

State of the Art of Data Publishing

Hannes Grobe & Michael Diepenbroek

Joint EPOCA, BIOACID and UKOARP meeting - Bremerhaven 2010



David Iloff/Wikipedia

5000 Years of Libraries



50 Years of Data Centers

Specials

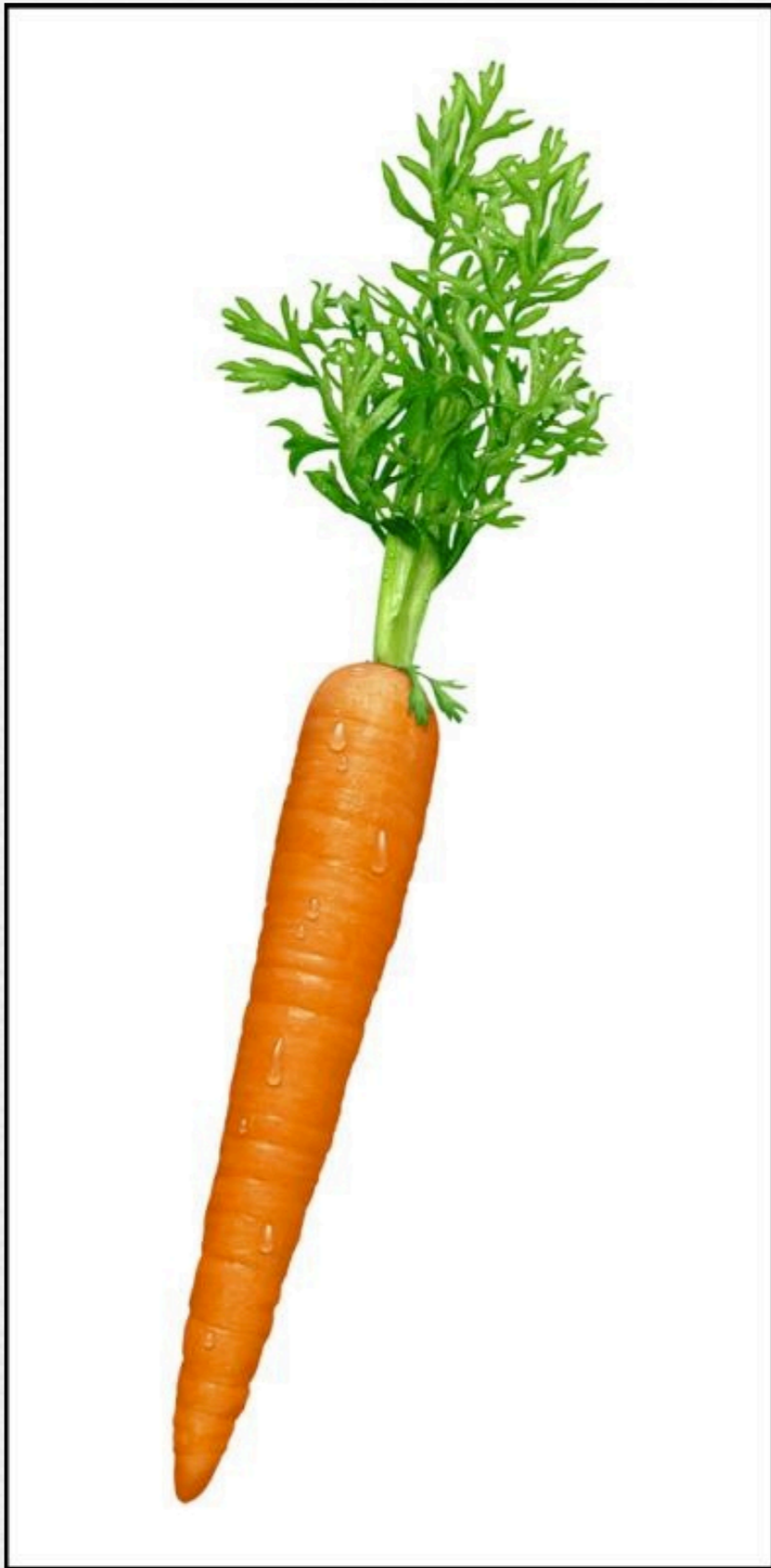
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Data Sharing

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.

