

EXPEDITION

An integrated approach to expose expedition information and research results

Ana Macario, **Roland Koppe**, Hans Pfeiffenberger

Objectives



- Present current research and its results
- Support discovery of data and publications
- Eliminate inconsistent expedition information
- Support expedition coordination and logistics
- Support statistics and reporting



Background



- Beginnings dates back before 2004
- Marine Network of Integrated Data Access
- Access to research data and information
- Support workflows and data management
- Sustainable infrastructure



Current expeditions

-  **ANT-XXIX/7 (Polarstern)**
Begin 2013-08-14 - Punta Arenas
End 2013-10-16 - Cape Town
-  **HE410 (Heincke)**
Begin 2013-10-04 - Bremerhaven
End 2013-10-15 - Bremerhaven

Platforms



- Heincke
- Polarstern

Temporal coverage




Begin
End

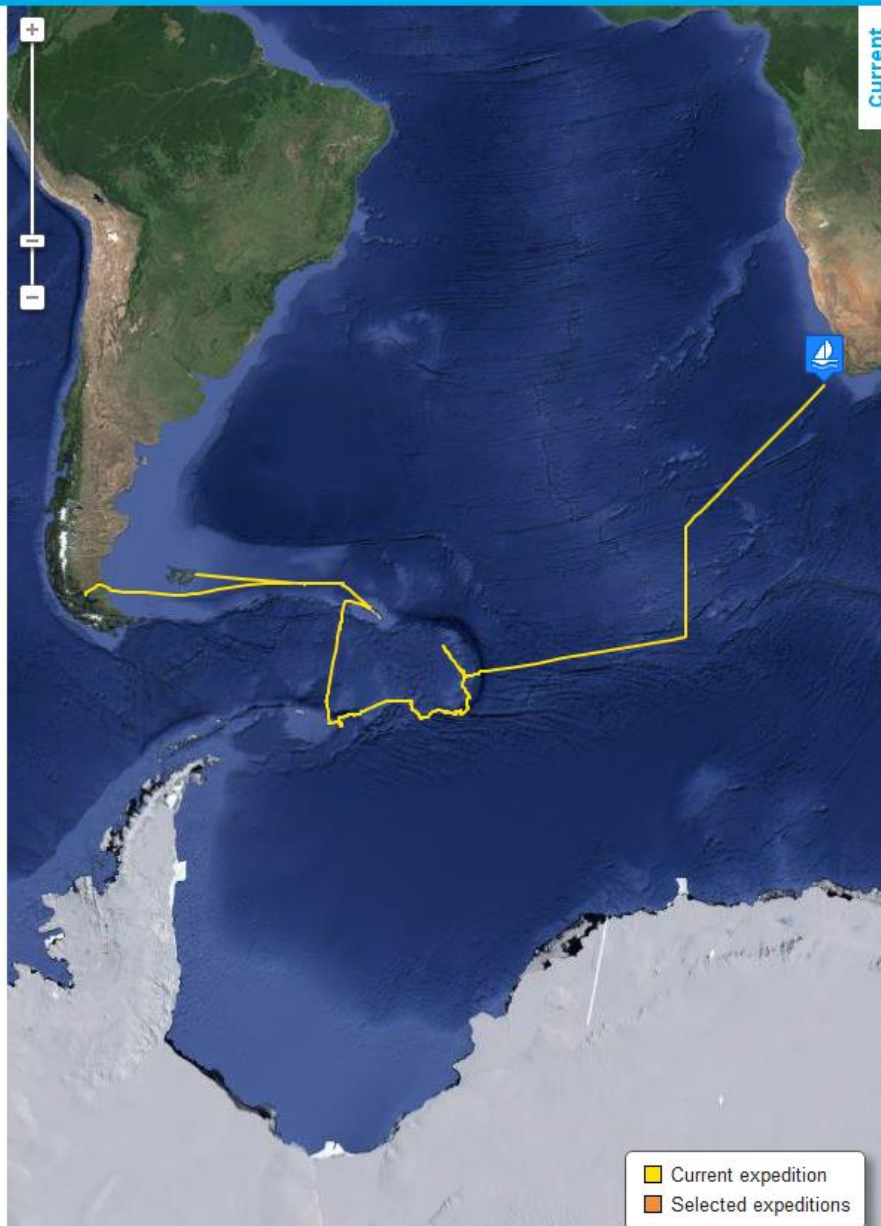
Search for keyword

Layers

- Stations
- DTM Framstrait
- DTM Knipovich Ridge
- DTM Scotia Sea
- Arctic Sea Ice 
- Antarctic Sea Ice 

Services

-  download tracklines as kml
-  download schedules as pdf
-  download schedules as xls/xlsx



Current

Near real time data

Heincke 

10.4°C Air temperature	SW Wind direction	2.5 m/s Wind speed	13.3°C Water temp.
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Polarstern 

