

Herausforderung Forschungsdaten

Sünje Dallmeier-Tiessen, Heinz Pampel

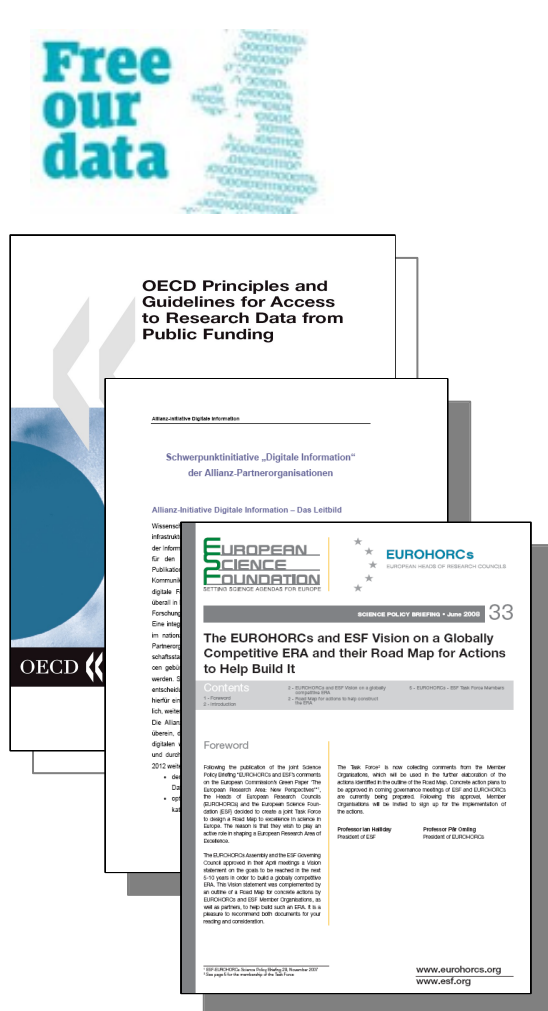
Helmholtz-Gemeinschaft

Agenda

- Relevanz: Open Data und Langzeitarchivierung
- Chance: Effizienz und Kosteneinsparung
- Forschungsdatenmanagement
- Rolle der Bibliothek
- Beispiele aus der Helmholtz-Gemeinschaft
- Fazit

