

# EPIC:

## Framework for archiving and sharing publications

Dr. Ana Macario  
Computing and Data Centre  
hdl:[10013/epic.43352](https://nbn-resolving.org/urn:nbn:de:awm:10013-epic.43352)

# Roadmap

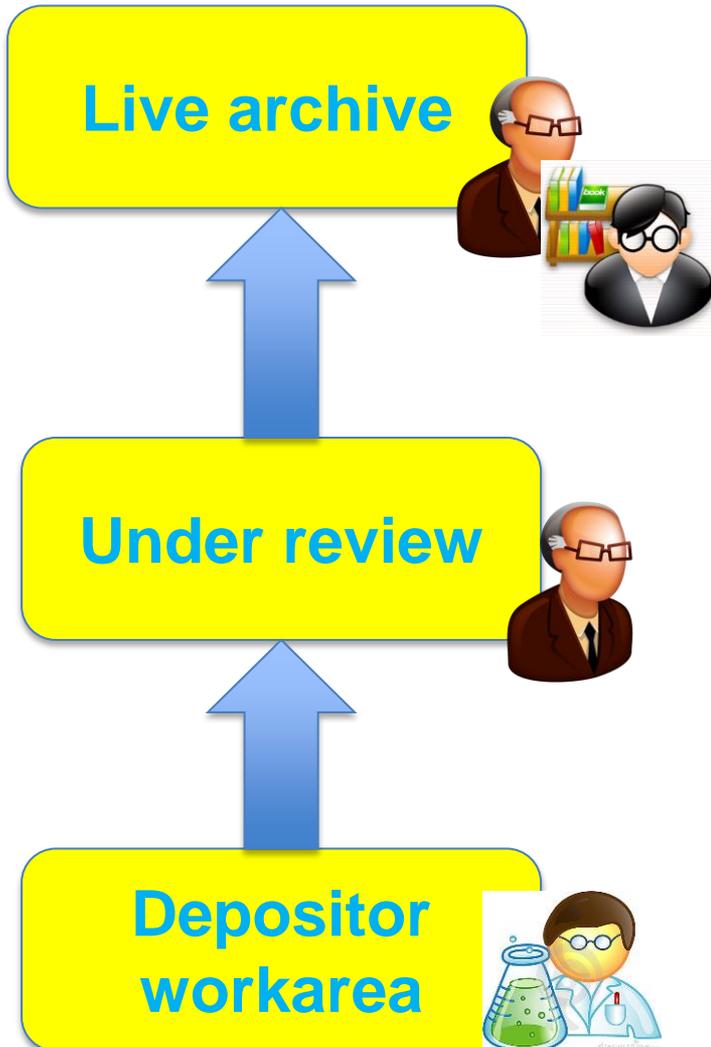
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- EPIC
- Data-intensive science
- Added value

- Open access repository for various types of digital items: thesis, publications, presentations, reports, ...
- Metadata:
  - ✓ Bibliographic information (including **DOI**)
  - ✓ Organizational units (AWI section, Helmholtz WP, graduate school)
  - ✓ Research platform, campaign
  - ✓ Geographical location, EU project,...
- Digital object:
  - ✓ PDF, ZIP archive

# Workflow stages



- Item gets a persistent identifier (=handle); email notification follows
- Changes/corrections to the item can only be made by editors or librarians



- Item will be sent to EPIC editors
- After inspection, item will be placed in live archive



- Create item by importing from DOI (or manually entering the metadata)
- Upload PDF
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# EPIC editors



Home **Dienste** Verwaltung Mitarbeiterbelange Forschung Links

Home > Dienste > Publikationen und Daten > EPIC: publication repository > Editor listings > Biosciences

### Biosciences: ePIC editors

	Editors
<b>+ Biosciences</b> [?]	
<b>Bentho-Pelagic Processes</b> [C. Richter]	U. Liebert, C. Richter
<b>Biogeosciences</b> [D. Wolf-Gladrow]	D. Burhop, G. Nehrke, D. Wolf-Gladrow
<b>Coastal Ecology</b> [R. Asmus]	
<b>Ecological Chemistry</b> [A. Cempella]	
<b>Functional Ecology</b>	

**If item is assigned to multiple sections, then all respective editors are allowed to review the item**



pub-bib@awi.de

# Username mandatory for AWI authors

## Authors

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	J. N. Smith				

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Dr. Michiel Rutgers v. d. Loeff

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Email:  
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See also

