

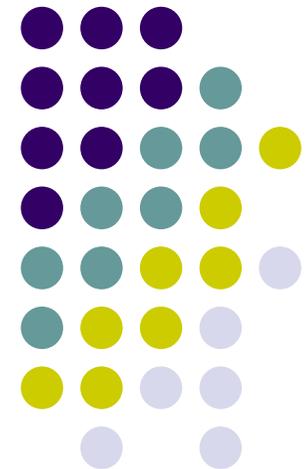
Publikation und Zitierbarkeit von Daten -

Ergebnisse und Anwendungen aus dem
DFG-Projekt STD-DOI

Jens Klump *et al.*

GeoForschungsZentrum Potsdam

D-GRID Metadaten Workshop, 26.03.2007





Co-Autoren

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 4. WDC-MARE, AWI Bremerhaven
 5. WDC-RSAT, DLR-DFD Oberpfaffenhofen
 6. WDC-Climate, MPI-MET Hamburg

Datenveröffentlichungen heute



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Table 6
Overview on accuracies of chl-*a* algorithms (see also Table 4) applied on SeaWiFS data in July 2002 (07/20)

2002/07/20	HPLC	OC4	OC2	This study, July 2001+2002
<i>n</i> chl- <i>a</i> , all	22	17	17	17
<i>n</i> chl- <i>a</i> , case 1	17	17	17	17
Mean [$\mu\text{g l}^{-1}$]	1.6	1.35	1.3	0.85
Median [$\mu\text{g l}^{-1}$]	1.55	1.25	1.3	0.8
S.D. [$\mu\text{g l}^{-1}$]	0.8	0.5	0.4	0.25
Accuracy, all [$\mu\text{g l}^{-1}$]		± 0.35	± 0.3	± 0.38
		$\pm 27\%$	$\pm 24\%$	$\pm 27\%$

2002/07/20	HPLC	Izar et al. (2003), years 1994–1996	Izar et al. (2003), year 1996	Gordon and Morel (1983), case 1
<i>n</i> chl- <i>a</i> , all	22	17	17	17
<i>n</i> chl- <i>a</i> , case 1	17	17	17	17
Mean [$\mu\text{g l}^{-1}$]	1.6	0.6	1	0.85
Median [$\mu\text{g l}^{-1}$]	1.55	0.6	0.94	0.8
S.D. [$\mu\text{g l}^{-1}$]	0.8	0.1	0.4	0.25
Accuracy, all [$\mu\text{g l}^{-1}$]		± 0.6	± 0.41	± 0.45
		$\pm 54\%$	$\pm 27\%$	$\pm 27\%$

Chl-*a* algorithms are OC2 (A, Table 4) and OC4 (B, Table 4), empirical chl-*a* algorithm (D, Table 4) from ground truth data set of Lake Baikal in 2001 and 2002 (this study), chl-*a* algorithm from Izar et al. (2003); coefficient of studies from 1994 to 1996 (F, Table 4), coefficient of 1996 separately (G, Table 4), and case 1, Gordon and Morel (1983) (H, Table 4).

According to ground truth and SeaWiFS spectra for 2001–2002, the green peak of the highly transparent waters of Lake Baikal is commonly located at SeaWiFS band 4 (510 nm). However, the absorption and scattering optical activities in the presence of the terrigenous input shift the peak position towards SeaWiFS band 5 (555 nm). The waters in the observable cloud-free parts of the SeaWiFS acquisitions are not as turbid, so there does not occur a spectral shift in the peak position of the SeaWiFS spectra from SeaWiFS band 5 (555 nm) to band 6 (650 nm). This observed spectral behaviour of the peak shifting from 510 to 555 nm in the 2001–2002 SeaWiFS data sets of Lake Baikal can be simulated and reproduced using the bio-optical software ‘Water Colour Simulator’ (WASI) (Gege, 2004). This described spectral behaviour has been similarly shown from previous historical limnological studies. For example, Thomson and Jerome (1975) stated that clear waters of Lakes Ontario and Superior (USA) had a dominant wavelength of 490–530 nm, biologically more productive waters had a dominant wavelength of 550–560 nm, and waters with heavy sediment loadings had a dominant wavelength of >565 nm.

This spectral shift is regarded as an indicator for the terrigenous input and can be used by applying a ‘mask of terrigenous input’ on the atmospherically corrected SeaWiFS data defined by reflectance ratio values of R_{RS510}/R_{RS555} below 0.9. This is in accordance to the SeaWiFS study done by Froidefond et al. (2002) in the Bay of Biscay, who observed chlorophyll overestimation (due to terrigenous input) in cases of R_{RS490}/R_{RS555} below 1.

When calculating standard suspended matter products (Jørgensen, 2000; Blasing et al., 2003), the high organic fluvial input in Barguzinski Bay and local fluvial input into the South Basin shows inverse grading with lowest calculated SPM concentrations towards the river inlets. Field spectrometer measurements and ground truth data show that, for several bio-optical parameters, the assumption

Fig. 2. The scattergram shows the relationship between concentrations of chl-*a* calculated from SeaWiFS OC2 and chl-*a* calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002. Values of measured chlorophyll (HPLC) are the mean concentrations of each sampling point from 5 to 30 m depth. For the OC2 chl-*a* calculations, the most cloud-free acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) were chosen. Note the considerable chl-*a* overestimation caused by the influences of terrigenous input in case 2 waters. (Data available at: doi:10.1594/GPZ/CDPC/NZ004)

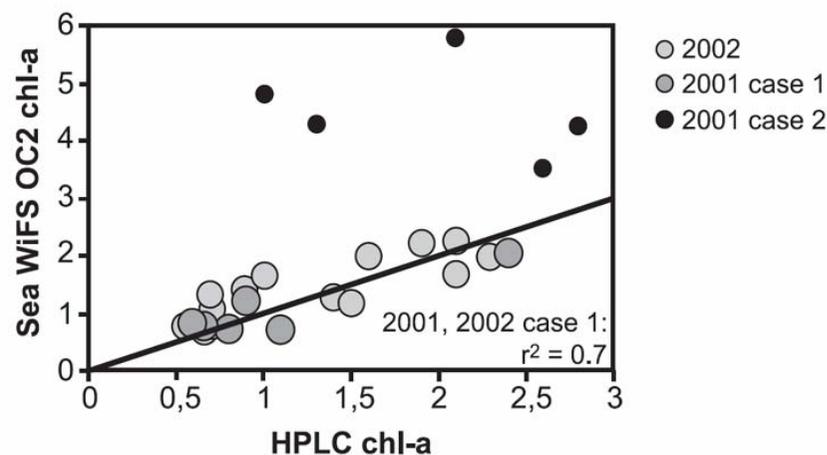
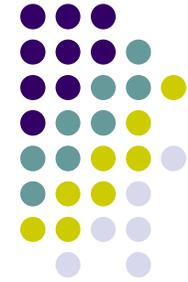


