

# Marine Network for Integrated Data Access

Workflows vom Schiff zum Portal Deutsche Meeresforschung

Roland Koppe

- Gefördert durch die Helmholtz Gemeinschaft
- Laufzeit 02/2012 – 07/2014 (Phase 1)
- Koordination durch AWI



- Zentraler Zugriff auf Daten und Informationen
  - Validierte Expeditionsinformationen
  - Archivierte Daten
  - Near Real Time Daten
  - Publikationen und Berichte
- Curation Center (Ticketing)
  - Unterstützung von Workflows
  - Standardisierte Vokabularien und Ontologien
  - Aufbau eines strukturierten Data Managements
- Nachhaltige Infrastruktur



- Breite heterogene Landschaft von Arbeitsabläufen
- Nicht abgestimmte Zuständigkeiten und Mandate
- Daten und Publikationen verteilt über verschiedene
  - Informationssysteme und Repositorien
  - Statische Seiten im Internet





- Expeditionen und Plattformen als Bezugspunkt von Daten bis zur Publikation
- Metadaten zu Expeditionen
  - Verschiedene Anbieter
  - Inkonsistenzen in Bezeichnern, Beginn, Ende, Häfen, u.a.
- Master Catalogue
  - Validierte Metadaten
  - Offen über definierte Schnittstellen verfügbar



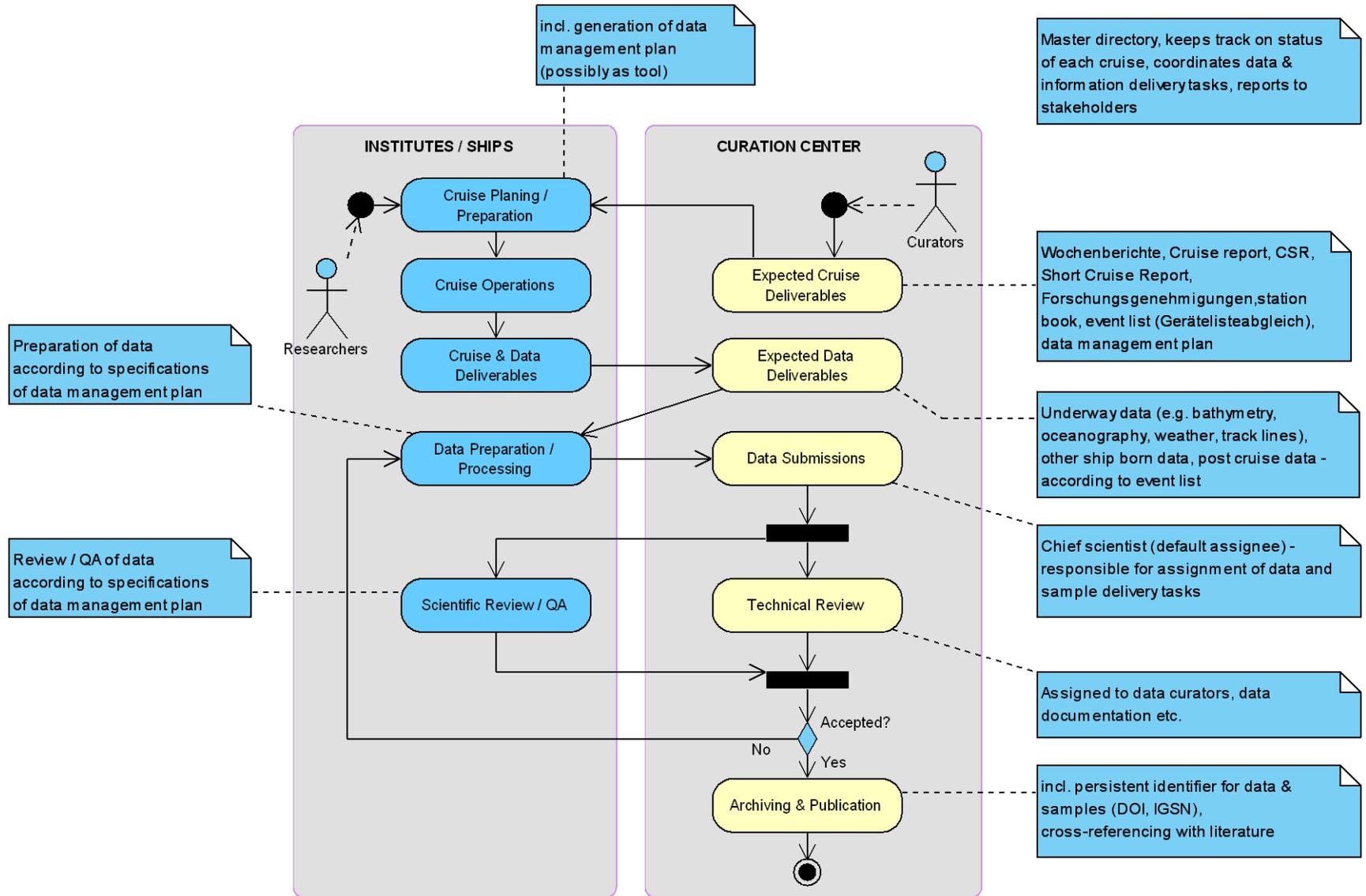
- Validierung von Daten in verschiedenen Ebenen
  - Near Real Time
  - Datenprodukte
  - Datenpublikationen
  
