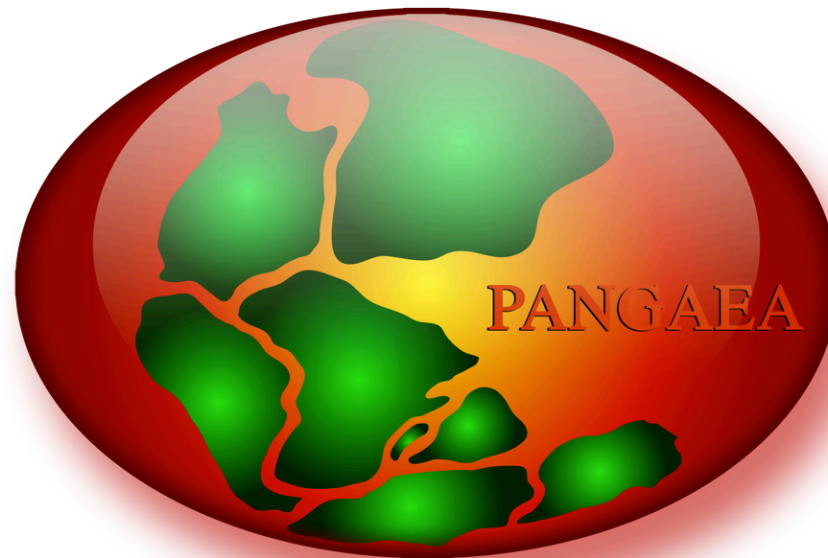
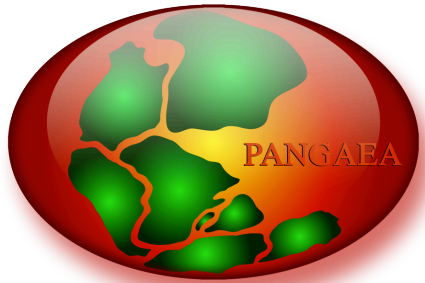


# Die Datenbibliothek PANGAEA<sup>®</sup> – Datenmanagement und Archiv für die Erdsystemforschung




Stefanie Schumacher & Hannes Grobe  
Alfred-Wegener-Institut, Bremerhaven  
hdl:



[www.pangaea.de](http://www.pangaea.de)

Datenbibliothek  
*in*  
relationaler Datenbank  
*in*  
Open-Access  
*für*  
georeferenzierte Daten  
*der*  
Erdsystemforschung und Umweltwissenschaften  
*offen für*  
Wissenschaftler, Projekte und Institute

- ❖ 1987 Sedimentkern Datenbank
- ❖ 1989 SEDI/SEDAT proprietärer Vorgänger
- ❖ 1994 SEDAN/SEPAN relationaler Vorgänger
- ❖ 1996 PANGAEA
- ❖ 1998 **www.pangaea.de**
- ❖ 2001 WDC-MARE (ICSU-WDS)
- ❖ 2004 OAI and **DOI**  Jeder Datensatz wird über die **DOI** identifiziert, geteilt, publiziert und referenziert
- ❖ 2006 Datenzitat, Portale
- ❖ 2008 Data warehouse
- ❖ 2009 Archiv für ESSD (Earth System Science Data) und Verlags-Kooperationen (z.B. Elsevier)

# PANGAEA Betreiber



*Beide Institute haben den Langzeitbetrieb PANGAEAs zugesichert*

Meta-Daten

Parameter

Methode/Gerät

Einheit

Autor

Mitarbeiter/Institut

Referenz

Projekt

Kampagne

Event

Daten

# Datenmodell



**wo?**



*Latitude/Longitude*

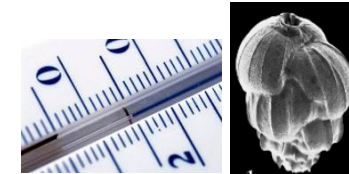
**wann?**



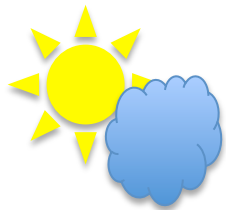
Epoch / Era	Series / Epoch	Stage / Age	GSSP	numerical age (Ma)
Quaternary	Holocene	Upper	▲	0.0117
		Middle		0.126
	Pleistocene	Calabrian	▲	0.781
		Gelasian	▲	1.806
Pliocene	Piacenzian	▲	2.588	
	Zanclean	▲	3.600	
				---

