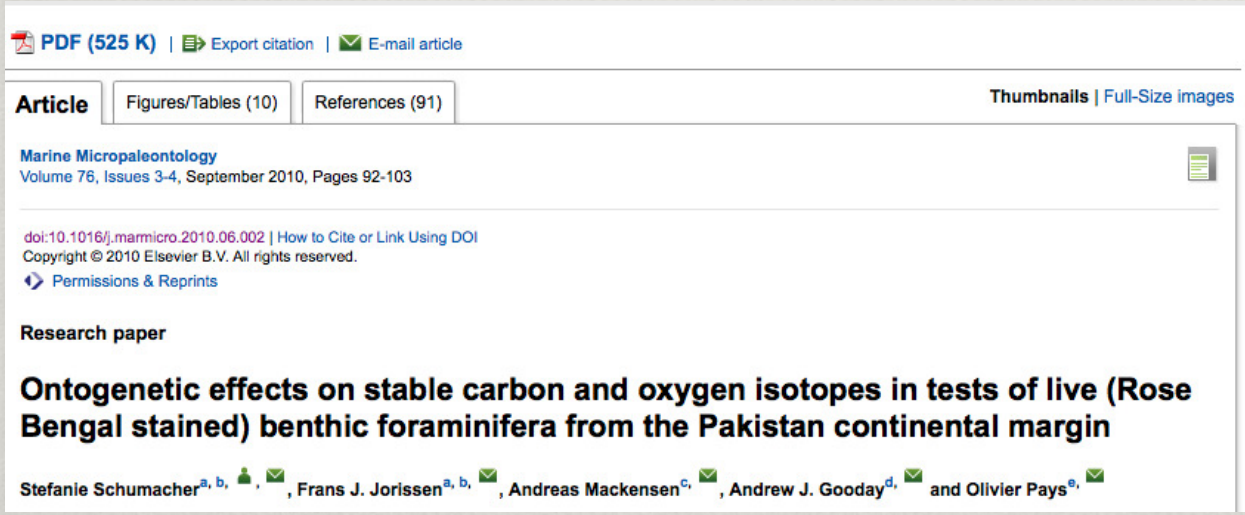
The result is a link in ePIC

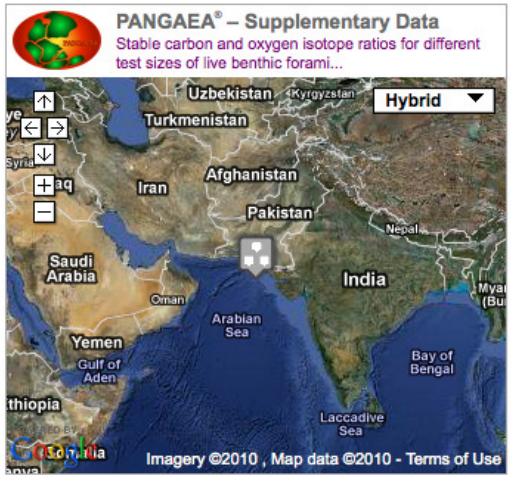
ePIC

2010

Schumacher, S., Jorissen, F.J., Mackensen, A., Gooday, A.J., Pays, O.(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 .
Primary data: doi:10.1594/PANGAEA.707882

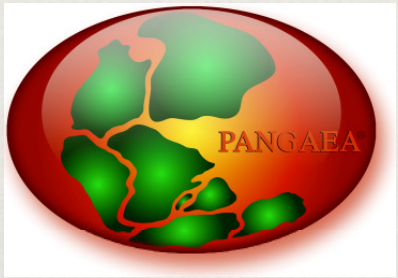
for elsevier publications a link on their web page





How can I find and download data ?

www.pangaea.de



Examples