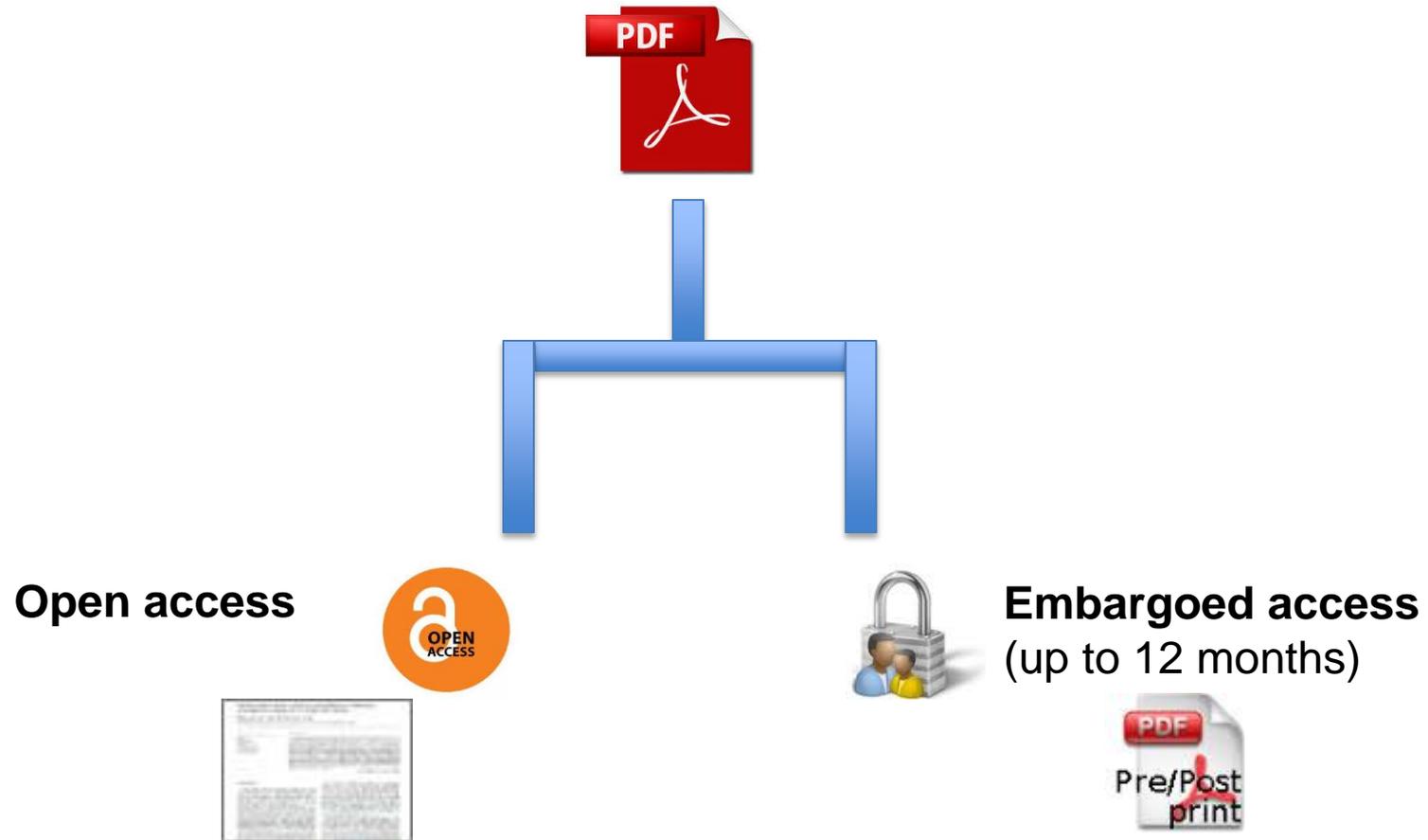
Geosciences | Marine Geochemistry

1. PACES 1.2: Ice sheet dynamics and mass balance
2. PACES 1.2: Aerosol, Water Vapour, and Ozone Feedbacks in the Arctic Climate System
3. PACES 1.3: A Bi-Polar Perspective of Sea Ice - Atmosphere - Ocean - Ecosystem Interactions
4. PACES 1.4: Antarctic Circumpolar Climate and Ecosystem Study
5. PACES 3.1: Past Polar Climate and inter-hemispheric Coupling

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Sections,  
Work packages

# Uploading digital document(s)



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# Abstract page



## Citation:

Rutgers v. d. Loeff, M., Cai, P., Stimac, I., Bauch, D., Hanfland, C., Roeske, T. and Moran, S. B. (2012): Shelf-basin exchange times of Arctic surface waters estimated from  $^{228}\text{Th}/^{228}\text{Ra}$  disequilibrium, *Journal of Geophysical Research - Oceans*, 117 (C03024). doi: 10.1029/2011JC007478

## Cite this page as:

hdl:10013/epic.39149

## DOI:

10.1029/2011JC007478

## Contact Email:

Michiel.Rutgers.v.d.Loeff@awi.de

**Publisher DOI**

**PANGAEA**  
Data Publisher for Earth & Environmental Science

**Data Description**

**Citation:** Rutgers van der Loeff, MM et al. (2012): Radium in Arctic surface water  
doi:10.1594/PANGAEA.772682,  
Supplement to: Rutgers van der Loeff, Michiel M., Cai, Pinghe; Stimac, Ingrid; Bauch, Dorothea; Hanfland, Claudia; Roeske, Tobias; Moran, S Bradley (2012): Shelf-basin exchange times of Arctic surface waters estimated from  $^{228}\text{Th}/^{228}\text{Ra}$  disequilibrium. *Journal of Geophysical Research-Oceans*, 117, C03024, doi:10.1029/2011JC007478