Relevanz: Open Data und Langzeitarchivierung

▪ Offener Zugang zu Daten

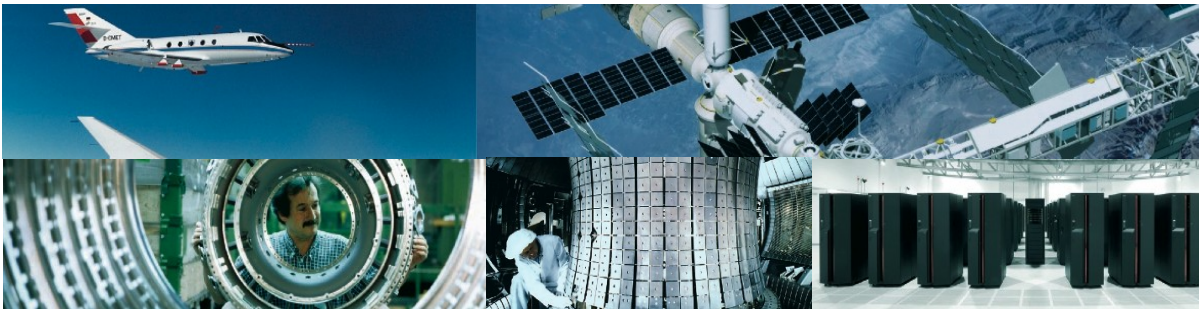


▪ Langzeitarchivierung



Chance: Effizienz und Kosteneinsparung

- Kosten: Finanzen und Kapazitäten

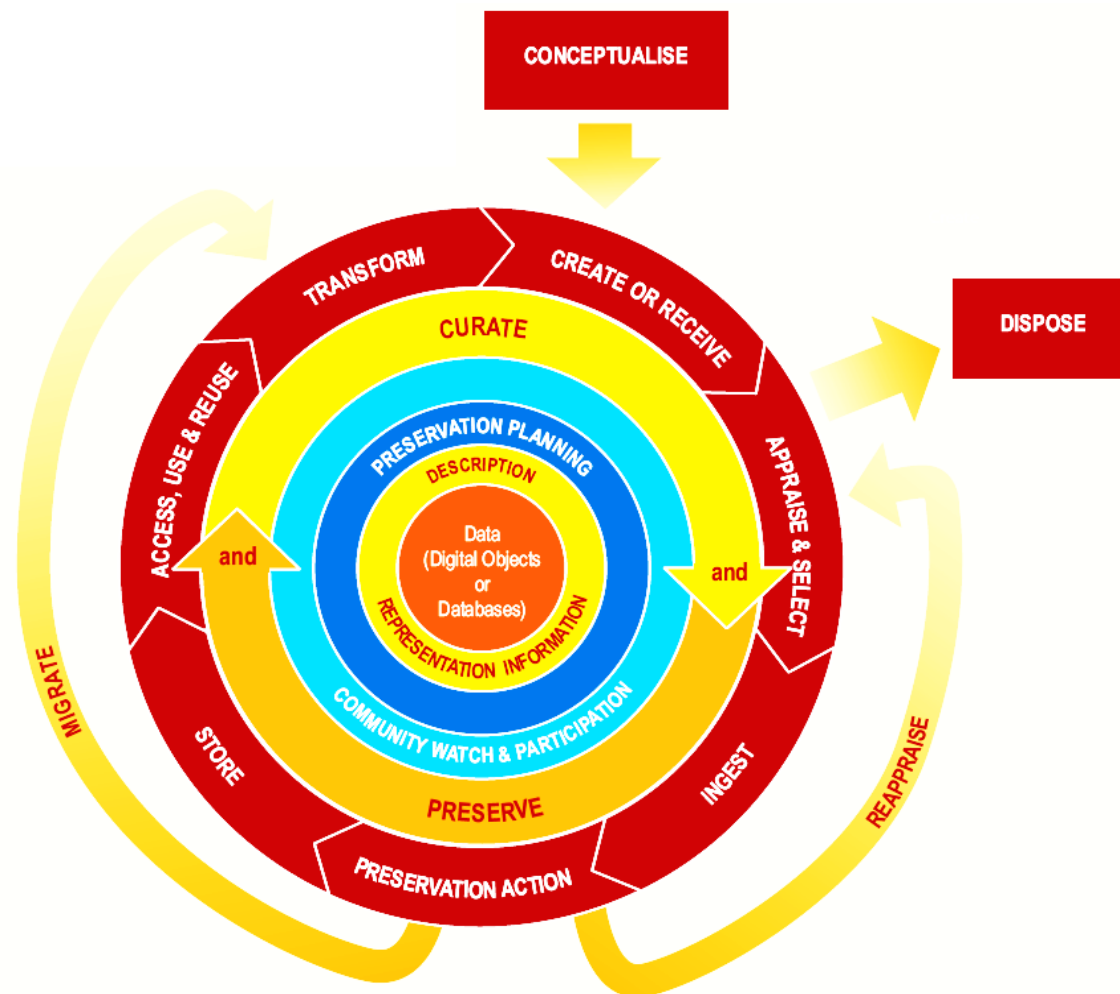


- **Nachnutzung**
 - Weitere Interpretation der Daten → schnellerer Fortschritt in der Wissenschaft
 - Keine kostenintensiven Messwiederholungen
 - Unabhängige Qualitätskontrolle
- Aber: abhängig von Disziplinen, tlw. persönliche Rechte vorrangig



Forschungsdatenmanagement

- DDC Curation Lifecycle Model ^[1]