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KI-NA-24328-EN-C

Guide to best practices for ocean acidification research and data reporting EUR 24328 EN



Guide to best practices for ocean acidification research and data reporting

GENERAL INFORMATION

EUR 24328 EN



The ocean presently takes up one-fourth of the carbon dioxide emitted to the atmosphere by human activities, thereby increasing ocean acidity. While our understanding of the possible consequences of ocean acidification is still rudimentary, both the scientific community and the society at large are increasingly concerned about the potential risks associated with ocean acidification for marine organisms and ecosystems. The number of scientists involved in ocean acidification research grew rapidly over the past few years and will continue to rise with the launch of new coordinated national programmes. Students, young researchers, and established scientists inexperienced with the intricacies of the seawater carbonate chemistry and perturbation experiments will enter the field and will benefit from guidelines and standards for ocean acidification research. The European Project on Ocean Acidification (EPOCA) and the Intergovernmental Oceanographic Commission (IOC) initiated the process that led, after an open community review, to the production of this guide.

Antarctic Science (2010), 22:333-333 Cambridge University Press
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doi:10.1017/S0954102010000520

Editorial

Data Citation - Moving to New Norms

David W.H. Walton

Article author query

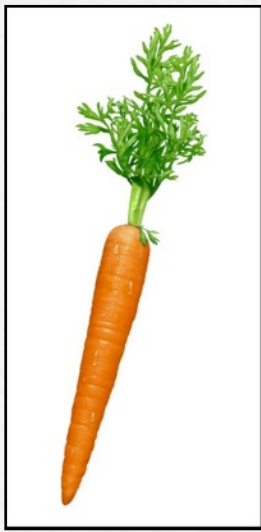
walton dwh [PubMed](#) [Google Scholar](#)

How many times have you heard platitudes about the value of data, about how it is the most important resource of the institution, about how people can be replaced but data is unique, about how data must be properly managed and curated? Resource investments suggest otherwise. Compare the costs of obtaining the data and the sums spent on curating and managing it. Somehow the two do not add up. But open access and transparency are demanding changes in the way we manage and resource data so let us consider what needs to be done to protect data and make it available.

Two recent initiatives in Germany show progress is being made. Earth System Science Data (<http://earth-system-science-data.net/>) is a new journal which aims to publish papers on original research datasets to draw attention to their extent and quality as a way of encouraging re-use. With papers encompassing everything from comparative reviews of datasets to methods for cleaning and normalizing data, and an open access review policy, this journal is a welcome new step. This will clearly allow those who develop methodologies, who plan experiments or collect data to share their ideas and developments in a new way. To complement this is the development of DataCite, (<http://www.datacite.org/>), a new international consortium of nine countries intent on allowing datasets to

This journal will also be moving towards asking authors to begin using data citations. There are still many unknowns to deal with - how will citations be identified (agreed standard format), who will identify them (publishers or data centres), where should they be in the paper (text hyperlink or reference list) and what search terms should be used

But data preparation for curation should not be optional and data citation should be part of any publication - these are the new norms.



Data Publishing

- Citable
- Open Access
- Machine readable
- Persistent identification
- Distribution through Web service

404

... nothing exists
in any useful sense
until it is identified ...

Persistent identification



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

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

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PANGAEA--an information system for environmental sciences

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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

Data registration agency

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DataCite
**A global
registration
agency for
research
data.**



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2010-07-13 Summer Meeting: Videos Online Available
2010-06-07 DataCite Summer Meeting
2010-03-02 DataCite on CeBIT
2010-02-05 DataCite's 1st Official Members' Meeting
2009-12-01 Founding of DataCite







Citable data set


Citation: Kipfstuhl, Josef (2007): Thick-section images of the EPICA-Dronning-Maud-Land (EMDL) ice core. *Alfred Wegener Institute for Polar and Marine Research, Bremerhaven*, doi:10.1594/PANGAEA.663141

Project(s): European Project for Ice Coring in Antarctica (EPICA) 