15.0°C Air temperature	W Wind direction	10.1 m/s Wind speed	0.0°C Water temp.
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Neumayer III Station 

-22.0°C Air temperature	NW Wind direction	16.1 m/s Wind speed	
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Audio stream
from PALAOA

AWIPEV Station 

-7.2°C Air temperature	SW Wind direction	1.7 m/s Wind speed	
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Latest data and publications

Archived data

- 3D models created from the ROV videos at station PS77/253-1 and their corresponding subtransect dimensions (2013)
- Documentation of sediment core PS75/214-1 (2013)
- Documentation of sediment core PS75/167-1 (2013)

Publications

- Seaweed Biology - Novel Insights into Ecophysiology, Ecology and Utilization (2013)
- Sedimentary sequences in the Amundsen Sea, Southern Pacific: Hinterland glaciation already during the Early Miocene? (2013)
- Ku-Band penetration obtained from airborne radar and laser altimetry and TerraSAR-X in a blue ice area in Antarctica (2013)

Reports

- Expeditionsprogramm Polarstern Nr. 92 ANT-XXIX/8, ANT-XXIX/9, ANT-XXIX/10 (2013)
- Expeditionsprogramm Polarstern Nr. 91 ANT-XXIX/4, ANT-XXIX/5, ANT-XXIX/6, ANT-XXIX/7 (2013)



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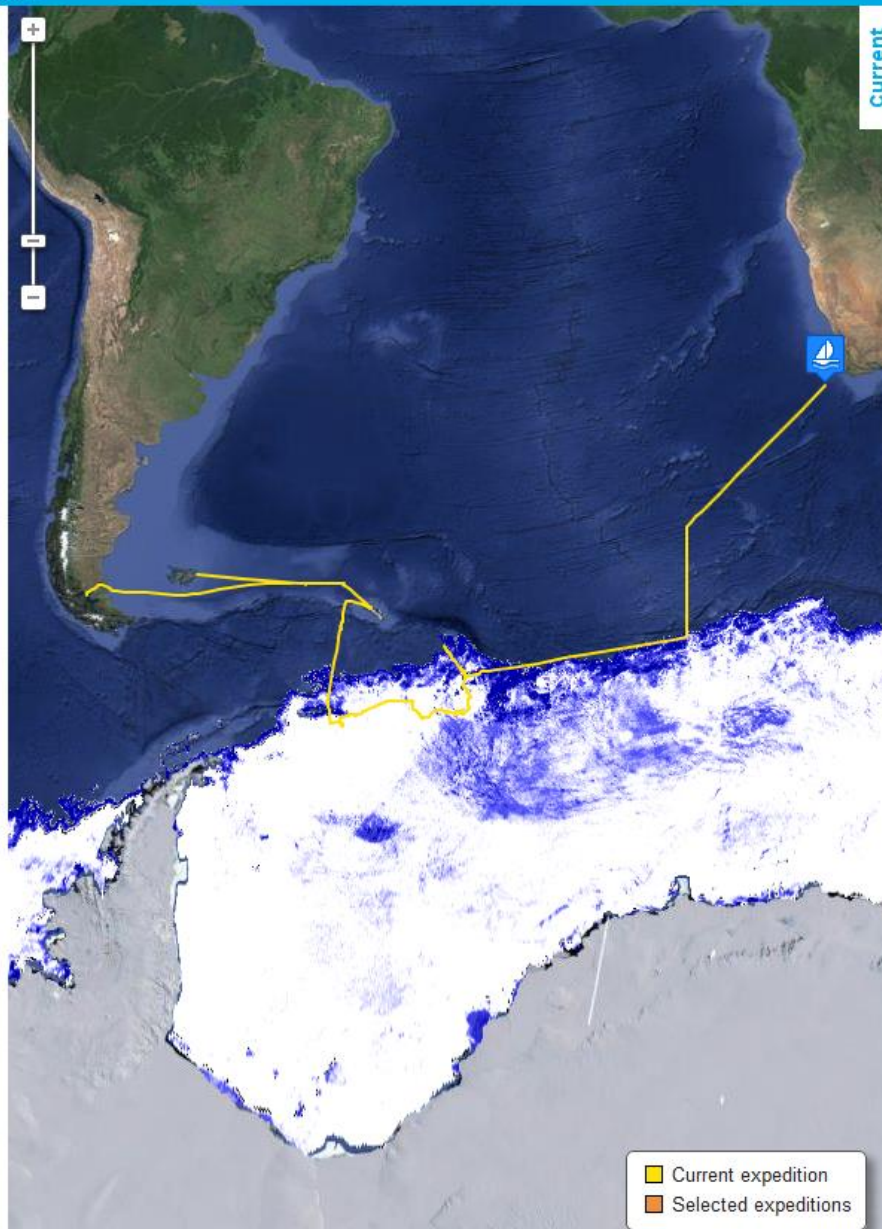
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End