**Abstract:** The transpolar drift is strongly enriched in  $^{228}\text{Ra}$  accumulated on the wide Arctic shelves with subsequent rapid offshore transport. We present new data of Polarstern expeditions to the central Arctic and to the Kara and Laptev seas. Because  $^{228}\text{Ra}$  activities in Pacific waters are 30% higher than in Atlantic waters, we correct  $^{228}\text{Ra}$  for the Pacific admixture when normalizing  $^{228}\text{Th}$  with  $^{228}\text{Ra}$ . The use of  $^{228}\text{Ra}$  decay as age marker critically depends on the constancy in space and time of the source activity, a condition that has not yet adequately been tested. While  $^{228}\text{Ra}$  decays during transit over the central Basin, ingrowth of  $^{228}\text{Th}$  could provide an alternative age marker. The high  $^{228}\text{Th}/^{228}\text{Ra}$  activity ratio ( $\text{AR} = 0.8 - 1.0$ ) in the central basins is incompatible with a mixing model based on horizontal eddy diffusion. An advective model predicts that  $^{228}\text{Th}$  grows to an equilibrium AR, the value of which depends on the scavenging regime. The low AR over the Lomonosov Ridge ( $\text{AR} \approx 0.5$ ) can be due to either rapid transport (minimum age without scavenging 1.1 year) or enhanced scavenging. Suspended particulate matter load (derived from beam transmission and particulate  $^{234}\text{Th}$ ) and total  $^{234}\text{Th}$  depletion data show that scavenging, although extremely low in the central Arctic, is enhanced over the Lomonosov Ridge, making an age of 3 years more likely. The combined data of  $^{228}\text{Ra}$  decay and  $^{228}\text{Th}$  ingrowth confirm the existence of a recirculating gyre in the surface water of the eastern Eurasian Basin with a river water residence time of at least 3 years.

<http://pangaea.de>

**Publisher DOI used to find dataset in PANGAEA**

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## Supplementary Information



## Campaigns:

- ARK-XXI/1
- ARK-XXII/2

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HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

**Expedition**

Expedition	ARK-XXI
Alias	PS36, BG19900136
Begin	1995-07-07 - Bremenhafen
End	1995-09-20 - Tromsø
Platforms	Polarstern
Coordinator	Fahrmeiner, F.
Chief scientist	Rutgers v. d. Loeff, G.
Region	Laptev Sea

- Planned research (no description available)
- Research description (no description available)
- Events
- Reports

On-site Planning Report  
Expeditionsprogramm Nr. 38, PS Polarstern, ARK-XXI (1995)  
Rutgers, S.B.

Guide Report  
Scientific cruise report of the Arctic Expedition ARK-XXI of the "Polarstern" in 1995. (German-Russian Project LADS: Laptev Sea - Arctic Deep Basin Interim) - Wissenschaftlicher Fahrtbericht über die Arktis-Expedition ARK-XXI von 1995 mit FS "Polarstern" (1997)  
Rutgers, S.B.

Guide Report  
Terrestrischer Sedimenttransport und Paläosolentwicklung im spätquartären Arktischen Ozean. Rekonstruktionen nach Haupt- und Spurenelementkonzentrationen = Terrestrial sediment supply and paleoenvironment in the Arctic Ocean during the late quaternary: reconstructions from major and trace elements (2005)  
Schuster, F.

Archived data  
Distribution of benthic foraminifera in surface sediments (1997)

<http://expedition.awi.de>

## Abstract:

The Trans Polar Drift is strongly enriched in  $^{228}\text{Ra}$  accumulated on the wide Arctic shelves with subsequent rapid off-shore transport. We present new data of Polarstern expeditions to the central Arctic and to the Kara and Laptev Seas. Because  $^{228}\text{Ra}$  activities in Pacific waters are 30% higher than in Atlantic waters, we correct  $^{228}\text{Ra}$  for the Pacific admixture when normalizing  $^{228}\text{Th}$  with  $^{228}\text{Ra}$ . The use of  $^{228}\text{Ra}$  decay as age marker critically depends on the constancy in space and time of the source activity, a condition that has not yet adequately been tested. While  $^{228}\text{Ra}$  decays during transit over the central Basin, ingrowth of  $^{228}\text{Th}$  could provide an alternative age marker. The high  $^{228}\text{Th}/^{228}\text{Ra}$  activity ratio ( $\text{AR} = 0.8 - 1.0$ ) in the central basins is incompatible with a mixing model based on horizontal eddy diffusion. An advective model predicts that  $^{228}\text{Th}$  grows to an equilibrium AR,

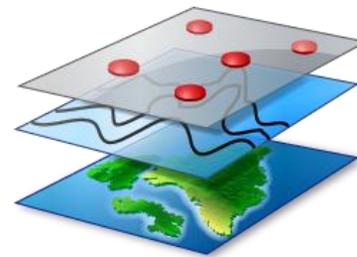
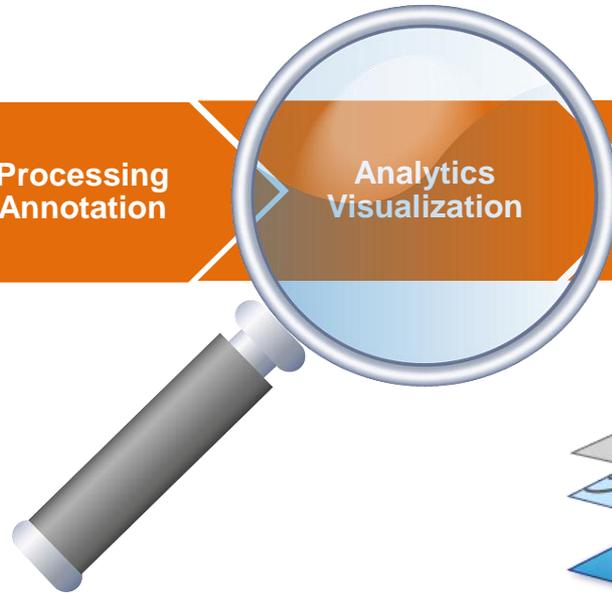
# Roadmap