*Datum/Uhrzeit oder geol. Alter*

**was?**



*Parameter [Einheit]*



*Luft*

**numerisch**

16	B. dilatata [#]
	178
	17
	4

**Text**

3	Lithology
	Aleuritic clay
	Aleuritic clay
	Nannofossil clays

**Objekt**



*Eis*

*Wasser*

*Sediment*

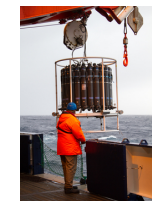
**wer?**



*Autor/Referenz*



**wie?**



*Methode*

# Daten in PANGAEA



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Data Publisher for Earth & Environmental Science

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## Data Description

Show Map Google Earth RIS BISTEX

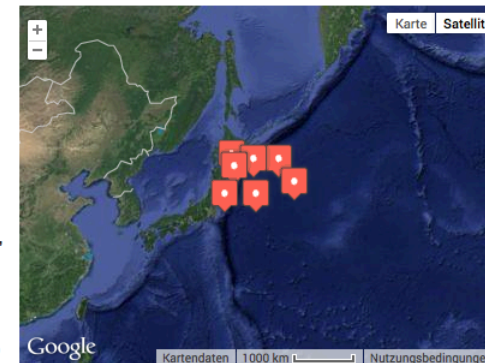
**Citation:** Koizumi, I; Yamamoto, H (2010): Vertical distribution of diatoms in North Pacific sediments.

doi:10.1594/PANGAEA.776366,

Supplement to: Koizumi, Itaru; Yamamoto, Hirofumi (2010): Paleooceanographic 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: 38.477916 \* Median Longitude: 146.055987 \* 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 [↗](#)

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**Size:** 7 datasets

## Download Data

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

## Datasets listed in this Collection

1. Koizumi, I; Yamamoto, H (2010): (Table A1) Diatom abundance in sediment core MD01-2421. doi:10.1594/PANGAEA.775547
2. Koizumi, I; Yamamoto, H (2010): (Table A2) Diatom abundance in sediment core MR02-03-2. doi:10.1594/PANGAEA.776118



## Marine Micropaleontology

Volume 74, Issues 3–4, April 2010, Pages 108–118



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

Itaru Koizumi<sup>a</sup>, , , Hirofumi Yamamoto<sup>b</sup>

 [Show more](#)

DOI: 10.1016/j.marmicro.2010.01.003

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#### 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 ( $T_d$ ). The  $T_d$ -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

Acknowledgements:

For supplementary data see: [doi:10.1594/PANGAEA.776366](https://doi.org/10.1594/PANGAEA.776366)

#### Recommended articles

##### Oceanographic variations over the last 150,000yr ...

2011, Journal of Asian Earth Sciences [more](#)

##### Rapid warming and ostracods mass extinction at t...

2010, Marine Micropaleontology [more](#)

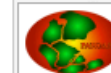
##### Age and significance of Miocene diatoms and diat...

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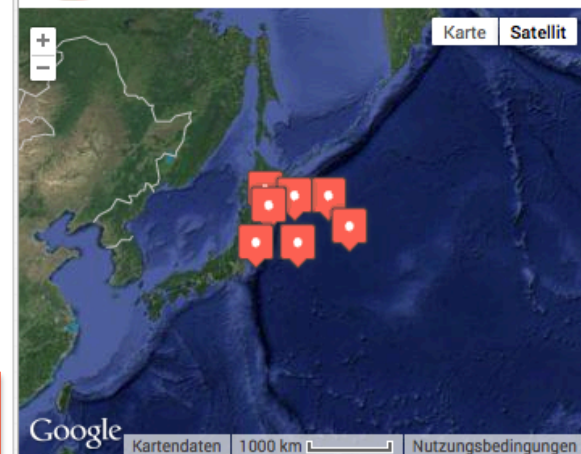
#### Citing articles (2)