Fig. 2. The scattergram shows the relationship between concentrations of chl-*a* calculated from SeaWiFS OC2 and chl-*a* calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002. Values of measured chlorophyll (HPLC) are the mean concentrations of each sampling point from 5 to 30 m depth. For the OC2 chl-*a* calculations, the most cloud-free acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) were chosen. Note the considerable chl-*a* overestimation caused by the influences of terrigenous input in case 2 waters.

Umgang mit veröffentlichten Daten

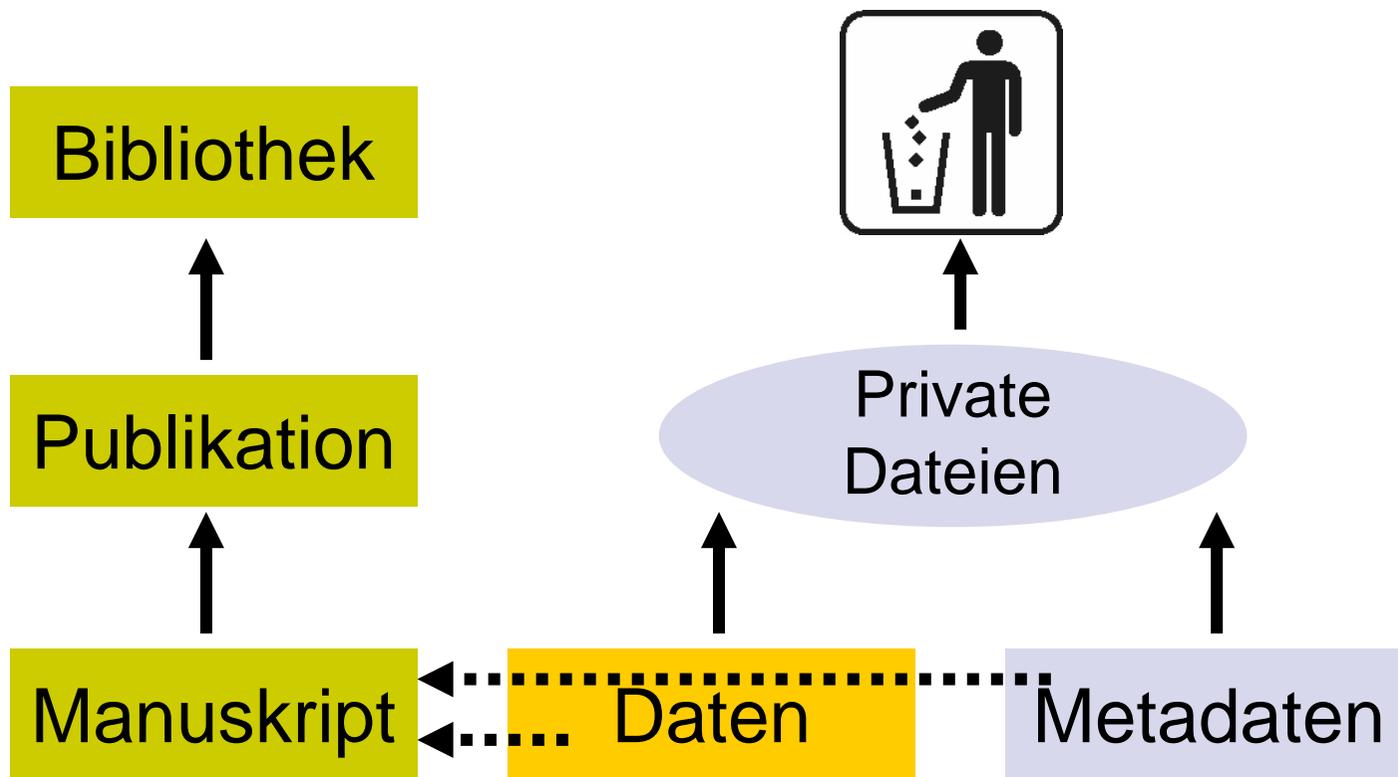


Acknowledgements. We thank H.-F. Tsai, T. Horinouchi, T. Nakamura, Y. Shibagaki for their fruitful discussions and comments on the manuscript. We also wish to thank GFZ (GeoForschungsZentrum), Potsdam for providing CHAMP/GPS RO data through the ISDC (INTEGRAL Science Data Centre ISDC) data center. One of the authors (MVR) wishes to thank JSPS (Japan Society for Promotion of Sciences) for providing fellowship to carry out this work. This work is also supported partially by MEXT (Japanese Ministry of Education, Culture, Sports, Science and Technology) using Grant-in-Aid for Scientific Research on Priority Areas (Grant number: (A03) 13136206; (A04) 13136203).

Topical Editor U.-P. Hoppe thanks two referees for their help in evaluating this paper.

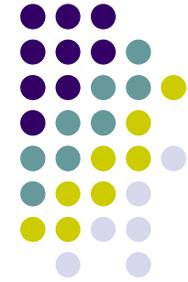
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- Die Datenquelle muss aus dem Text abgeleitet werden.
- Keine Metadaten.
- Oft wird die Herkunft der Daten garnicht anerkannt.

Umgang mit Daten heute



Nach Helly *et al.* (2003)

Warum Offener Zugang zu Daten?



- Die Mengen der Forschungsdaten steigt exponentiell.
- Die meisten Daten werden unzureichend genutzt, weil sie nicht zugänglich sind.
- Die Folgen:
 - Unnötige Doppelarbeiten
 - Forschungsergebnisse sind kaum verifizierbar
- Aufrufe, Daten zugänglich zu machen, wurden zwar begrüßt, blieben aber folgenlos.