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- EPIC
- Data-intensive science
- Added value

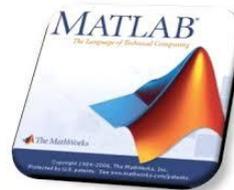
# Data-driven science



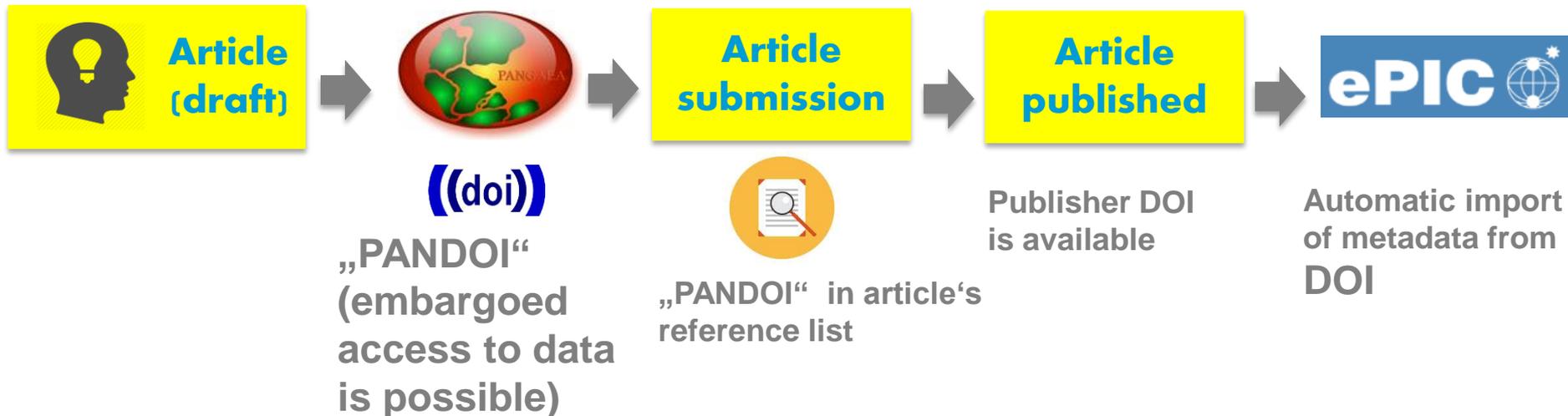
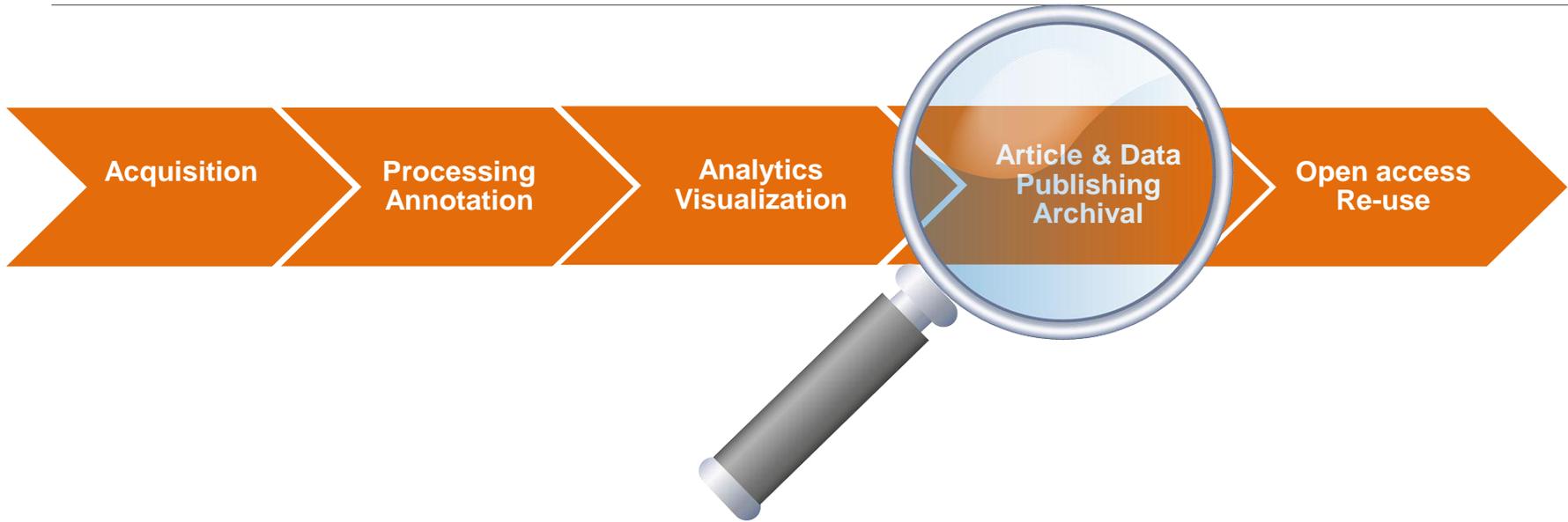
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# Data-driven science