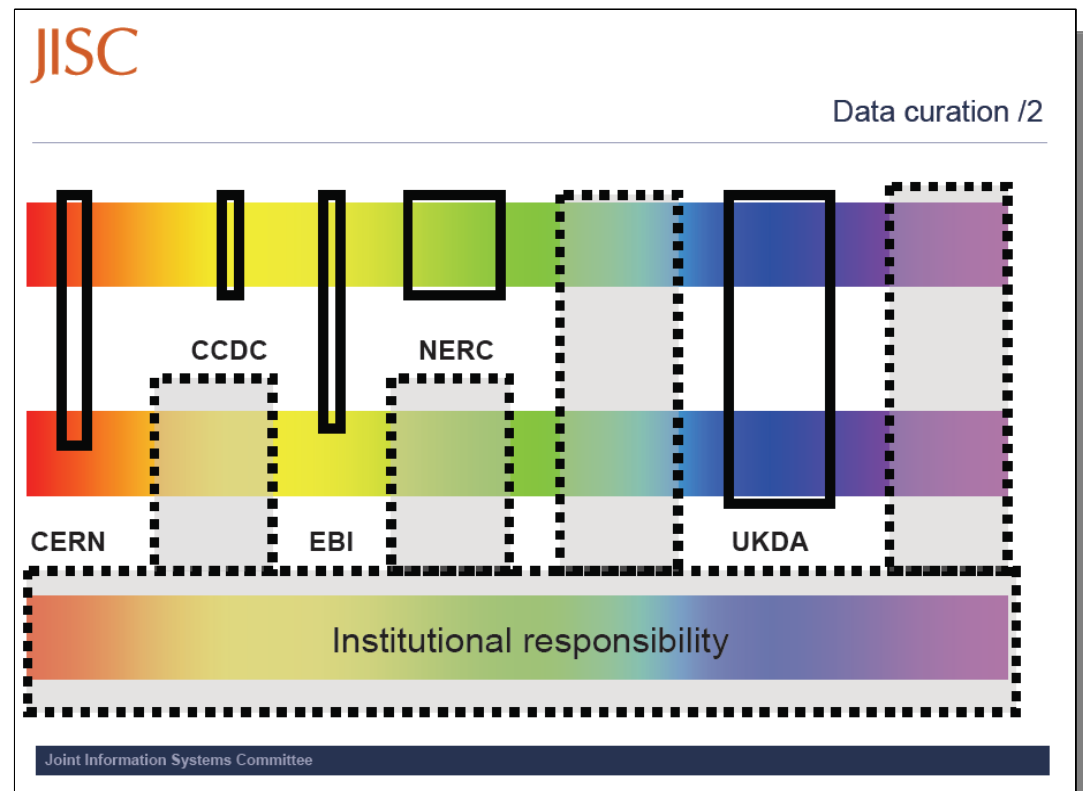


Forschungsdatenmanagement

- RIN (2008): Stewardship of digital research data ^[2]
 - I The **roles** and **responsibilities** of researchers, research institutions and funders should be defined as clearly as possible, and they should **collaboratively** establish a framework of **codes of practice** to ensure that creators and users of research data are aware of and fulfil their **responsibilities** in accordance with these principles.
 - II Digital research data should be created and collected in accordance with applicable **international standards**, and the processes for selecting those to be made available to others should include proper **quality assurance**.
 - III Digital research data should be **easy to find**, and **access** should be provided in an environment which maximises ease of use; provides **credit** for and **protects the rights** of those who have gathered or created data; and protects the rights of those who have legitimate interests in how data are made accessible and used.
 - IV The **models** and **mechanisms** for managing and providing access to digital research data must be both **efficient** and **cost-effective** in the use of public and other funds.
 - V Digital research data of **long term value** arising from current and future research should be **preserved** and remain **accessible** for current and future generations.