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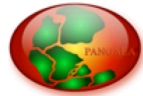
#### PANGAEA® – Related Data

Vertical distribution of diatoms in North Pacific sediments





# Daten in PANGAEA



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## Data Description

[Show Map](#) [Google Earth](#)

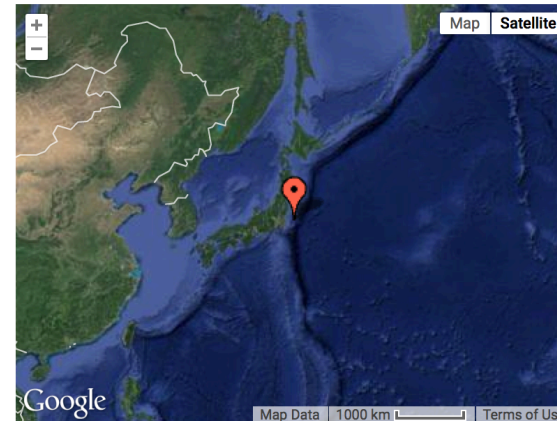
**Citation:** Koizumi, I; Yamamoto, H (2010): (Table A1) Diatom abundance in sediment core MD01-2421. doi:10.1594/PANGAEA.775547, *In Supplement to: Koizumi, Itaru; Yamamoto, Hirofumi (2010): Paleooceanographic evolution of North Pacific surface water off Japan during the past 150,000 years. Marine Micropaleontology, 74(3-4), 108-118, doi:10.1016/j.marmicro.2010.01.003*

**Coverage:** *Latitude:* 36.023500 \* *Longitude:* 141.780000  
*Minimum Age:* 0.240 ka BP \* *Maximum Age:* 143.780 ka BP  
*Minimum DEPTH, sediment/rock:* 0.0 m \* *Maximum DEPTH, sediment/rock:* 45.2 m