# Data-driven science



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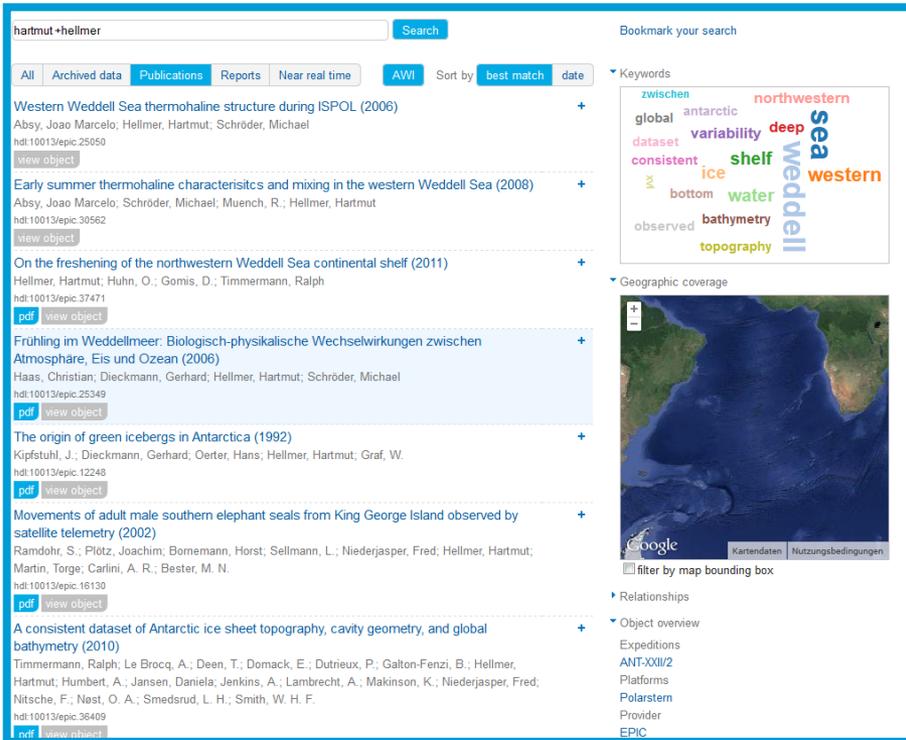
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- EPIC
- Data-intensive science
- Added value

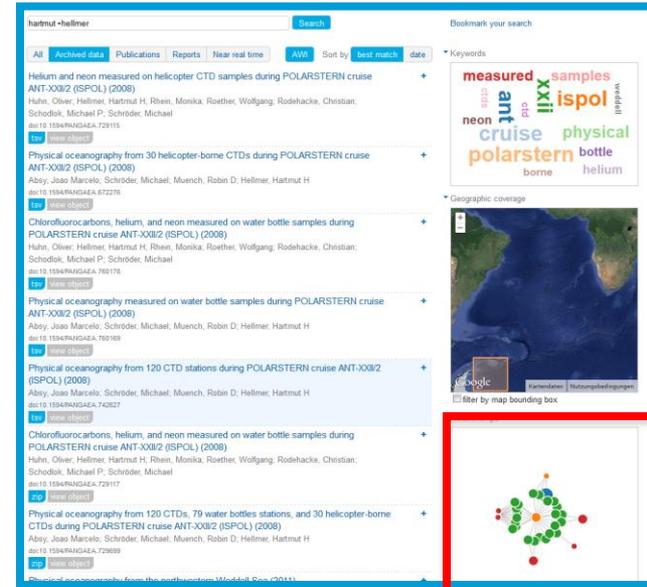
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Search results for 'hartmut+hellmer' showing a list of publications with abstracts and links to view objects. The sidebar includes a keyword cloud, a map of the Weddell Sea, and a 'Relationships' section.

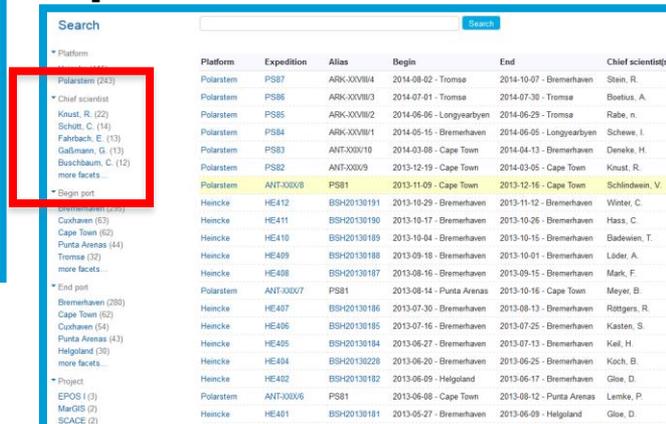
### Data



Search results for 'hartmut+hellmer' showing a list of data entries with abstracts and links to view objects. The sidebar includes a keyword cloud, a map of the Weddell Sea, and a 'Relationships' section.