Forschungsdatenmanagement

- NSF (2007): Data Collections [3]
 - „Research Collections“
 - „Resource Collections“
 - „Reference Collections“



Rolle der Bibliothek

- Key Perspectives (2008): Skills, Role & Career Structure of Data Scientists & Curators ^[5]
 - Data creator
 - Data scientist
 - Data manager
 - Data librarian
- Data librarian:
 - people originating from the library community, trained and specialising in the curation, preservation and archiving of data
 - Training researchers to be more data-aware
 - Adopting a data archiving and preservation role
 - The training and supply of data librarians

Beispiele aus der Helmholtz-Gemeinschaft

- Deutsches GeoForschungsZentrum Potsdam
 - Scientific Drilling Database (SDDDB) [[Link](#)]

Scientific Drilling Database

Data from Deep Earth Sampling and Monitoring

- + Home
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 - + Authors
 - + Dataset
 - + Research Programs
 - + Sampling Gear
 - + Analytical Parameters
- + Admin




Dataset Description

Citation: [Demory, Francois; Oberhänsli, Hedi; Nowaczyk, Norbert; Gottschalk, Matthias; Wirth, Richard; Naumann, Rudolf](#), (2006): Downcore variations of the S-ratio for CON01-603-2, CON01-604-2, CON01-605-3, VER98-1-1, VER98-1-14. *Scientific Drilling Database*. doi:10.1594/GFZ.SDDDB.1035
[Download Citation \(EndNote\)](#)

DOI: 10.1594/GFZ.SDDDB.1035

Title: Downcore variations of the S-ratio for CON01-603-2, CON01-604-2, CON01-605-3, VER98-1-1, VER98-1-14

Abstract: In interglacial sediments, the magnetic assemblages depict changes in the sedimentation rate, which are traced using the ratio of magnetite over hematite (S-ratio). At the beginning of interglacials, the sedimentation rate is constant with an assemblage magnetite+greigite (high S-ratio), and at the end of some interglacials, the sedimentation rate decreases with a predominance of hematite (low S-ratio).
[Show in Google Earth](#)

Related Publications: ♦ [Francois Demory, Hedi Oberhänsli, Norbert R. Nowaczyk, Matthias Gottschalk, Richard Wirth and Rudolf Naumann, Detrital input and early diagenesis in sediments from Lake Baikal revealed by rock magnetism, Global and Planetary Change, Volume 46, Issues 1-4, doi:10.1016/j.gloplacha.2004.11.010](#)

Activities: [CON01-603-2](#)

Latitude:	53.9632 °N
Longitude:	108.9129 °E
Elevation:	-386 m above site datum
Date/Time:	2001-07-28 01:35:00 UTC
Program:	High-resolution CONTINENTAL paleoclimate record in Lake Baikal
Expedition:	CON01-6
Platform:	R/V Vereshchagin
Gear:	Piston corer Meischner



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Beispiele aus der Helmholtz-Gemeinschaft

- Deutsches GeoForschungsZentrum Potsdam
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	Year	Title	Author
1. ☐	2006	[DATA] Downcore variations of the S-ratio for CON01-603-2, CON01-604-2, CON01-605-3, VER98-1-1, VER98-1-14 10.1594/GFZ.SDDB.1035 S-F-X	Francois Demory Matthias Gottschalk Rudolf Naumann Norbert Nowaczyk Hedi Oberhänsli [et al.]
2. ☐	2006	[DATA] Downcore variations of the SIRM/?LF for CON01-603-2, CON01-604-2, CON01-605-3, VER98-1-1, VER98-1-14 10.1594/GFZ.SDDB.1040 S-F-X	Francois Demory Matthias Gottschalk Rudolf Naumann Norbert Nowaczyk Hedi Oberhänsli [et al.]
3. ☐	2006	[DATA] Densities of benthic taxa with depth (CON 01-01 and CON 01-04 expeditions)	Patrick Martin

Beispiele aus der Helmholtz-Gemeinschaft

- Deutsches GeoForschungsZentrum Potsdam
 - Virtuelle Fachbibliothek GEO-LEO [\[Link\]](#)

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Letzte Suche: Schnellsuche nach downcore* variations*