Warum Daten nicht zugänglich sind



- Datenveröffentlichung scheitert heute noch an strukturellen Fehlern:
 - Zeitschriften räumen aus Kostengründen Daten keinen Platz in den Veröffentlichungen ein.
 - Autoren erhalten keine professionelle Anerkennung für Datenveröffentlichungen, weil Daten nicht zitiert werden (können).
 - Daten werden nicht zitiert, weil ihre Lokation (URL) meist nicht langlebig ist.

Besondere Situation am GFZ



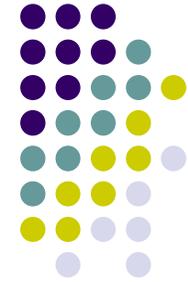
- Am GFZ werden nicht nur abgeschlossene Datensätze aus Analysen und Modellen hergestellt, sondern auch Zeitreihen aus Mess-Systemen.
- Der Betrieb dieser Systeme ist sehr aufwändig, wird aber in der wissenschaftlichen Literatur kaum gewürdigt.
- Ziel: Anerkennung durch Veröffentlichung als wissenschaftliche Daten.



Notwendige Schritte

- Daten müssen zitierbar sein, um „wertvoll“ zu sein.
 - „Reputation“ ist die Währung der Wissenschaft.
- Autoren werden sich diese Arbeit nur machen, wenn es sich lohnt.
 - Datenpublikation ist arbeitsaufwändig.
- Daten müssen offen zugänglich sein.
 - Zugang gewährleisten über persistente Identifikatoren und Langzeitarchivierung.
- Urheberrecht muss gesichert sein.
 - Autor muss Kontrolle über die Nutzung der Daten haben.

DFG-Projekt STD-DOI

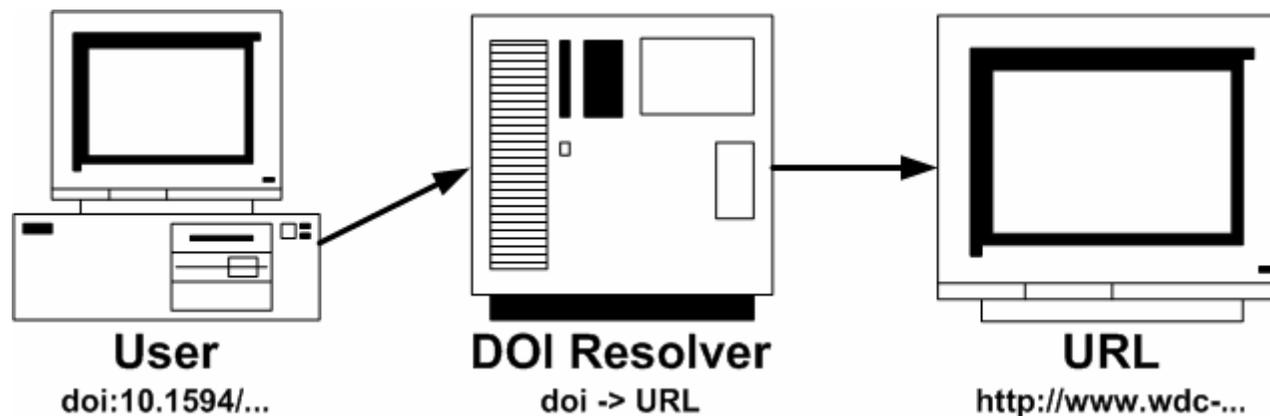


- Aufbau der Dienste zur Veröffentlichung von Daten.
- DOI Registrierungsagentur an der TIB Hannover.
- Bisher 6 DOI Registrierungsagenten.
- Projektpartner:
 - WDC-MARE (Bremen/Bremerhaven)
 - WDC Climate (Hamburg)
 - GFZ Potsdam
 - WDC-RSAT (Oberpfaffenhofen)
- Die Geokommission schlägt der DFG vor, die Veröffentlichung von Daten in die Förderrichtlinien aufzunehmen.

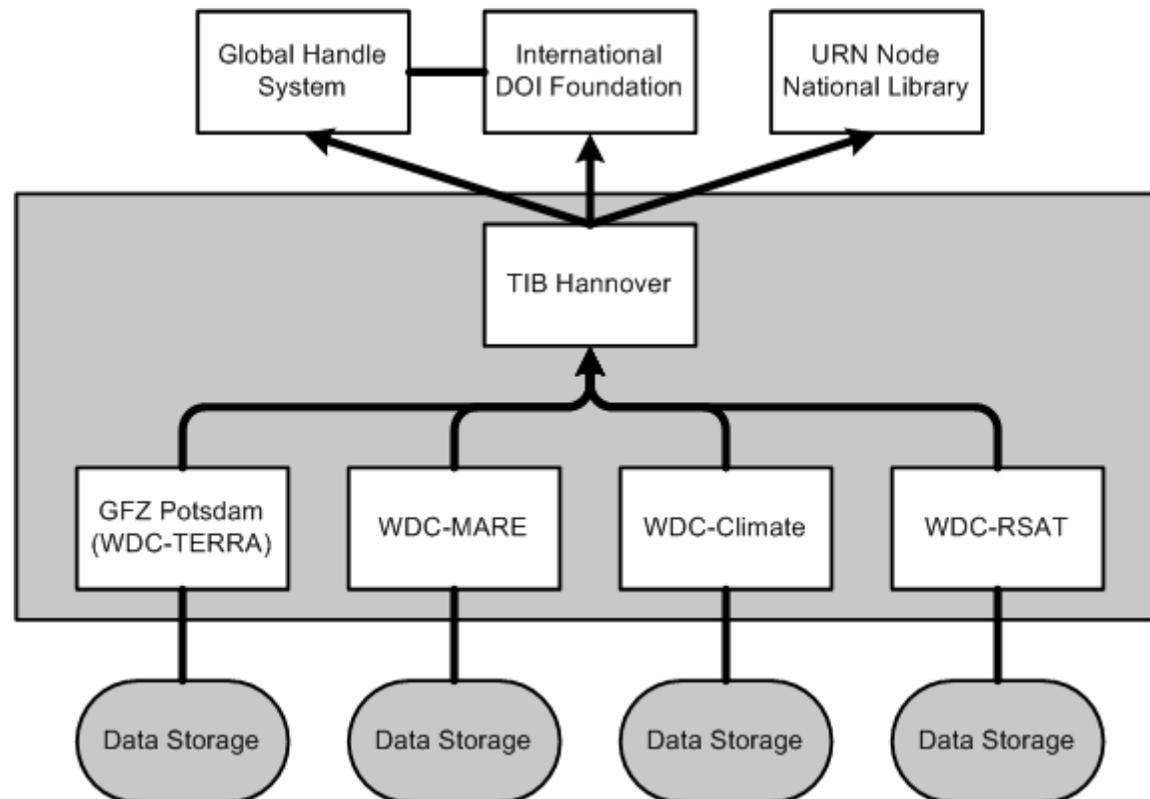


Was ist ein DOI?