### Relationships

### Expeditions



Platform	Expedition	Alias	Begin	End	Chief scientist(s)
Polarstern	PS87	ARK-XXVIII/4	2014-08-02 - Tromsø	2014-10-07 - Bremerhaven	Stain, R.
Polarstern	PS86	ARK-XXVIII/3	2014-07-01 - Tromsø	2014-07-30 - Tromsø	Bortus, A.
Polarstern	PS85	ARK-XXVIII/2	2014-06-06 - Longyearbyen	2014-06-29 - Tromsø	Rabe, n.
Polarstern	PS84	ARK-XXVIII/1	2014-05-15 - Bremerhaven	2014-05-05 - Longyearbyen	Schewe, I.
Polarstern	PS83	ANT-XXXIX/10	2014-03-08 - Cape Town	2014-04-13 - Bremerhaven	Denske, H.
Polarstern	PS82	ANT-XXXIX/9	2013-12-19 - Cape Town	2014-03-05 - Cape Town	Knutz, R.
Polarstern	ANT-XXXIX/8	PS81	2013-11-09 - Cape Town	2013-12-16 - Cape Town	Schindwein, V.
Hencke	HE412	BSH20130191	2013-10-29 - Bremerhaven	2013-11-12 - Bremerhaven	Winter, C.
Hencke	HE411	BSH20130190	2013-10-17 - Bremerhaven	2013-10-26 - Bremerhaven	Hass, C.
Hencke	HE410	BSH20130189	2013-10-04 - Bremerhaven	2013-10-15 - Bremerhaven	Baldwin, T.
Hencke	HE409	BSH20130188	2013-09-18 - Bremerhaven	2013-10-01 - Bremerhaven	Löder, A.
Hencke	HE408	BSH20130187	2013-08-16 - Bremerhaven	2013-09-15 - Bremerhaven	Mark, F.
Polarstern	ANT-XXXIX/7	PS81	2013-08-14 - Punta Arenas	2013-10-16 - Cape Town	Meyer, B.
Hencke	HE407	BSH20130186	2013-07-30 - Bremerhaven	2013-08-13 - Bremerhaven	Rüttgers, R.
Hencke	HE406	BSH20130185	2013-07-16 - Bremerhaven	2013-07-25 - Bremerhaven	Kasten, S.
Hencke	HE405	BSH20130184	2013-06-27 - Bremerhaven	2013-07-13 - Bremerhaven	Kiel, H.
Hencke	HE404	BSH20130228	2013-06-20 - Bremerhaven	2013-06-25 - Bremerhaven	Koch, B.
Hencke	HE402	BSH20130182	2013-06-09 - Helgoland	2013-06-17 - Bremerhaven	Gloe, D.
Polarstern	ANT-XXXIX/6	PS81	2013-06-08 - Cape Town	2013-08-12 - Punta Arenas	Lemke, P.
Hencke	HE401	BSH20130181	2013-05-27 - Bremerhaven	2013-06-09 - Helgoland	Gloe, D.

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Coen Hofstede, Olaf Eisen, Anja Diez, Daniela Jansen, Yngve Kristoffersen, Astrid Lambrecht, Christoph Mayer

**17** Views | **0** Downloads | **0** Citations

Article: **Determining the age distribution of Colle Gnifetti, Monte Rosa, Swiss Alps, by combining ice cores, ground-penetrating radar and a simple flow model**  
Hannes Konrad, Pascal Bohleber, Dietmar Wagenbach, Christian Vincent, Olaf Eisen

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Article: **Permittivity of ice at radio frequencies: Part II. Artificial and natural polycrystalline ice**  
P. Bohleber, N. Wagner, O. Eisen

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Batch Edit

Conference -Invited talk

**Hellmer, H.** (2014)

1. German-British cooperation on the Antarctic: Overview and future perspectives .  
Modern Europe, Park Plaza, Westminster Bridge, London, UK, 26 February 2014 - 26 February 2014 .  
hdl:10013/epic.43130



Inbook

**Fahrbach, E. , Rohardt, G. , Strass, V. and Hellmer, H.** (2014)

2. Struktur, Dynamik und Bedeutung des antarktischen Wasserringes / Lozán, J. L. , Grassl, H. , Piepenburg, D. and Notz, D. (editors) ,  
In: Warnsignal Klima : die Polarregionen ; Gebiete höchster Empfindlichkeit mit weltweiter Wirkung. (Warnsignal Klima ; 14), Hamburg, Wissenschaftl. Auswertungen, ISBN: 978-3-9809668-6-3 .  
hdl:10013/epic.43248