SUCHE

- » Schnellsuche
- » Erweiterte Suche
- » Thematische Suche
 - Geowissenschaften
 - Bergbau
 - Geographie/Kartogr.
 - Thematische Karten
- » e-Zeitschriften
- » Nationallizenzen
- » GEO-LEO e-docs

» Suchverlauf [3]

» Ablagekorb [0]

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◀ ▶ [zurück zur Kurzanzeige] [Treffer in den Ablagekorb: ] Text ▼ Export-Ansicht

Medientyp:	 Buch/Monographie
Titel:	Downcore variations of the S-ratio for CON01-603-2, CON01-604-2, CON01-605-3, VER98-1-1, VER98-1-14
Autor/beteiligte Personen:	Demory Francois
Körperschaft:	Gottschalk, Matthias Naumann, Rudolf
Ersch.-Jahr:	2006
Standort:	Link Bibliothek <Sigel> OPAC Potsdam Wiss.Park A.Einstein Standort/Signatur Info

◀ ▶ [zurück zur Kurzanzeige] [Treffer in den Ablagekorb: ] Text ▼ Export-Ansicht

Zeichenerklärung:

OPAC

Verfügbarkeit in Bibliothek prüfen

Info

Information Bibliothek





Beispiele aus der Helmholtz-Gemeinschaft

- Alfred-Wegener-Institut für Polar- und Meeresforschung
 - Earth System Science Data (ESSD) [[Link](#)]
 - Problemstellung
 - Keine Anreize
 - Keine Qualitätskontrolle
 - Lösung
 - Nutzung des etablierten Publikationsprozesses
 - Zitierbare Publikation
 - Peer Review
 - ESSD
 - Beschreibung
 - Daten in Repository



Beispiele aus der Helmholtz-Gemeinschaft

- Alfred-Wegener-Institut für Polar- und Meeresforschung
 - Publishing Network for Geoscientific & Environmental Data - PANGAEA [\[Link\]](#)



PANGAEA®

Publishing Network for Geoscientific & Environmental Data

You are not logged in ([LOG IN](#))

Always quote citation when using data!

Data Description

[RIS](#) [BibTeX](#)

Citation: König-Langlo, G; Gernandt, H (2008): 426 ozonesonde profiles from Georg-Forster-Station, *Alfred Wegener Institute for Polar and Marine Research, Bremerhaven*, doi:10.1594/PANGAEA.547983,
Supplement to: König-Langlo, Gert; Gernandt, Hartwig (2008): Compilation of ozonesonde profiles from the Antarctic Georg-Forster-Station from 1985 to 1992, *Earth System Science Data*, **1**, 1-13, [sref:essdd/2008-1-1](#)

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 following weekly ozone soundings mark the beginning of the continuous investigation of Germany to study the vertical ozone distribution in the southern hemisphere.
 In 1985 these ozone soundings have been the only record showing the change of vertical ozone distribution in the southern polar stratosphere in September and October. 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 apart from Georg-Forster-Station. Till 1992, ozone soundings were taken without interruption. Afterwards, the ozone sounding program was moved to Neumayer-Station (70°39' S, 8°15' W) 750 km further west.

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

Coverage: *West:* 11.8300 * *East:* 11.8300 * *South:* -70.7700 * *North:* -70.7700
Date/Time Start: 1985-05-22T05:19:00 * *Date/Time End:* 1992-01-29T01:19:00

Comment: Attached to Russian radio sondes (type RKS-5) the ozone sondes (type OSE) were carried by balloons to heights up to 35 km. During the flight the measured ozone concentrations as well as the standard meteorological measurements were transmitted to the ground. All 426 soundings at the mean pressure levels and significant heights from these flights between 1985 and 1992 are archived in this dataset.
 The ozone measurements were achieved by a small electrically driven gas sampling pump which forces ambient air through a sensing solution of an electrochemical cell which generated an electrical current proportional to the mass flow rate of ozone. According to this principle (Brewer sonde), the sondes were developed and produced at the Akademiewerkstätten in East Berlin.