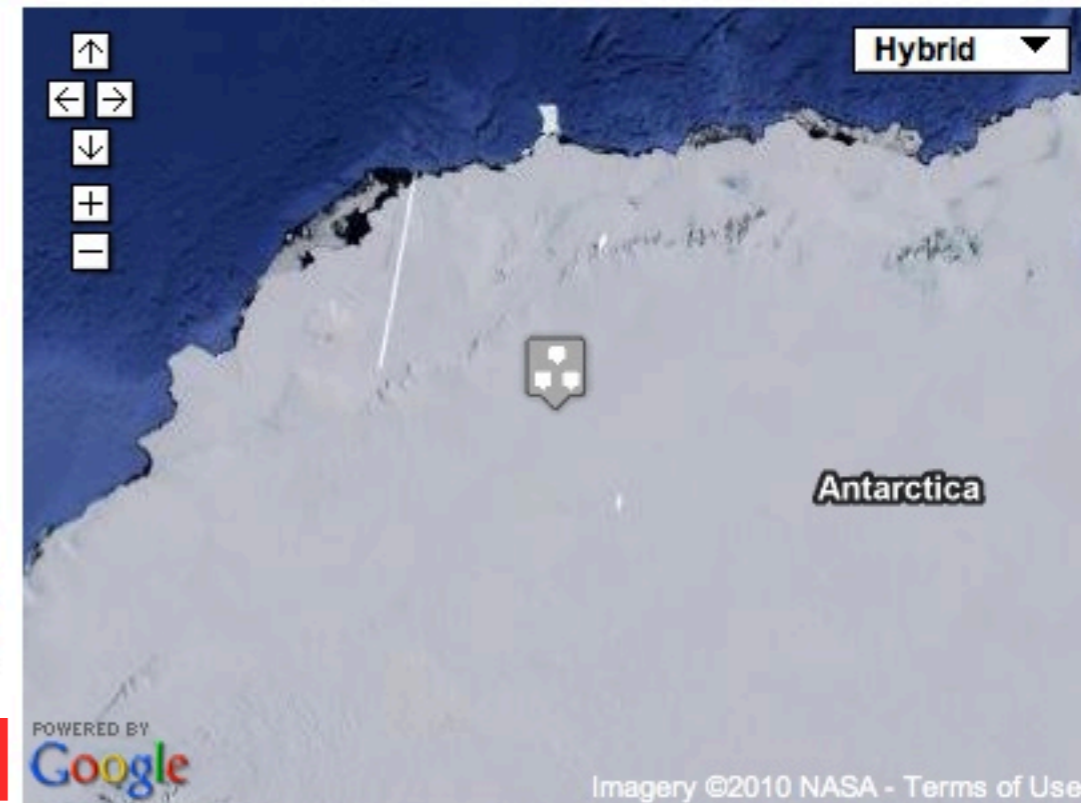
Coverage: Latitude: -75.002500 * Longitude: 0.068400
Date/Time Start: 2001-01-10T00:00:00 * Date/Time End: 2006-01-17T00:00:00

Event(s): EDML (DML28C01_00)  * Latitude: -75.002500 * Longitude: 0.068400 * Date/Time Start: 2001-01-10T00:00:00 * Date/Time End: 2006-01-17T00:00:00 * Elevation: 2891.7 m * Recovery: 2774.15 m * Campaign: EPICA-Campaigns  * Basis: Kohnen Station  * Device: EPICA drill  * Comment: Elevation is given with reference to WGS84

Comment: This data set consists of 3.5 Million images with a total size of 313 GByte.

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Size: 30 datasets



Download Data

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

Datasets listed in this Collection

1. Kipfstuhl, J (2006): Thick-section images of the EDML ice core from 0090 to 0200 m depth. doi:10.1594/PANGAEA.552355
2. Kipfstuhl, J (2006): Thick-section images of the EDML ice core from 0200 to 0300 m depth. doi:10.1594/PANGAEA.552364



Data Reporting

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

Data Reports 001 of WDC-MARE 2004



JGOFS International Collection
Volume 2: Integrated Datasets (1989-2003)



WORLD DATA CENTER FOR MARINE ENVIRONMENTAL SCIENCES

Alfred Wegener Institute for Polar and Marine Research, Bremerhaven
MARUM Center for Marine Environmental Sciences, Bremen

Data publication



Earth System Science Data
The Data Publishing Journal

 Copernicus Publications
The Innovative Open Access Publisher

Earth Syst. Sci. Data, 2, 167–175, 2010
www.earth-syst-sci-data.net/2/167/2010/
doi:10.5194/essd-2-167-2010
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Open Access
Earth System
Science
Data

EPOCA/EUR-OCEANS data compilation on the biological and biogeochemical responses to ocean acidification

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U. Riebesell¹⁰, T. Tyrrell¹¹, D. Wolf-Gladrow¹², and J.-P. Gattuso^{1,2}**

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Data supplement

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[Deep Sea Research Part II: Topical Studies in Oceanography](#)
 Volume 44, Issues 1-2, 1997, Pages 1-21

doi:10.1016/S0967-0645(96)00100-2 | [How to Cite or Link Using DOI](#)
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Ecology and biogeochemistry of the antarctic circumpolar current during austral spring: a summary of southern ocean JGOFS cruise ANT X/6 of R.V. Polarstern