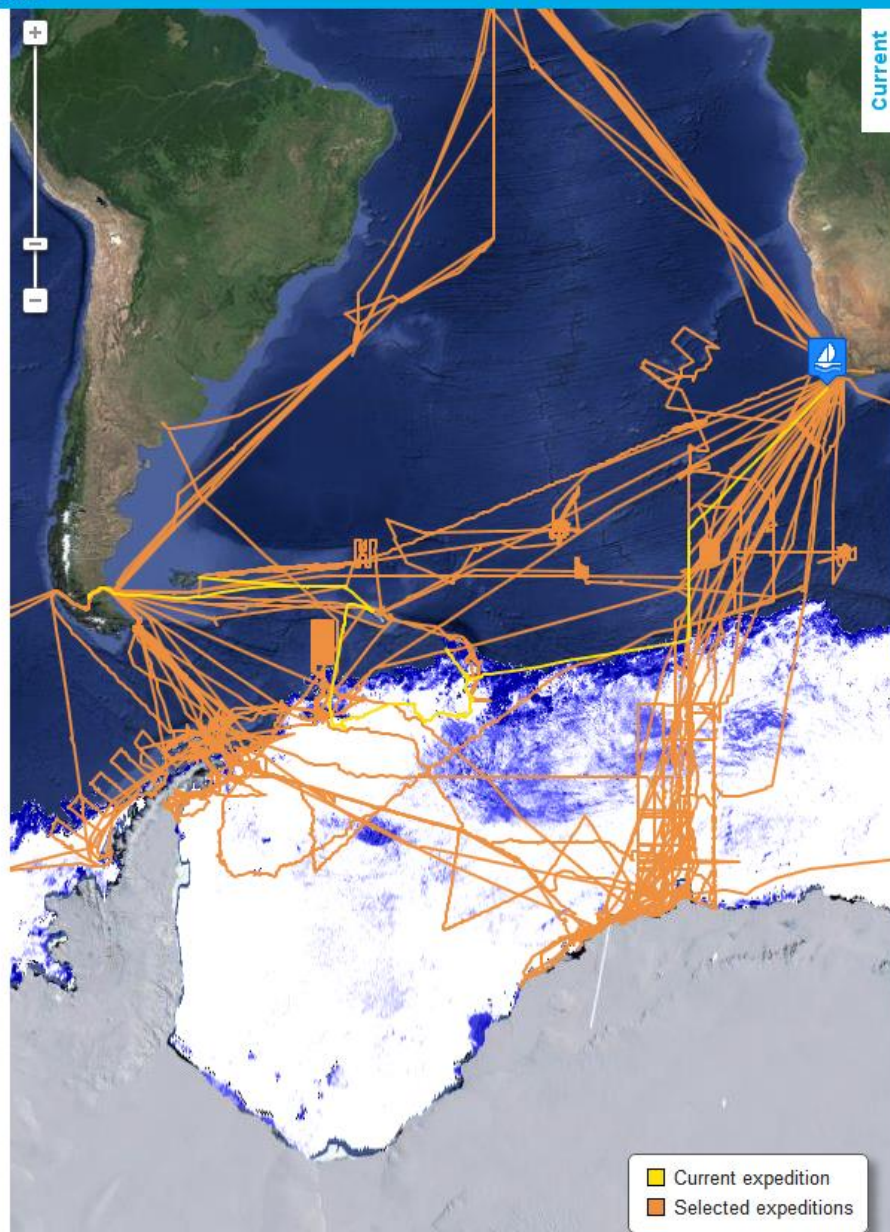
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Current

Near real time data

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Polarstern 

15.1°C Air temperature	W Wind direction	9.8 m/s Wind speed	0.0°C Water temp.
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Overview