- DOI = Digital Object Identifier. Ein persistenter, digitaler Identifikator eines Objekts.
- DOI = Name des Objekts, URL = Ort des Objekts.
- Der Ort eines Objekts kann sich ändern, der Name bleibt der gleiche, unabhängig vom Ort an dem sich das Objekt befindet.



STD-DOI Systemarchitektur



Beispiel für eine Datenveröffentlichung

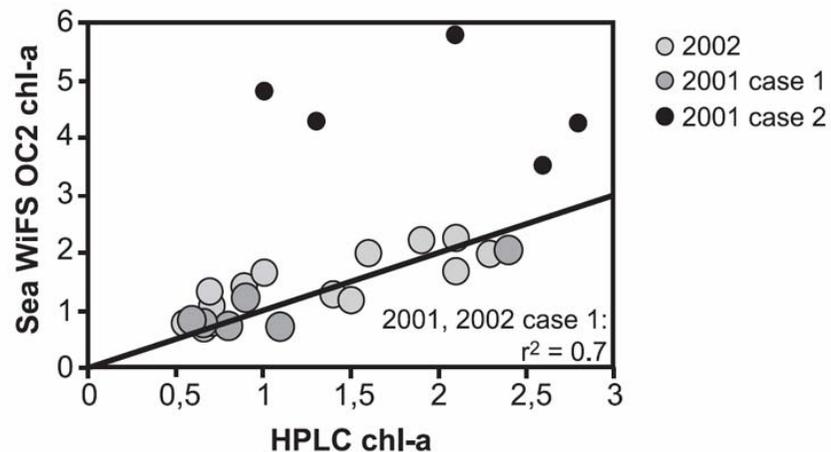


Fig. 2. The scattergram shows the relationship between concentrations of chl-*a* calculated from SeaWiFS OC2 and chl-*a* calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002. Values of measured chlorophyll (HPLC) are the mean concentrations of each sampling point from 5 to 30 m depth. For the OC2 chl-*a* calculations, the most cloud-free acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) were chosen. Note the considerable chl-*a* overestimation caused by the influences of terrigenous input in case 2 waters.

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- [doi:10.1594/GFZ.SDDB.1043](https://doi.org/10.1594/GFZ.SDDB.1043) verweist auf die ICDP Scientific Drilling Database.

TIBORDER / GBV Katalog



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Heim Birgit search

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Title: The [relationship between concentrations of chl-a calculated from SeaWiFS OC2](#) and [chl-a calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002](#) / GeoForschungsZentrum Potsdam (GFZ) , Potsdam, Germany .**Birgit@Heim**

Collaborator: [Birgit Heim](#) ; [Hedi Oberh??nsli](#) ; [Susanne Fietz](#) ; [Hermann Kaufmann](#)

Corporate body: [GeoForschungsZentrum Potsdam \(GFZ\)](#)

Published: 2006-09-15

Extent: Online-Ressource (54 Datapoints).

Note: Mode: Abstract
StructuralType: Digital
CreationDate: 2006-03-08

Abstract: Values of measured chlorophyll (HPLC=High Performance Liquid Chromatography) are the mean concentrations of each sampling point from 5 to 30 m depth. For the OC2 chl-a calculations, the most cloud-free acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) were chosen. Note the considerable chl-a overestimation caused by the influences of terrigenous input in case 2 waters.

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1 of 4

Fertig

ICDP Scientific Drilling Database



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Citation: Heim, Birgit; Oberhänsli, Hedi; Fietz, Susanne; Kaufmann, Hermann; (2006): The relationship between concentrations of chl-a calculated from SeaWiFS OC2 and chl-a calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002, *Scientific Drilling Database*, 10.1594/GFZ.SDDB.1043

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+ Sampling Gear
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Title: The relationship between concentrations of chl-a calculated from SeaWiFS OC2 and chl-a calculated determined from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002

Abstract: Values of measured chlorophyll (HPLC=High Pressure Liquid Chromatography) are the mean concentrations of each sampling point from 5 to 30 m depth. For the OC2 chl-a calculations, the least clouded acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) were chosen. Note the considerable chl-a overestimation caused by the influences of terrigenous input in case 2 waters.

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- Heim, B., Oberhänsli, H., Fietz, S. and Kaufmann, H. (2005). Variation in Lake Baikal phytoplankton distribution and fluvial input assessed by SeaWiFS satellite data. *Global and Planetary Change* 46 (1-4), 9-27. doi:10.1016/j.gloplacha.2004.11.011

Activities:

CON01-501-1
Latitude: 52.6667
Longitude: 107
Elevation: -1250
Date/Time: 2001-07-16 00:52:00
Program: High-resolution CONTINENTAL paleoclimate record in Lake Baikal
Expedition: CON01-5
Platform: R/V Vereshchagin
Gear: Water sample

CON01-502-1

Latitude: 52.9561

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GFZ **icdp**
POTSDAM

File Upload

Title: Gas mass spectrometry of gas samples from the KTB Main Hole HB1
Description: The main objective of this drilling fluid analysis was the detection of inflows of formation fluids. Therefore different gases dissolved in the drilling mud were measured continuously and automatically at drill site with three different methods (Fig.: KTB-Report 92-2 page C13). The operation principles of the mass spectrometer and the gaschromatograph have been explained by STROH et al. (1988) and FIGGEMEIER et al. (1991). The principle of radon determination is published by ERZINGER et al. (1992). In the complete KTB-VB and in in the KTB-HB down to a depth of 3003 m the gas phase was released and collected by twirl degassers attached in front of the mud shakers. This open system led to gas losses as well as air contamination. Therefore results obtained down to this depth have only qualitative character. After casing the KTB-HB to a depth of 3003 m a bypass system was installed at the BOP (blow-out preventer) 50 cm below the flow line.