Inbook

**Grosfeld, K. , Thoma, M. , Determann, J. , Hellmer, H. and Timmermann, R.** (2014)

3. Die Wechselwirkung zwischen antarktischen Schelfeisgebieten und dem Ozean und der Beitrag zur ozeanischen Wassermassenbildung / Lozán, J. L. , Graßl, H. , Notz, D. and Piepenburg, D. (editors) ,  
In: Warnsignal Klima : die Polarregionen ; Gebiete höchster Empfindlichkeit mit weltweiter Wirkung. (Warnsignale Klima ; 14), Hamburg, Wissenschaftliche Auswertungen, ISBN: 978-3-9809668-6-3 .  
hdl:10013/epic.43241



Article

**Olbers, D. , Hellmer, H. H. and Buck, F. F. J. H.** (2014)

4. A data-constrained model for compatibility check of remotely sensed basal melting with the hydrography in front of Antarctic ice shelves .  
The Cryosphere Discussions, 8 (1), pp. 919-951 .  
doi:10.5194/tcd-8-919-2014 . hdl:10013/epic.42967

Conference -Invited talk

**Hellmer, H.** (2013)

5. Antarctic drivers of sea-level rise .  
Day of the Cryosphere, COP19, Radisson Blu Centrum, Warsaw, 17 November 2013 - unspecified .  
hdl:10013/epic.42671

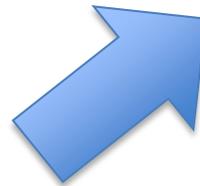
Article

**Timmermann, R. and Hellmer, H.** (2013)

6. Southern Ocean warming and increased ice shelf basal melting in the twenty-first and twenty-second centuries based on coupled ice-ocean finite-element modelling .  
Ocean Dynamics, 63 (9), pp. 1011-1026 .  
doi:10.1007/s10236-013-0642-0 . hdl:10013/epic.41921



Google



Research Gate



**Hartmut Hellmer**  
Senior Scientist, Alfred Wegener Institute for Polar and Marine Research, Germany  
Southern Ocean - numerical ocean modelling - ocean-ice shelf interaction - thermohaline circulation - climate change  
Bestätigte E-Mail-Adresse bei awi.de  
Startseite

**Zitationsindex**

Zitate	Alle	Seit 2009
2300	942	
h-index	28	17
i10 index	45	30

**Zitate meiner Artikel**

Titel/Autor	Zitiert von	Jahr
Melting of ice shelves and the mass balance of Antarctica SS Jacobs, H Hellmer, GJM Deser, A Jenkins, R Frisch Journal of Glaciology 38 (130), 375-387	282	1992
Antarctic ice sheet melting in the Southeast Pacific SS Jacobs, HH Hellmer, A Jenkins Geophysical Research Letters 23 (9), 957-960	189	1996
A numerical model of the Weddell Sea. Large-scale circulation and water mass distribution A Beckmann, HH Hellmer, R Timmermann Journal of Geophysical Research: Oceans 104 (C10), 23375-23391	131	1999
The occurrence of ice platelets at 250 m depth near the Filchner Ice Shelf and its significance for sea ice biology G Dieckmann, G Rohardt, H Hellmer, J Kipfshuh Deep Sea Research Part A: Oceanographic Research Papers 33 (2), 141-148	98	1986
A two-dimensional model for the thermohaline circulation under an ice shelf HH Hellmer, DJ Olbers Antarctic Science 1 (04), 325-336	97	1989
Deep and bottom water of the Weddell Sea's western rim A Field Science 262, 1	93	1993
Oceanic erosion of a floating Antarctic glacier in the Amundsen Sea HH Hellmer, SS Jacobs, A Jenkins Ocean, Ice, and Atmosphere: Interactions at the Antarctic Continental Margin ...	90	1998
Impact of Antarctic ice shelf basal melting on sea ice and deep ocean properties HH Hellmer	85	2004