Underway

Publications

Reports

Bathymetry

Seismic

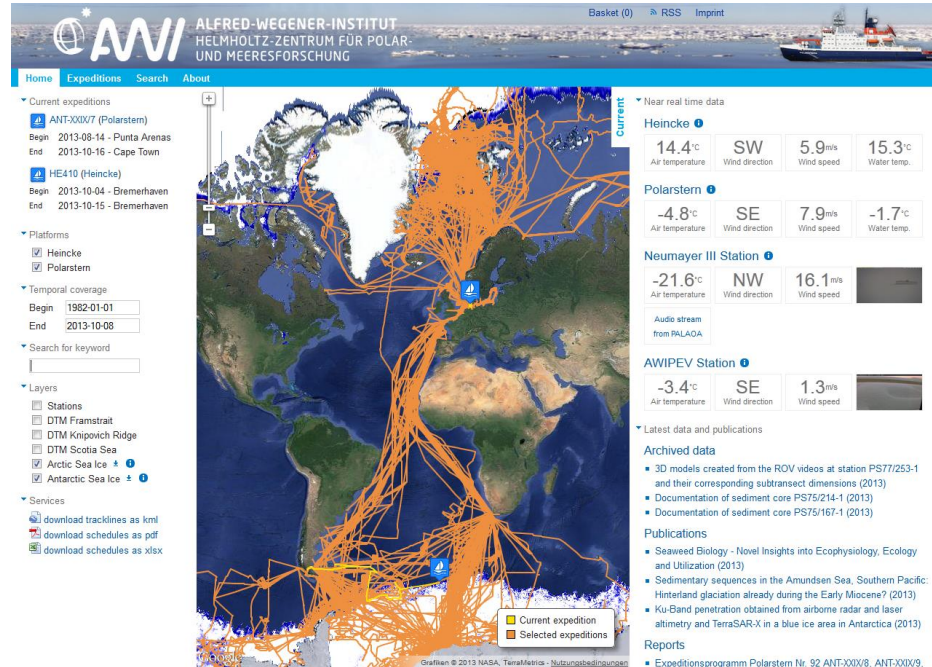
PANGAEA

BSH

COSYNA

...