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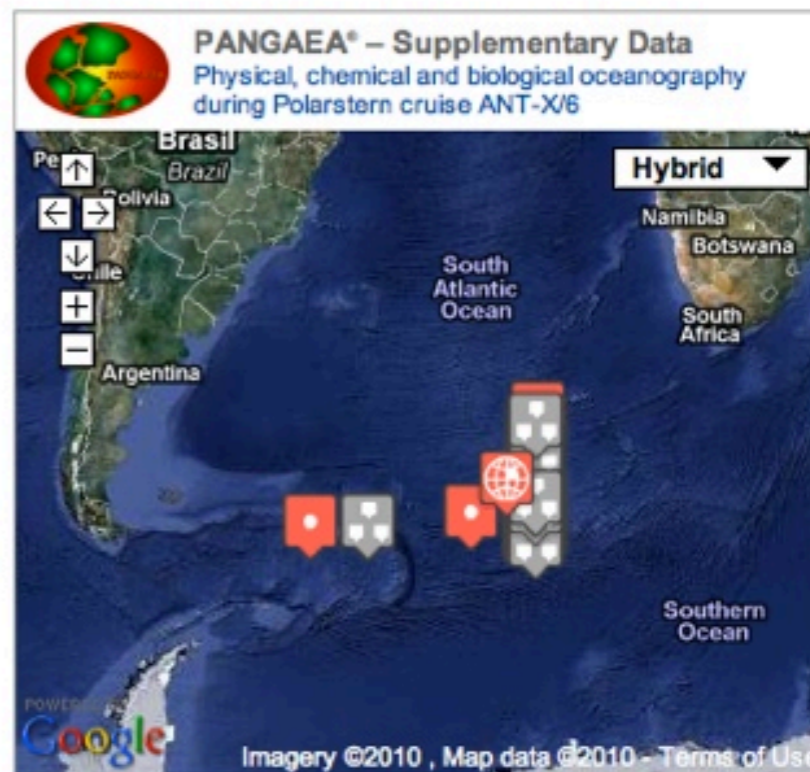
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Received 16 September 1996; accepted 21 September 1996. ; Available online 4 June 1998.

Abstract

The R.V. *Polarstern* cruise ANT X/6, part of the international Southern Ocean JGOFS programme, investigated phytoplankton spring bloom development and its biogeochemical effects in different water masses of the Atlantic sector of the Southern Ocean: the Polar



Related Articles

- Spring development of phytoplankton biomass and composition during the R/V Polarstern cruise ANT-X/6
- [Deep Sea Research Part II: Topical Studies in Oceanography](#)