Author 1:
Author 2:
Author 3:
File: KTB-HB GC.txt
Activities: KTB-HB

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Investigator:	<input type="text" value="Kamm,H"/>
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Laboratory:	<input type="text" value="KTB Field Lab"/>

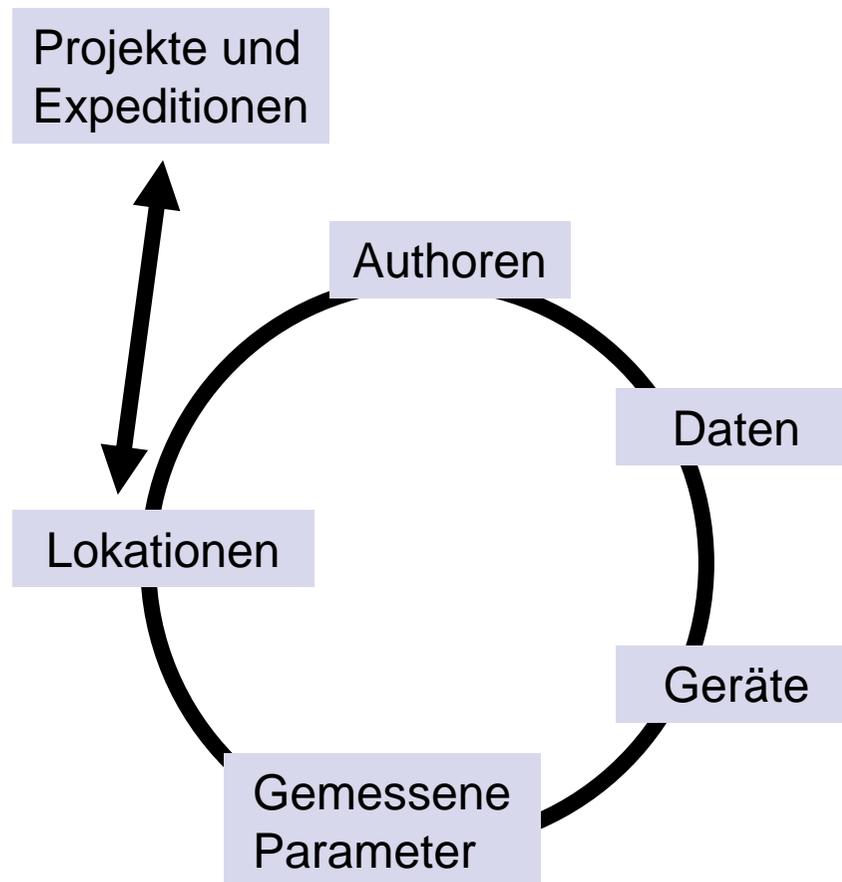
N2_gc ()
77.64
77.59
77.63
77.62
77.6

O2_gc ()
20.25
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20.25
20.22
20.1

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- Der Assistent ist in Anlehnung an den eBay Upload-Assistenten gestaltet.



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- SDDB Metadaten lassen sich durch Browsen iterativ durchsuchen.
- SDDB hat (bis jetzt) keine Volltextsuche.

Daten in den Kontext stellen



Scientific Drilling Database
Data from Deep Earth Sampling and Monitoring

> parameter > age models > radiocarbon

"radiocarbon" contains the following parameters:

- $\delta^{13}\text{C}$ [‰]
- $\delta^{13}\text{C}$ error [‰]
- age (C-14 years) [yr]
- age (calibrated C-14 years) [yr]
- age error (C-14 years) [yr]
- carbon yield [%]
- estimated purity [%]
- reservoir effect [a]
- target weight [mg C]

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GFZ icdp
POTSDAM

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- Parameter sind in einer Baustruktur geordnet.
- Homonyme sind erlaubt – der Parameter-Baum ist nach wissenschaftlichem Kontext geordnet.

Die räumliche Dimension



Wird in den nächsten Monaten um OGC Webservices ergänzt.

Google Earth interface showing a map of Irkutsk with various data points labeled with codes like CON01-501-1, CON02-814-2, CON02-821-2, CON02-817-3, CON02-818-2, CON02-811-6, CON01-505-1, CON02-840-3, CON01-507-2, CON02-833-5, CON02-829-1, CON02-827-1, CON02-831-3, CON02-830-2, CON01-503-1, CON01-503-1, CON01-505-1, CON01-505-1, CON01-507-2, CON01-507-2, CON01-521-2, CON01-521-2, CON01-522-2, CON01-522-2, CON01-501-1, CON01-522-2, CON01-521-2, CON02-854-1, CON02-806-6, CON02-809-2.

Layers: terrain, Featured Content, roads, borders, Populated Places, Alternative Place Names, 3D Buildings, Dining, Lodging, Google Earth Community, Shopping and Services, Transportation, Geographic Features, Travel and Tourism, Parks and Recreation Areas, Community Services, US Government, Digital Globe Coverage.

Pointer: 53°00'57.24" N 106°58'05.33" E elev. 475 m Streaming 100% Eye alt 448.14 km

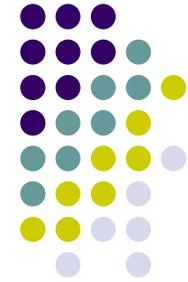


STD-DOI Metadaten

- Die STD-DOI Metadaten sind im wesentlichen Dublin Core-Elemente mit einigen Datenspezifischen Erweiterungen.
- Die Metadaten werden über Webservice (HTTP/SOAP) an die TIB-Hannover übertragen und dort in den Katalog eingefügt.
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 - Element <RelatedIdentifier>
 - isCitedBy, isDuplicate, isNewVersionOf, ...