Scientific Information



Services & Interoperability



Vocabularies

Gazetteer

GIS

NRT

Reporting

Core Components

Expedition Catalogue

Generalized Tracklines

DSHIP Data Acquisition

Architecture



EXPEDITION Portal

Planning

Reporting

Near Real
Time Data



Reports and
Publications

DShip Data Acquisition System



Arndt



Steinhage

Architecture

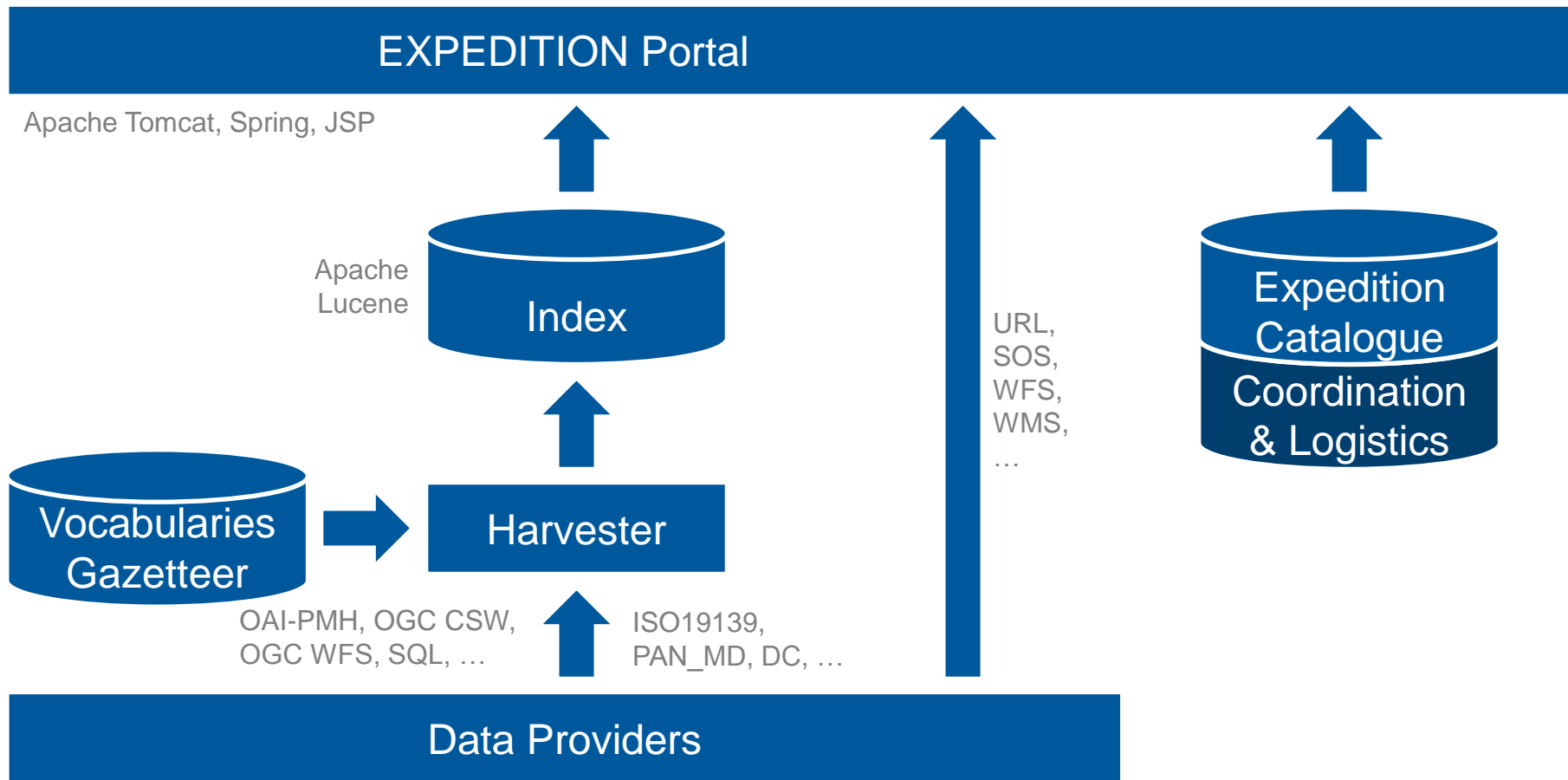
EXPEDITION Portal

Data Providers

DShip Data Acquisition System



Architecture





Search

Selected facets: Polarstern

- ▼ Platform
 - Polarstern (243)
- ▼ Chief scientist
 - Fahrbach, E. (13)
 - Fütterer, D. K. (12)
 - Jokat, W. (12)
 - Hempel, G. (11)
 - Kattner, G. (9)
 - more facets...
- ▼ Begin port
 - Cape Town (62)
 - Bremerhaven (60)
 - Punta Arenas (44)
 - Tromsø (32)
 - Longyearbyen (19)
 - more facets...
- ▼ End port
 - Cape Town (62)
 - Bremerhaven (58)
 - Punta Arenas (43)
 - Tromsø (30)
 - Longyearbyen (20)
 - more facets...
- ▼ Project
 - EPOS I (3)
 - SCACE (2)
 - AMORE (1)
 - ANDEEP 1 (1)
 - ANDEEP 2 (1)
 - more facets...
- ▼ Device
 - Underway cruise track measurements (238)
 - Radiosonde (218)
 - CTD/Rosette (153)

▼ Chief scientist

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Facets to restrict results, e.g.

- Platform (research vessel)
- Chief scientist
- Project
- Device



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Chief scientist

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more facets...

Project

EPOS I (3)
SCACE (2)
AMORE (1)
ANDEEP 1 (1)
ANDEEP 2 (1)
more facets...

Device

Underway cruise track
measurements (238)
Radiosonde (218)
CTD/Rosette (153)

Platform	Expedition	Alias	Begin	End	Chief scientist(s)	
Polarstern	PS87	ARK-XXVIII/4	2014-08-02 - Tromsø	2014-10-07 - Bremerhaven	Stein, R.	Events Data Map Publications Reports
Polarstern	PS86	ARK-XXVIII/3	2014-07-01 - Tromsø	2014-07-30 - Tromsø	Boetius, A.	Events Data Map Publications Reports
Polarstern	PS85	ARK-XXVIII/2	2014-06-06 - Longyearbyen	2014-06-29 - Tromsø	Rabe, n.	Events Data Map Publications Reports
Polarstern	PS84	ARK-XXVIII/1	2014-05-15 - Bremerhaven	2014-06-05 - Longyearbyen	Schewe, I.	Events Data Map Publications Reports
Polarstern	PS83	ANT-XXIX/10	2014-03-08 - Cape Town	2014-04-13 - Bremerhaven	Deneke, H.	Events Data Map Publications Reports
Polarstern	PS82	ANT-XXIX/9	2013-12-19 - Cape Town	2014-03-05 - Cape Town	Knust, R.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/8	PS81	2013-11-09 - Cape Town	2013-12-16 - Cape Town	Schлиндwein, V.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/7	PS81	2013-08-14 - Punta Arenas	2013-10-16 - Cape Town	Meyer, B.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/6	PS81	2013-06-08 - Cape Town	2013-08-12 - Punta Arenas	Lemke, P.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/5	PS81	2013-04-18 - Port Stanley	2013-05-29 - Cape Town	Jokat, W.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/4	PS81	2013-03-22 - Punta Arenas	2013-04-16 - Port Stanley	Bohrmann, G.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/3	PS81	2013-01-20 - Punta Arenas	2013-03-19 - Punta Arenas	Gutt, J.	Events Data Map Publications Reports
	ANT-XXIX/2	PS81	2012-11-30 - Cape Town	2013-01-18 - Punta Arenas	Boebel, O.	Events Data Map Publications Reports
Polarstern	ANT-XXIX/1	PS81	2012-10-27 - Bremerhaven	2012-11-27 - Cape Town	Auel, H.	Events Data Map Publications Reports
Polarstern	ARK-XXVII/3	PS80	2012-08-02 - Tromsø	2012-10-07 - Bremerhaven	Boetius, A.	Events Data Map Publications Reports





Expedition

Expedition	ANT-XXIX/2
Alias	PS81
Begin	2012-11-30 - Cape Town
End	2013-01-18 - Punta Arenas
Platforms	Polarstern
Coordinator	Knust, R.
Chief scientists	Boebel, O.
Region	Atlantic Sector of Southern Ocean