**Event(s):** **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 (GPC) [?](#)

**Comment:** Total count of 200 specimens per sample.

**Parameter(s):**

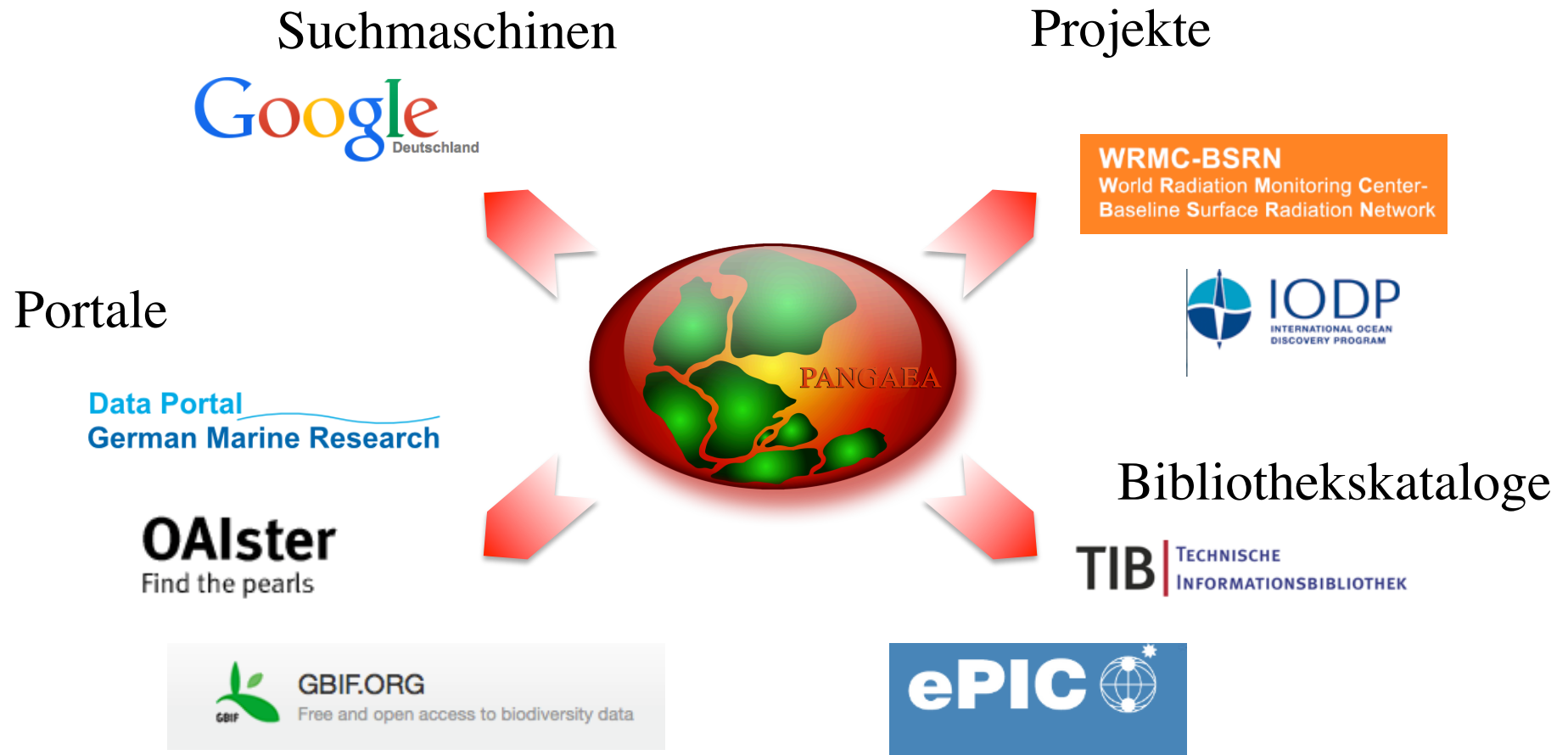


#	Name	Short Name	Unit	Principal Investigator	Method	Comment
1	DEPTH, sediment/rock <a href="#">?</a>	Depth	m			<a href="#">Geocode</a>
2	AGE <a href="#">?</a>	Age	ka BP			<a href="#">Geocode</a>
3	Diatoms, total abundance per unit sediment mass <a href="#">?</a>	TDA/sed	10 <sup>6</sup> #/g	Koizumi, Itaru <a href="#">?</a>	Counting diatoms <a href="#">?</a>	

4 Diatoms, oceanic [?](#) **Data**  
5 Actinocyclus ellipticus [?](#)  
6 Actinocyclus elongatus [?](#) [Download dataset as tab-delimited text](#) (use the following character encoding:  [?](#))  
7 Alveus marinus [?](#)

1 <a href="#">?</a>	2 <a href="#">?</a>	3 <a href="#">?</a>	4 <a href="#">?</a>	5 <a href="#">?</a>	6 <a href="#">?</a>	7 <a href="#">?</a>	8 <a href="#">?</a>	9 <a href="#">?</a>	10 <a href="#">?</a>	11 <a href="#">?</a>	12 <a href="#">?</a>
Depth [m]	Age [ka BP]	TDA/sed [10 <sup>6</sup> #/g]	Diatom oceanic [10 <sup>6</sup> #/g]	A. ellipticus [#]	A. elongatus [#]	A. marinus [#]	A. marylandica [#]	A. arachne [#]	A. flabellatus [#]	A. sarcophagus [#]	A. africa
0.01	0.24	31.6	23.9	0	0	1	0	0	0	0	
0.06	0.29	31.5	22.0	0	0	1	0	0	1	0	
0.16	0.38	23.6	15.7	0	0	2	0	0	0	0	
0.35	0.58	31.5	22.8	0	0	2	0	0	0	0	
0.55	0.77	23.6	14.6	0	0	2	0	0	1	0	
0.75	0.96	31.5	21.3	0	0	1	0	0	0	0	
0.94	1.16	27.7	20.7	0	0	0	0	0	1	0	
1.14	1.35	28.3	18.8	0	0	0	0	0	0	0	

Verbreitung der Daten und Meta-Informationen über Suchmaschinen, Bibliothekskataloge und Internet-Portale



# Submit Data



Wer:

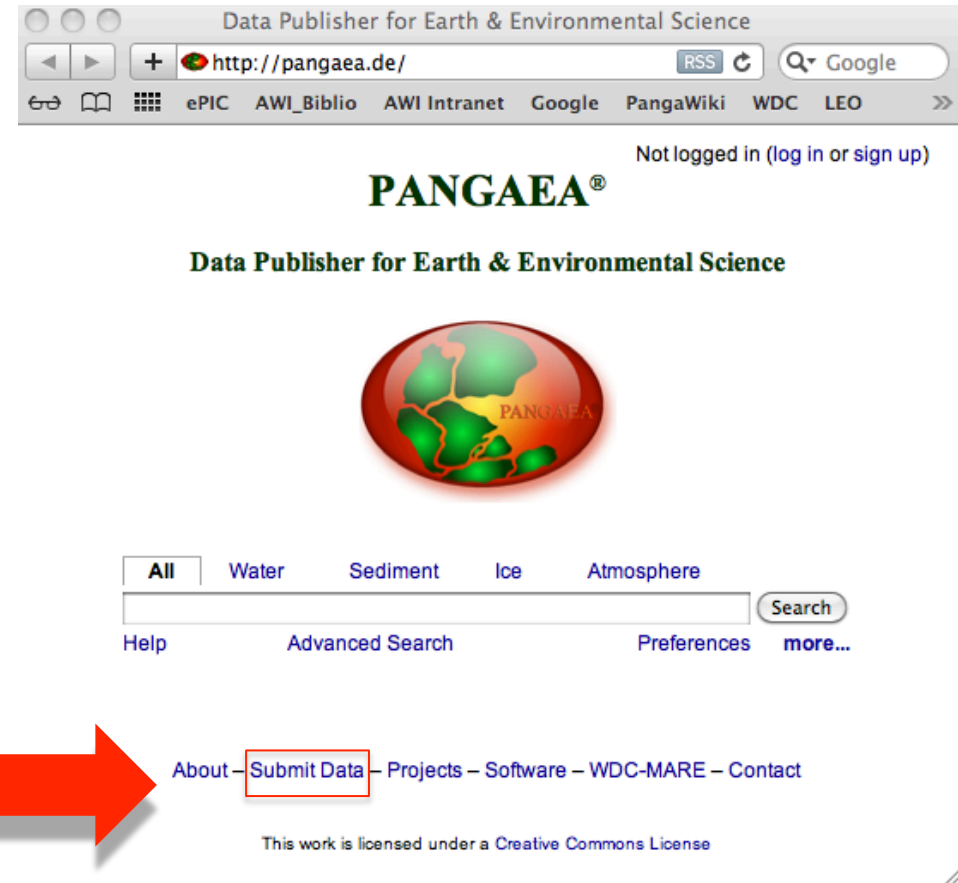
Autor/Wissenschaftler

Datenimport durch  
Pangaea Team

Proofread durch Autor/  
Korrekturen

Publikation mit DOI  
& Zitation

Daten können Login  
geschützt werden, bis das  
Paper publiziert ist



## **Projekt Wissenschaftler**

### **Datenerhebung**

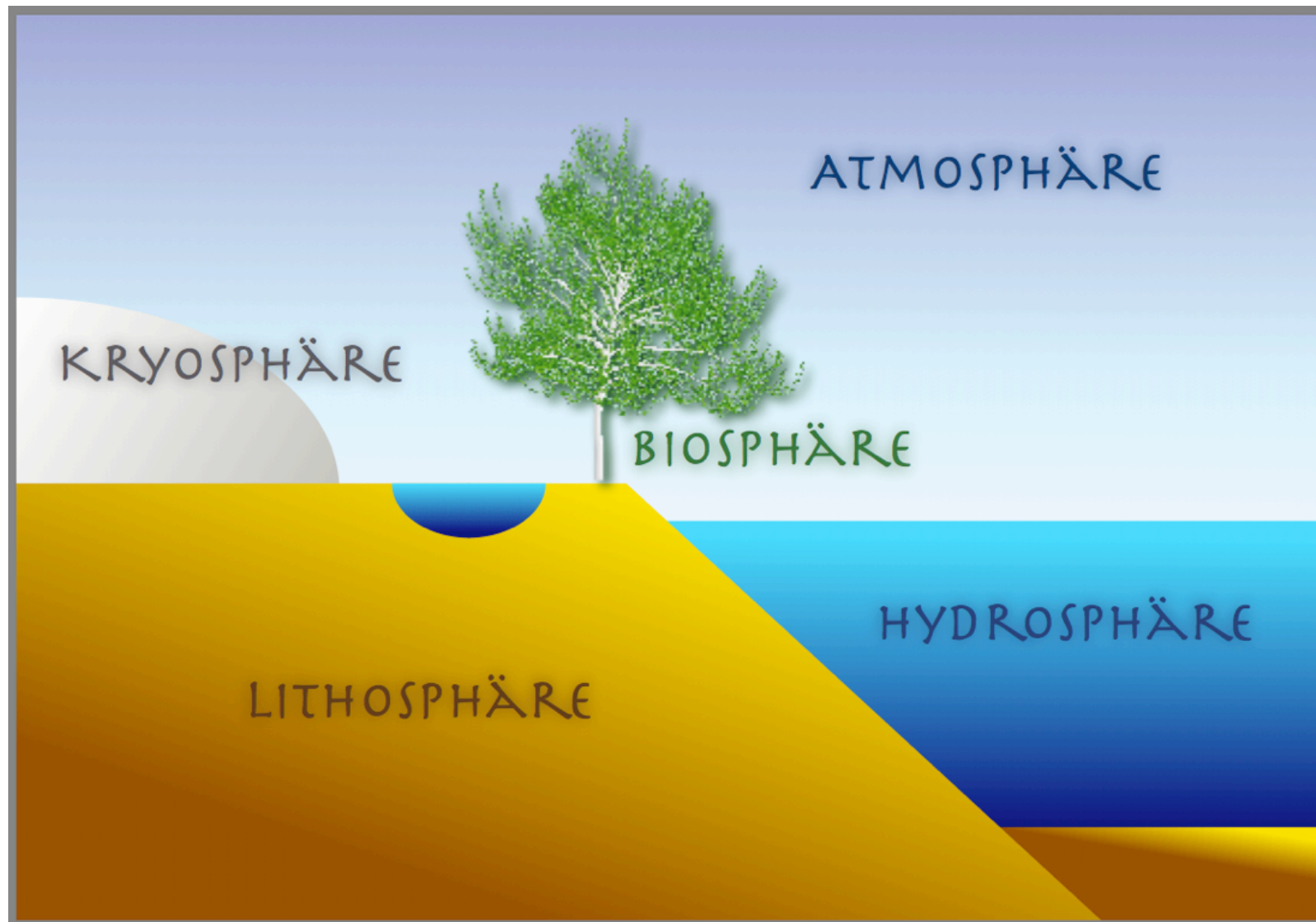
- Daten zur Archivierung aufbereiten
- Prüfung der Daten
- Einreichen der Daten

---

### **Datenimport**

- technische Qualitätskontrolle
- standardisierter Import
- zeitnah

**Pangaea-Team**



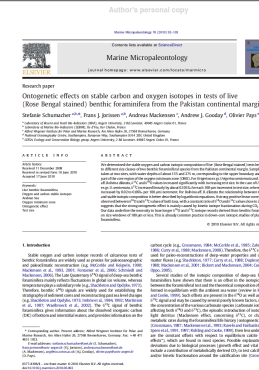
# Datenmanagement - Zukunft



Schiffsdaten



Labordaten



Veröffentlichungen

## Datenmanagementplan



Wissenschaftler



Projekte



Institute

- ❖ Datenzitat, Verlinkung Publikation – Daten
- ❖ Persistenter Identifikator (DOI)

**Acknowledgements**

For supplementary data see: [doi:10.1594/PANGAEA.707882](https://doi.org/10.1594/PANGAEA.707882).

- ❖ Daten langzeit-archiviert
- ❖ open access
- ❖ es fehlt: einheitlicher Archivierungsplan