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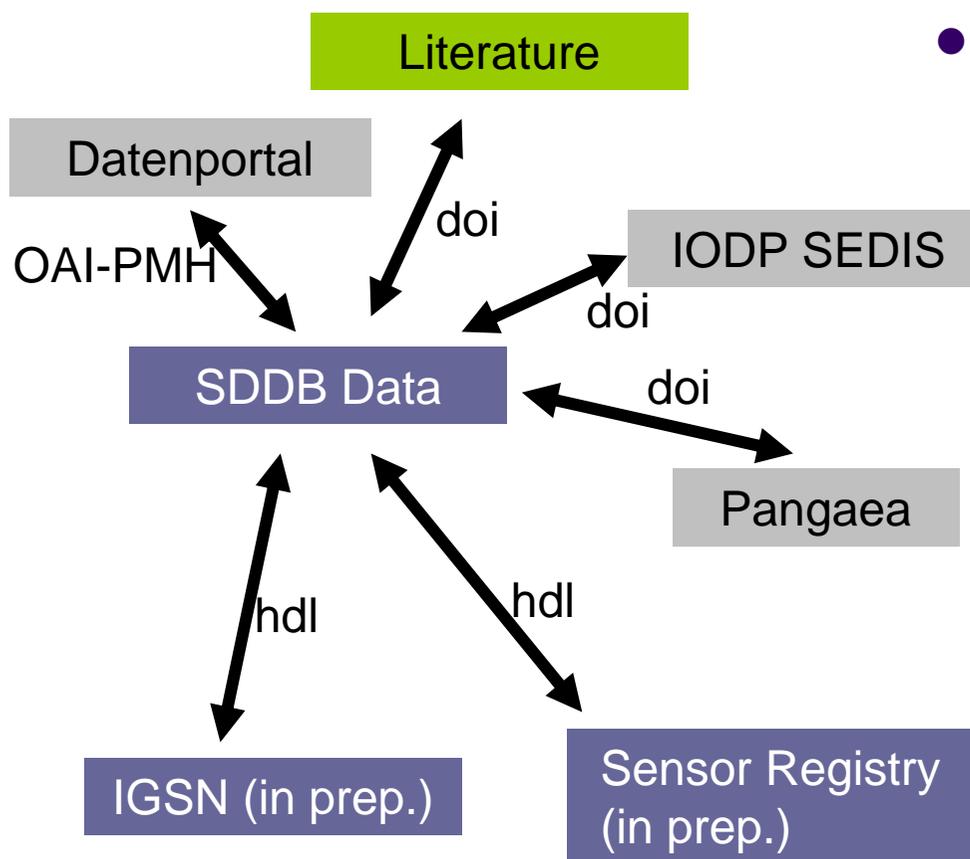
- Semantische Vernetzung



- Das Element <relatedIdentifier> kann genutzt werden, um auf andere Objekte zu verweisen:
 - Literatur, in der die Daten interpretiert werden
 - Proben, an denen die Daten gemessen wurden.
 - Andere Datensätze, die zum gleichen Set gehören, z.B. im gleichen Artikel interpretiert werden.
- Diese Verweise können von Maschinen ausgewertet werden (z.B. Datenportale) um Suchvorschläge anzubieten und damit die Entdeckung von Daten, Literatur und Probenstücken zu unterstützen. Auch weiterreichende semantische Mehrwertdienste sind denkbar.



Externe Verknüpfungen



- Das Element `<relatedIdentifier>` verweist auf externe Quellen:
 - Literatur, in der die Daten interpretiert werden.
 - Proben, an denen die Daten erhoben wurden.
 - Sensoren, mit denen die Daten gemessen wurden.
 - Andere Datensätze, die zur gleichen Sammlung gehören.

Wissen entdecken



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 - High- and low-latitude climate control on the position of the Peru-Chile Current F Lamy, C Ruhlmann, D Hebbeln, G Wefler - *Paleoceanography*, 2003 ... of the world, the strong advection and upwelling of cold ... water ... Peru-Chile Current (PCC ... km) and an exceptionally high productivity ... Cited by 13 - [View as HTML](#) - [Web Search](#) - [BI Direct](#)
 - Peru Upwelling Region Sediments Near 15°S. 2. Diagenesis SM Henrichs, JW Farrington, C Lee - *Limnology and Oceanography*, 1984 ... The Peru upwelling region is of special interest ... part to variable productivity and the ... in sulphide biota under Peru-Chile subsurface ... Cited by 21 - [Web Search](#) - [SFX Telenorlink](#)
 - Seasonal variations of the particle flux in the Peru Upwelling D Hebbeln, M Marchant, G Wefler - *Deep Sea Res.*, Part II, 2000 ... Cited by 14 - [Web Search](#)
 - Peru Upwelling Region Sediments Near 15°S. 1. Romanolipid SM Henrichs, JW Farrington - *Limnology and Oceanography*, 1984

20 B. Heim et al. / *Global and Planetary Change* 46 (2005) 9–27

Table 6
Overview on accuracy of chl-a algorithms (see also Table 4) applied on SeaWiFS data in July 2002 (07/20)

	2002/07/20	HPLC	OC4	OC2	This study, July 2001+2002
n chl-a, all case 1	22	17	17	17	17
Mean [µg l ⁻¹]	1.6	1.35	1.3	0.85	
Median [µg l ⁻¹]	1.55	1.25	1.3	0.8	
S.D. [µg l ⁻¹]	0.8	0.5	0.4	0.25	
Accuracy, all [µg l ⁻¹]		+0.35	+0.3	+0.38	
		+27%	+24%	+27%	

	2002/07/20	HPLC	Daz et al. (2003), years 1994–1996	Daz et al. (2003), year 1996 case 1	Cloeren et al. (1996), case 1
n chl-a, all case 1	22	17	17	17	17
Mean [µg l ⁻¹]	1.6	0.6	1	0.85	
Median [µg l ⁻¹]	1.55	0.6	0.94	0.8	
S.D. [µg l ⁻¹]	0.8	0.1	0.4	0.25	
Accuracy, all [µg l ⁻¹]		+0.6	+0.41	+0.45	
		+54%	+27%	+27%	

Chl-a algorithms are OC2 (A, Table 4) and OC4 (B, Table 4) for the 2002/07/20 data set and empirical chl-a algorithms (D, Table 4) for ground truth data set Lake Baikal in 2001 and 2002 (this study), chl-a algorithms from Daz et al. (2003): coefficient of studies from 1994 to 1996 (F, Table 4), coefficient of 1996 separately (G, Table 4), and case 1, Case and Morel (1983) (H, Table 4).