Planned research

Physical Oceanography, geophysics, HAFOS, SWEAP

Research description

Events

Event	Begin	Lng	Lat	End	Lng	Lat	Device
PS81/2-track	2012-11-30 00:00:00	18,43460	-33,91186	2013-01-18 00:00:00	-70,90910	-53,14470	Underway cruise track measurements
PS81/0020-1	2012-12-02 11:37:00	16,93633	-41,01350				Test
PS81/0020-2	2012-12-02 13:10:00	16,87683	-41,02817	2012-12-02 13:45:00	16,84383	-41,03117	Calibration
PS81/0020-3	2012-12-02 14:25:00	16,80183	-41,03433				CTD/Rosette
PS81/0020-4	2012-12-02 15:44:00	16,73967	-41,03750				Test
PS81/0021-1	2012-12-02 15:53:00	13,64900	-52,01900				Ocean bottom seismometer
PS81/0022-1	2012-12-05 13:20:00	13,76367	-52,29500				Ocean bottom seismometer
PS81/0023-1	2012-12-05 14:53:00	13,55417	-52,31083				Ocean bottom seismometer
PS81/0024-1	2012-12-05 16:55:00	13,83883	-52,58000				Ocean bottom seismometer
PS81/0025-1	2012-12-05 19:31:00	13,36050	-52,54933				Ocean bottom seismometer
PS81/0026-1	2012-12-05 21:01:00	13,26250	-52,39367				Ocean bottom seismometer
PS81/0027-1	2012-12-05 22:25:00	13,31083	-52,24267				Ocean bottom seismometer
PS81/0028-1	2012-12-06 00:09:00	13,06967	-52,36300				Ocean bottom seismometer
PS81/0029-1	2012-12-06 01:18:00	13,06100	-52,49700				Ocean bottom seismometer
PS81/0030-1	2012-12-06 02:43:00	12,83450	-52,47250				Ocean bottom seismometer
PS81/0031-1	2012-12-08 04:56:00	0,00367	-54,99950				CTD/Rosette
PS81/0032-1	2012-12-08 09:54:00	0,00183	-55,49917				CTD/Rosette



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PS81/0108-2	2013-01-12 12:55:00	-50,82683	-63,70150	Mooring
PS81/0108-4	2013-01-12 19:53:00	-50,87033	-63,66950	Argo float
PS81/0109-1	2013-01-13 03:58:00	-51,34617	-63,52983	CTD/Rosette
PS81/0110-1	2013-01-13 20:21:00	-51,65017	-63,40650	CTD/Rosette
PS81/0111-1	2013-01-14 04:03:00	-51,82767	-63,26167	CTD/Rosette
PS81/0111-2	2013-01-14 05:06:00	-51,82650	-63,25850	Mooring
PS81/0112-1	2013-01-16 02:11:00	-55,97550	-61,01467	Mooring
PS81/0113-1	2013-01-16 07:26:00	-57,45317	-60,04050	Argo float
PS81/0114-1	2013-01-16 12:45:00	-59,00600	-59,02367	Argo float

[download event list](#)

▼ Reports

Cruise Planning Report

[Expeditionsprogramm Nr. 90, FS Polarstern, ANT-XXIX/1, ANT-XXIX/2, ANT-XXIX/3 \(2012\)](#)

Knust, Rainer

▼ Archived data

[Continuous thermosalinograph oceanography along POLARSTERN cruise track ANT-XXIX/2 \(2013\)](#)

Rohardt, Gerd

[Continuous meteorological surface measurement during POLARSTERN cruise ANT-XXIX/2 \(2013\)](#)

König-Langlo, Gert

[Meteorological observations during POLARSTERN cruise ANT-XXIX/2 \(2013\)](#)

König-Langlo, Gert

[Radiosonde PS81/34125 during POLARSTERN cruise ANT-XXVII/2 on 2012-12-01 11:09h \(2013\)](#)

König-Langlo, Gert

[Radiosonde PS81/34126 during POLARSTERN cruise ANT-XXVII/2 on 2012-12-02 11:06h \(2013\)](#)

König-Langlo, Gert

[search for more...](#)

▼ Publications

Article

[Automatic Round-the-Clock Detection of Whales for Mitigation from Underwater Noise Impacts \(2013\)](#)