Size: 426 datasets

Download Data

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

Datasets listed in this Collection

- **König-Langlo, G; Gernandt, H (2006):** Radiosonde at Georg-Forster station on 1985-05-22 12:00h, doi:10.1594/PANGAEA.510906
- **König-Langlo, G; Gernandt, H (2006):** Radiosonde at Georg-Forster station on 1985-05-24 12:00h, doi:10.1594/PANGAEA.510907
- **König-Langlo, G; Gernandt, H (2006):** Radiosonde at Georg-Forster station on 1985-05-27 12:00h, doi:10.1594/PANGAEA.510908

Beispiele aus der Helmholtz-Gemeinschaft

- Alfred-Wegener-Institut für Polar- und Meeresforschung
 - Earth System Science Data (ESSD) [[Link](#)]

Earth Syst. Sci. Data Discuss., 1, 1–13, 2008
www.earth-syst-sci-data-discuss.net/1/1/2008/
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Earth System Science Data Discussions is the access reviewed
discussion forum of *Earth System Science Data*

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

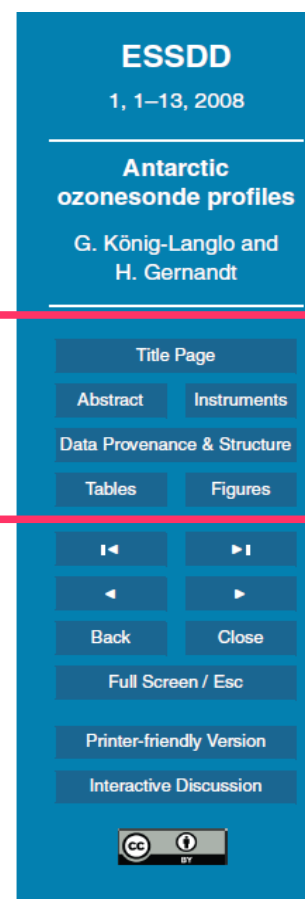
G. König-Langlo and H. Gernandt

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

Received: 29 July 2008 – Accepted: 5 September 2008 – Published: 22 September 2008

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

Published by Copernicus Publications.



Fazit

- Forschungsdaten spielen eine wichtige Rolle im Wissenschaftsprozess und bedürfen einer „besonderen Pflege“
- Kategorisierung von Forschungsdaten
- Herausforderungen:
 - Infrastruktur (Organisation und Technik)
 - Zugänglichkeit
 - Qualitätssicherung
 - Rechtlicher Rahmen
 - Anreize
 - ...
- Unterschiedliche Rollen und Aufgaben im Umgang mit Forschungsdaten (z.B. Bibliotheken)
- Forschungsdaten in der Praxis: Bibliotheken und Verlage

Quellen

- [1] Digital Curation Centre (2008): DCC Curation Lifecycle Model, 2008. URL:
<http://www.dcc.ac.uk/docs/publications/DCCLifecycle.pdf>
- [2] Research Information Network (2008): Stewardship of digital research data - principles and guidelines, 2008.
URL: <http://www.rin.ac.uk/data-principles>
- [3] National Science Foundation (2007): Cyberinfrastructure Vision for 21st Century (NSF 07-28), 2007. URL:
<http://www.nsf.gov/pubs/2007/nsf0728/index.jsp>
- [4] Read, M. (2008): Research Data. Policies and Infrastructure, 2008. URL:
http://oa.helmholtz.de/fileadmin/user_upload/Daten_OA/Daten-Workshop_Vortrag_Read_JISC.pdf
- [5] Key Perspectives (2008): Skills, Role & Career Structure of Data Scientists & Curators, 2008. URL:
<http://www.jisc.ac.uk/publications/publications/dataskillscareersfinalreport.aspx>

Informationen

- Alle Quellen und weitere Literaturhinweise:
 - <http://www.connotea.org/user/pampel/tag/dini2008>
- Mailingliste:
 - FORSCHUNGSDATEN@LISTSERV.DFN.DE

Vielen Dank für Ihre Aufmerksamkeit!

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