According to ground truth and SeaWiFS spectra from 2001–2002, the green peak of the highly transparent waters of Lake Baikal is commonly located at 510 nm. However, the absorption spectra show a shift of the peak position towards shorter wavelengths in the presence of turbid waters. The waters in the study area are highly turbid and the peak position of the absorption spectra is shifted towards shorter wavelengths. The absorption spectra from SeaWiFS band 5 (510 nm) and band 6 (555 nm) are shown in Fig. 2. The absorption spectra of Lake Baikal can be situated

Scientific Drilling Database Data from Deep Earth Sampling and Monitoring

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Dataset Description

Citation: Heim, Birgit; Oberhänsli, Hedi; Fietz, Susanne; Kaufmann, Hermann; (2005) The relationship between concentrations of chl-a calculated from SeaWiFS OC2 and chl-a from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002. *Scientific Drilling Database*. doi:10.1594/GFZ SDDB.1043
[Download Citation \(EndNote\)](#)

DOI: 10.1594/GFZ SDDB.1043

Title: The relationship between concentrations of chl-a calculated from SeaWiFS OC2 and chl-a from ground truth measurements during field expeditions in Lake Baikal during 2001 and 2002

Abstract: Values of measured chlorophyll (HPLC=High Pressure Liquid Chromatography) concentrations of each sampling point from 5 to 30 m depth. For the OC2 least clouded acquisitions in 2001 (2001/07/19) and 2002 (2002/07/20) we consider a considerable chl-a overestimation caused by the influences of terrigenous particles.

[Show in Google Earth](#)

Activities:

CON01.501-1
 Latitude: 52.6667
 Longitude: 107
 Elevation: -1250
 Date/Time: 2001-07-16 06:52:09
 Program: High-resolution
 Expedition: CON01-5
 Platform: R/V Vereshchagin
 Gear: Water samples

CON01.502-1
 Latitude: 52.9561
 Longitude: 107.5926

Verweis auf Veröffentlichung

Datenzitat

International GeoSample Number verweist auf das Probenstück

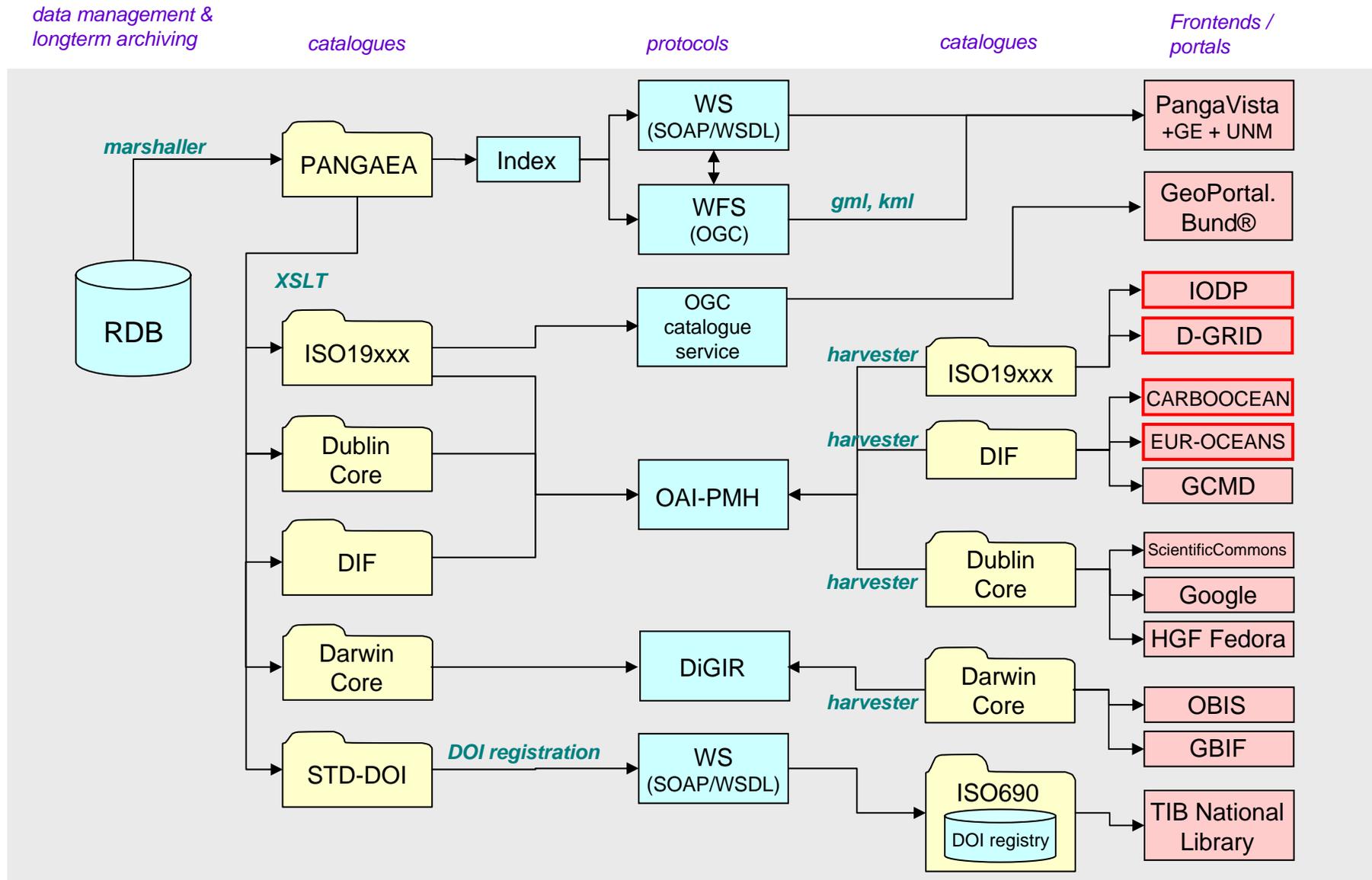


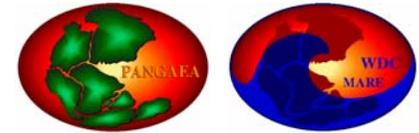
Data Syndication



- Datenveröffentlichungen können über Fachportale gesammelt und bekannt gemacht werden.
- Geeignete Protokolle sind OAI-PMH und RSS.
- Sowohl OAI-PMH, als auch RSS können mit Fachspezifischen Metadaten ausgestattet, oder wenigstens angereichert werden.
- Beispiele:
 - PANGAEA Datenportale (OAI-PMH)
 - Open Geospatial Consortium GeoRSS