Zitterbart, Daniel P; Kindermann, Lars; Burkhardt, Elke; Boebel, Olaf

Book

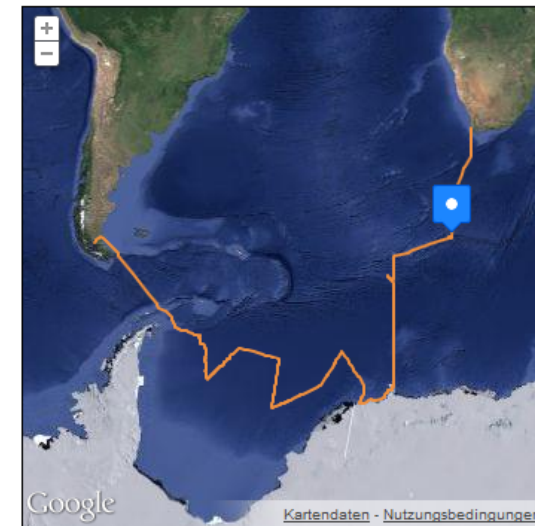
[LOCAL TO BASIN SCALE ARRAYS FOR PASSIVE ACOUSTIC MONITORING IN THE ATLANTIC SECTOR OF THE SOUTHERN OCEAN \(2013\)](#)

Rettig, Stefanie; Boebel, Olaf; Menze, Sebastian; Kindermann, Lars; Thomisch, Karolin; van Opzeeland, Ilse

Conference Item

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Search

Search

Bookmark your search

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 - PANGAEA (8891)
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 - text (7634)
 - application (270)
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- ▼ Region
 - ▶ Southern Ocean (8891)
 - ▶ Atlantic Ocean (814)
 - ▶ Pacific Ocean (807)
 - ▶ Indian Ocean (153)
 - ▶ Mainland Europe (30)
 - more facets...
- ▼ Author
 - König-Langlo, Gert (4332)
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 - Fütterer, Dieter K (491)
 - Plötz, Joachim (347)
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- ▼ Platform
 - Polarstern (8522)
 - Dallmann Laboratory (205)

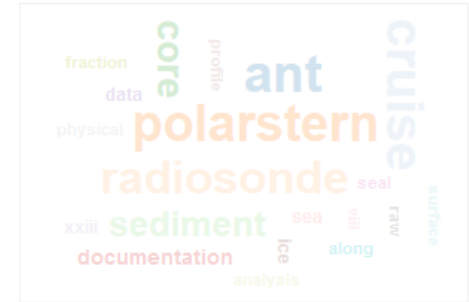
- Sort by

Selected facets: Southern Ocean

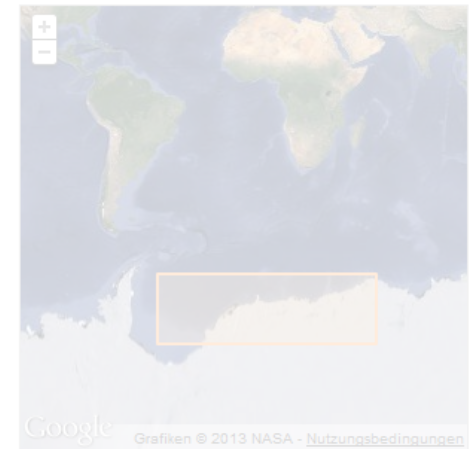
Facets to restrict results, e.g.

- Region Gazetteer
- Platform
- Expedition
- Device
- Parameter
- Project
- ...

Keywords

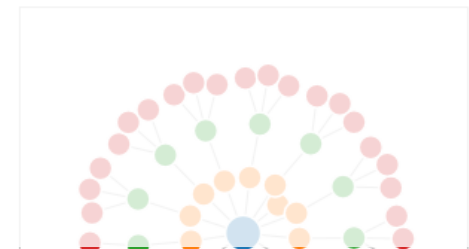


Geographic coverage



filter by map bounding box

Relationships





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- Sort by

Selected facets: Southern Ocean

Sedimentological and geophysical investigation of sediment cores from the Amundsen Sea (2013) +

Hillenbrand, Claus-Dieter; Kuhn, Gerhard; Smith, James A; Gohl, Karsten; Graham, Alastair GC; Larter, Robert D; Klages, Johann Philipp; Downey, Rachel; Moreton, Steven Grahame; Forwick, Matthias; Vaughan, David G
doi:10.1594/PANGAEA.751493

Water content of sediment core PS75/160-1 (2013) +

Hillenbrand, Claus-Dieter; Kuhn, Gerhard; Smith, James A; Gohl, Karsten; Graham, Alastair GC; Larter, Robert D; Klages, Johann Philipp; Downey, Rachel; Moreton, Steven Grahame; Forwick, Matthias; Vaughan, David G
doi:10.1594/PANGAEA.751478

Physical properties of sediment core PS75/160-1 (2013) +

Hillenbrand, Claus-Dieter; Kuhn, Gerhard; Smith, James A; Gohl, Karsten; Graham, Alastair GC; Larter, Robert D; Klages, Johann Philipp; Downey, Rachel; Moreton, Steven Grahame; Forwick, Matthias; Vaughan, David G
doi:10.1594/PANGAEA.751453