Search  
h/hellmer

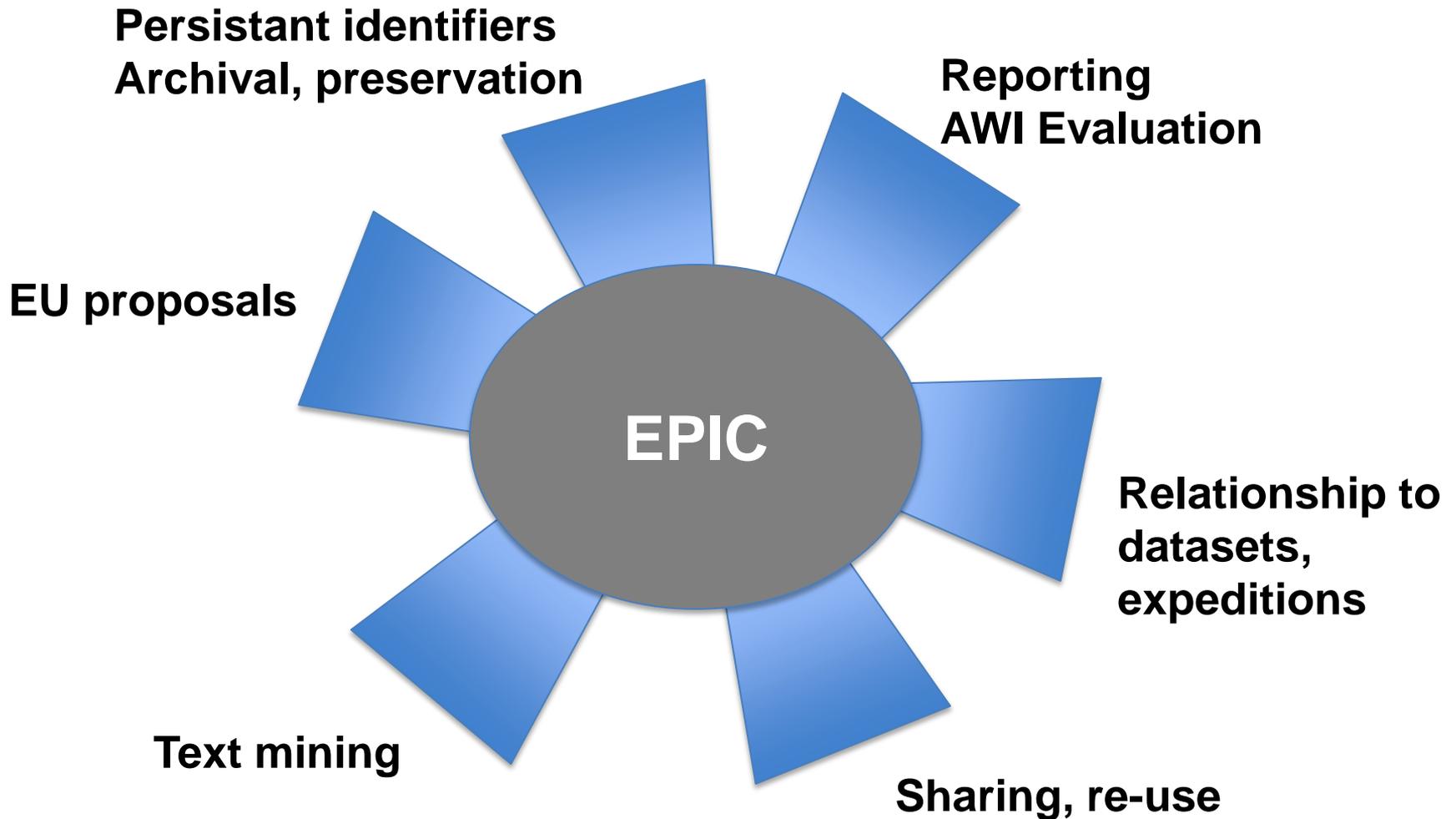
Article: **RTOPO-1: A consistent dataset for Antarctic ice shelf topography and global ocean bathymetry**  
Ralph Timmermann  
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05/2016  
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Article: **A data-constrained model for compatibility check of remotely sensed basal melting with the hydrography in front of Antarctic ice shelves**  
D. Olbers, Hartmut Hellmer, F. F. J. H. Buck  
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The Cryosphere Discussions 012014, 8(1):919-951  
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Article: **Southern Ocean warming and increased ice shelf basal melting in the twenty-first and twenty-second centuries based on coupled ice-ocean finite-element modelling**  
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Ocean Dynamics 08/2013, 63(9):1011-1026 - 1,76 Impact Factor  
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Article: **On the difficulties of modeling the Amundsen Sea embayment**

# Summary



# Information Services at AWI

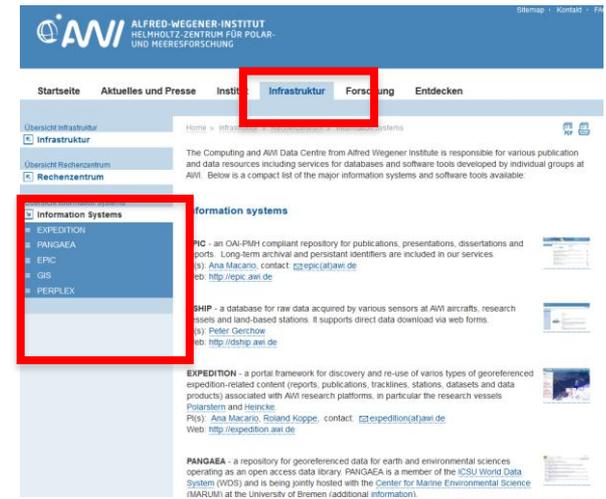


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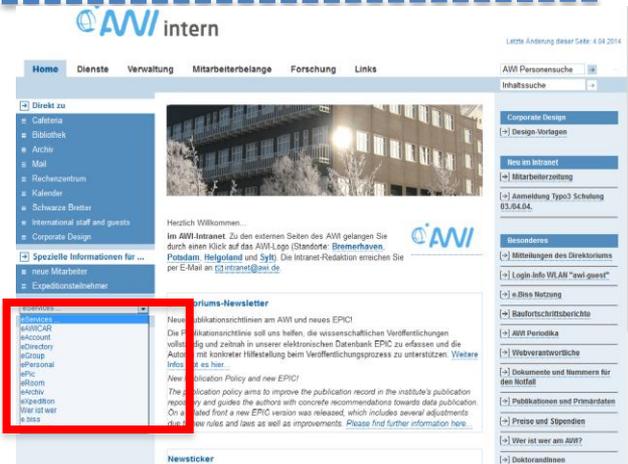
- Visualization

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