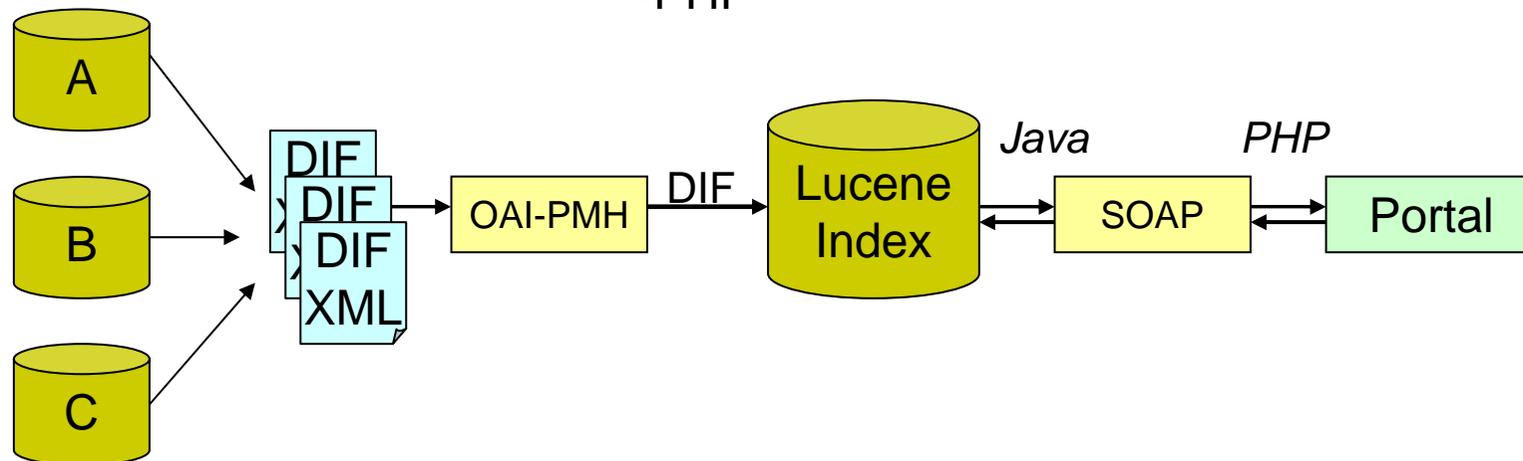
PANGAEA® – standard interfaces for metadata (aus Huber et al. 2007)

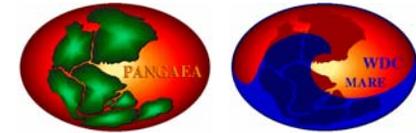




Community portals-Technology

- OAI-PMH
- DIF / ISO
- Lucene
- SOAP
- PHP





Community portals-demo

EUR-OCEANS Data Portal

Search Data

Submit Data

Guidelines

Online Submission

About

The Team

Ongoing work

Objectives

Registration/Login

NEW! Funding

Search

Search in: (syntax help):

Anywhere in data description:

Dataset citation:

Principal investigator:

Parameter name: carbdiol

Method: carbohydrate

Project/Cruise: carbon

Publisher/Source: carbonate

carbontetrachloride

carbonyl

Coverage

Geographic coverage:

Temporal coverage:

Start date:

End date:

Clear

Number of Results

Display 10 records per page

Search

Simple Search | Show/Hide Query Window

Contact info | Webmaster

Search Results: 420 datasets found (Query time: 0.007 s)

Data download options: Empty 'data basket'

Download 'data basket' (0 items)

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1. Takahashi, Taro (2004): Discrete measurements from WOCE A16C Section
Publisher/Source: CDIAC (Carbon Dioxide Information Analysis Center)
Investigators: Takahashi, Taro
Parameters: CTD Pressure; CTD Temperature; CTD Salinity; Bottle Salinity; Bottle Oxygen; Silicate; Nitrate; Nitrite; Phosphate; CFC-11; CFC-12; TCO2; pCO2; pCO2 Temperature
Data Description - Score: 97%
2. Nydal, R. (1998): Carbon-14 Measurements in Surface Water CO2 from the Atlantic, Indian and Pacific Oceans, 1965-1994.
Publisher/Source: CDIAC (Carbon Dioxide Information Analysis Center)
Investigators: Nydal, R.
Parameters: SST; SSS; Delta C14; Delta C13; CRC14; SIGMA
Data Description - Score: 97%
3. de Baar, Hein JW; Timmermans, K R (2003): Distribution of total CO2 in surface water along the cruise track of MERLIM98
Publisher/Source: PANGAEA (Publishing Network for Geoscientific & Environmental Data)
Investigators: de Baar, Hein JW
Parameters: Carbon dioxide, total
Data Description - Score: 85%
4. Goyet, Catherine (2003): Partial pressure of CO2 in water, along ship track of cruise TT007
Publisher/Source: PANGAEA (Publishing Network for Geoscientific & Environmental Data)

Zusammenfassung



- Datenveröffentlichung verlangt folgende Voraussetzungen:
 - Persistente Identifikatoren
 - Langzeitarchive für Daten
 - Anreize für die Autoren zur Veröffentlichung der Daten
 - Geeignetes Lizenzmodell für wissenschaftliche Daten
- Datenveröffentlichungen können, und sollten auch, zitiert werden.
- Verweise auf andere Objekte können als semantische Vernetzung bei der Suche nach Daten, Literatur und Materialien helfen.
- Die Herausforderung ist nun, daraus einen Teil der wissenschaftlichen Kultur zu machen – die Technologie ist bereits vorhanden.



Weiterführende Informationen

- DFG-Projekt “Publikation und Zitierbarkeit von wissenschaftlichen Primärdaten”

<http://www.std-doi.de>

- ICDP Scientific Drilling Database

<http://www.scientificdrilling.org>

- Klump, J., et al. (2006): Data publication in the Open Access Initiative. Data Science Journal, **5**, 79-83. [doi:10.2481/dsj.5.79](https://doi.org/10.2481/dsj.5.79)

Vielen Dank!



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