Chlorofluorocarbons measured on water bottle samples during POLARSTERN cruise ANT-XXII/3 (2013) +

Huhn, Oliver; Rhein, Monika; Hoppema, Mario; van Heuven, Steven
doi:10.1594/PANGAEA.770667

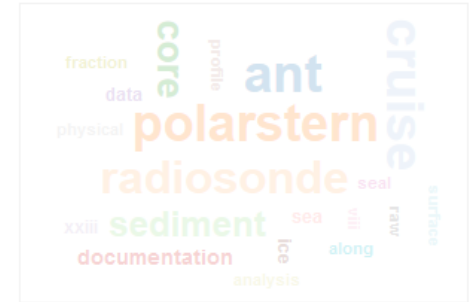
Chlorofluorocarbons and noble gas measured on water bottle samples during POLARSTERN cruise ANT-XXVII/2 (2013) +

Huhn, Oliver; Rhein, Monika; Hoppema, Mario; van Heuven, Steven
doi:10.1594/PANGAEA.820322

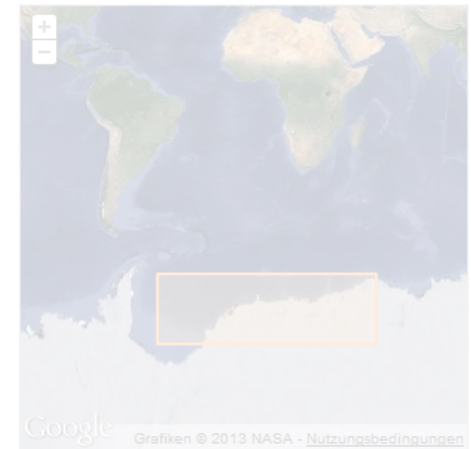
Occurrence of 13 crabeater seals (Lobodon carcinophaga) from ARGOS satellite track observations during campaign DRE1998 (2013) +

Bornemann, Horst; Plötz, Joachim
doi:10.1594/PANGAEA.819980

▼ Keywords

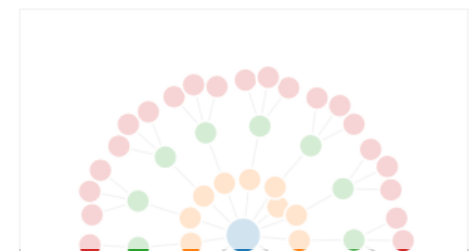


▼ Geographic coverage



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▼ Relationships





Search

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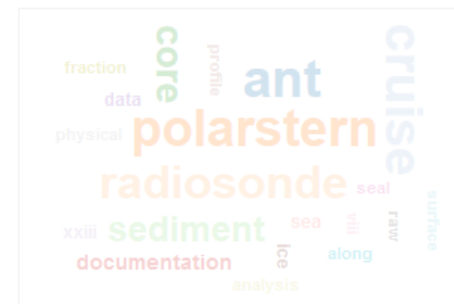
Provider

PANGAEA (8891)

Sort by

Selected facets: Southern Ocean

Keywords



Geographic coverage



Investigation of sediment cores from the Amundsen Sea

Smith, James A; Gohl, Karsten; Graham, Alastair GC; Larter, Rachel; Moreton, Steven Grahame; Forwick, Matthias;



Robert D; Klages, Vaughan, David G
doi:10.1594/PANGAEA.819980

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Chlorofluorocarb
ANT-XXII/3 (2013)

Huhn, Oliver; Rhein
doi:10.1594/PANGAEA.819980

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Chlorofluorocarb
POLARSTERN 0

Huhn, Oliver; Rhein
doi:10.1594/PANGAEA.819980

[tsv](#) [view object](#)

Occurrence of 13 crabeater seals (*Lobodon carcinophaga*) from ARGOS satellite observations during campaign DRE1998 (2013)

Bornemann, Horst; Plötz, Joachim
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[tsv](#) [view object](#)

wav (1)

Region

- ▶ Southern Ocean (8891)
- ▶ Atlantic Ocean (814)
- ▶ Pacific Ocean (807)
- ▶ Indian Ocean (153)
- ▶ Mainland Europe (30)
- more facets...

Author

- König-Langlo, Gert (4332)
- Grobe, Hannes (1356)
- Kuhn, Gerhard (747)
- Fütterer, Dieter K (491)
- Plötz, Joachim (347)
- more facets...

Platform

- Polarstern (8522)
- Dallmann Laboratory (205)



Future Work



- Expedition Information System (EIS)
 - Planning and coordination of expeditions
 - Semi-automatic generation of CSR
- Reporting, e.g. datasets and publications
 - per platform and year, per division and year
- Discipline-oriented products / GIS layers
- Added-value services with PANGAEA, e.g.
 - Accessing and visualization of “big data”

Thank you for your attention!

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