BRUSSELS DECLARATION ON STM PUBLISHING

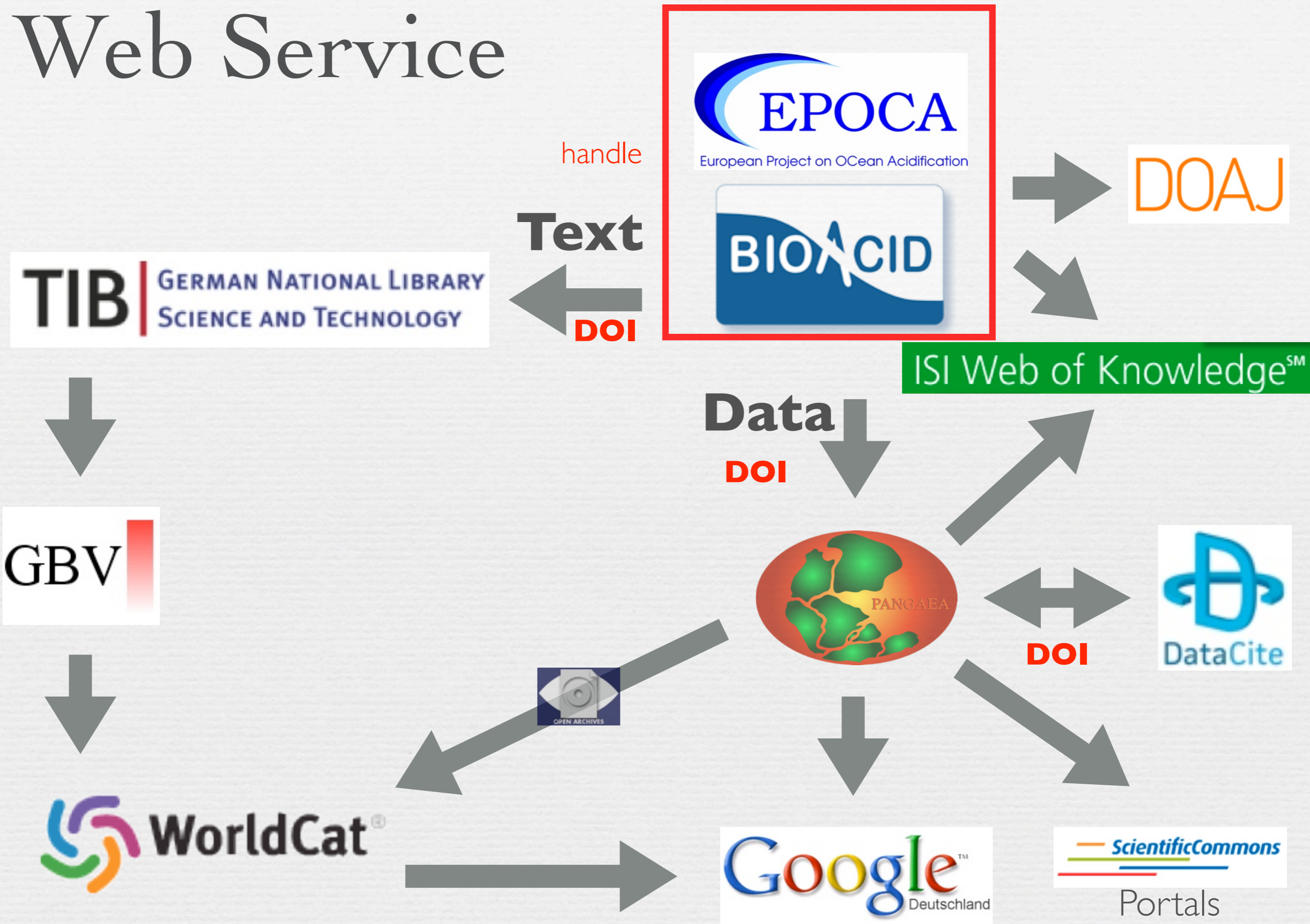
*by the international scientific, technical and medical (STM) publishing community
as represented by the individual publishing houses and publishing trade associations, who have
indicated their assent below.*

Many declarations have been made about the need for particular business models in the STM information community. STM publishers have largely remained silent on these matters as the majority are agnostic about business models: what works, works.

...

7. **Raw research data should be made freely available to all researchers.** Publishers encourage the public posting of the raw data outputs of research. Sets or sub-sets of data that are submitted with a paper to a journal should wherever possible be made freely accessible to other scholars

Web Service



Workflow in data publishing

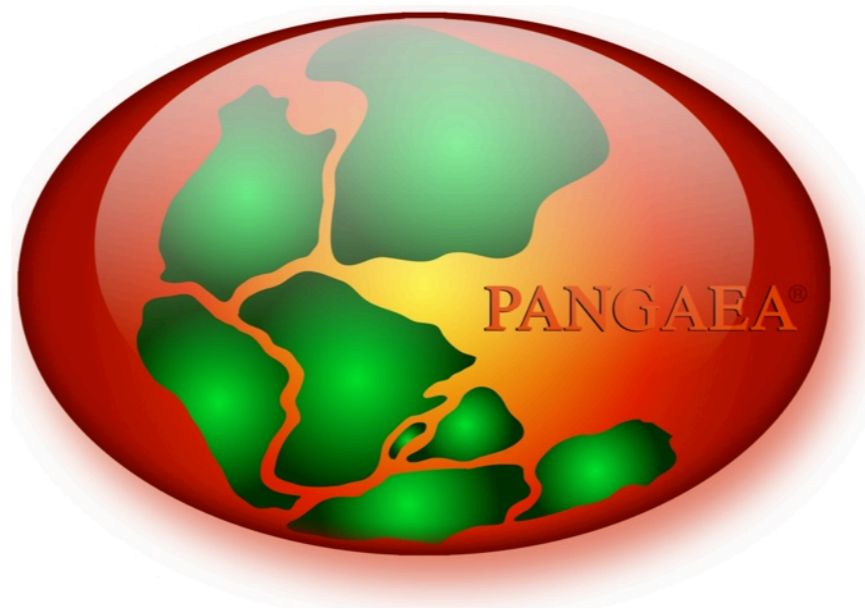
- Provision of data (PI)
- Import to PANGAEA (curator)

Editorial

- Proof-Read (PI)
- ↕
- Corrections (curator/editor)

Review

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



info@pangaea.de

Presentation available at
doi:10013/epic.35961