- Unterscheidung von
  - Qualityflags für jeden Datenpunkt
  - Data Level für Datenprodukte

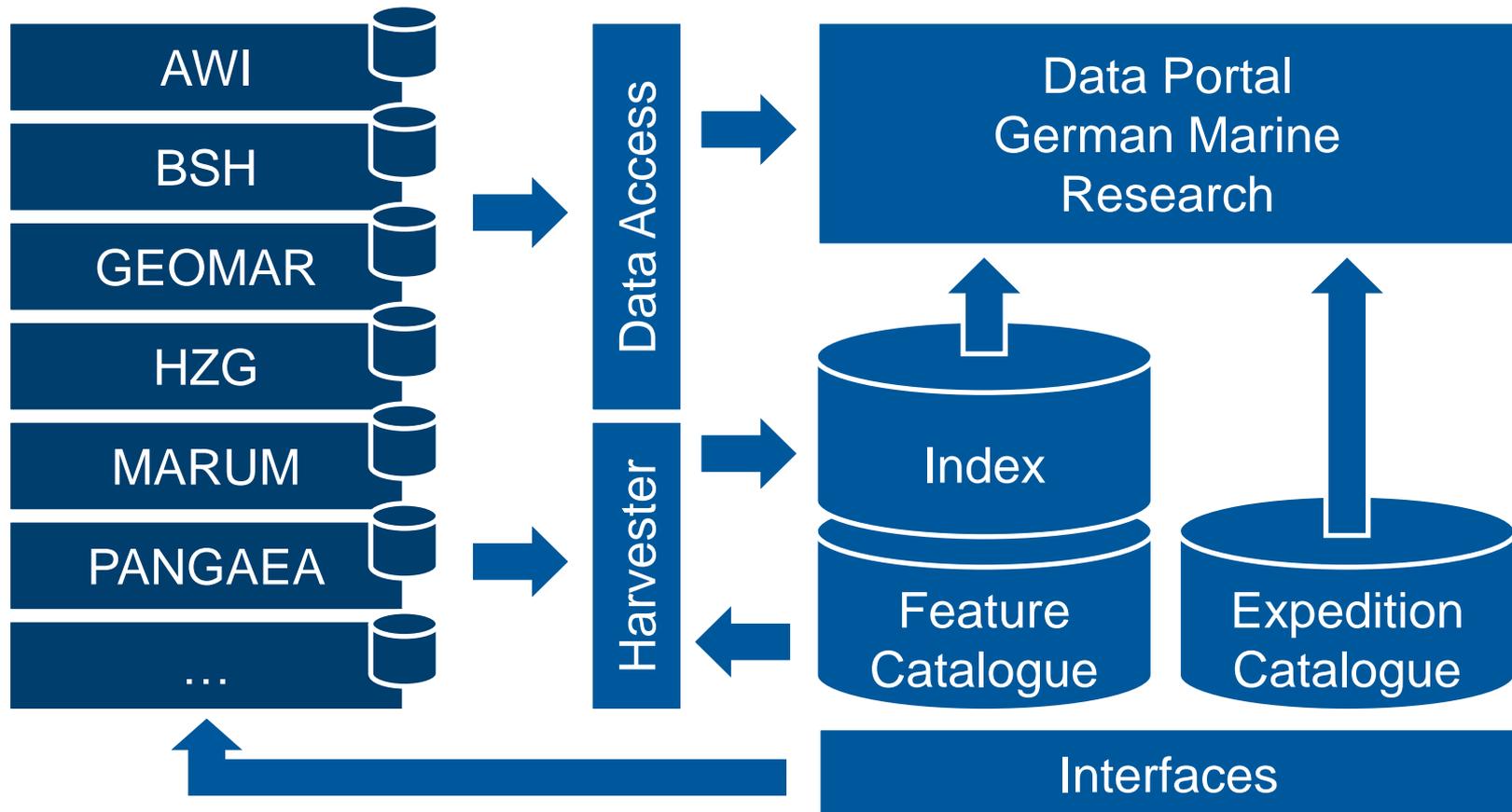


- Archivierung je nach Datentyp
- Near Real Time Data
  - COSYNA – Verschiedene Dateiformate und relational
  - Interne Datenbanken
- Archivierte Daten
  - PANGAEA – Langzeitdatenarchiv
  - BSH DOD – relational
  - Interne Datenbanken



- Veröffentlichung wissenschaftlicher Daten und Publikationen
- Daten
  - PANGAEA – mit DOI und verknüpft mit anderen Objekten
- Publikationen und Berichte
  - EPIC – AWI Repository
  - OceanRep – GEOMAR Repository
  - HZG DC – HZG Repository





- Feature Catalogue
  - Vokabularien zu Parametern, Geräten, Regionen (Gazetteer)
  - Mappings z.B. zwischen Parametern
  - Verbindung mit SeaDataNet, NERC/BODC
- Harvesting von Metadaten zu Daten
  - Metadaten verweisen auf Daten bzw. Dienste (z.B. URL, SOS, WFS)
  - Formate u.a. DC, ISO 19115 / 19139
  - OAI-PMH, CSW
- Annotation von Metadaten durch Feature Catalogue
  - Regionen durch Gazetteer im Feature Catalogue
  - Parameter *Standardnamen*

- Indexierung von Metadaten
  - *Kern*-Metadaten u.a. Titel, Autoren, Datum, Plattform, Expedition
  - Facetten, geographische und zeitliche Indexierung
- Expeditions-Katalog
  - Validierte Expeditionsmetadaten
  - Basis für die Beschreibung von Metadaten zu Daten
- Aggregation von Daten in Vorbereitung
  - Harmonisierung von Parametern erforderlich -> Feature Catalogue
  - Data Warehouse als Backend

## Plattform eingebaute Geräte

ADCP, Thermosalinograph, FerryBox, Weather station, ...



## Plattform mobile Geräte

CTD, Water sampler, Helicopter CTD, Gliders, XBT, ...



## Plattform externe Geräte

Floats, Moorings, Hydrophones, ...



Portal Deutsche Meeresforschung

# Data Portal German Marine Research

## Current expeditions

ANT-XXIX/3 (Polarstern)

Begin 2013-01-20 - Punta Arenas

End 2013-03-19 - Punta Arenas

Coord Knust, R.

Chief Gutt, J.

Region Weddell Sea

[zoom to trackline](#)

## Platforms

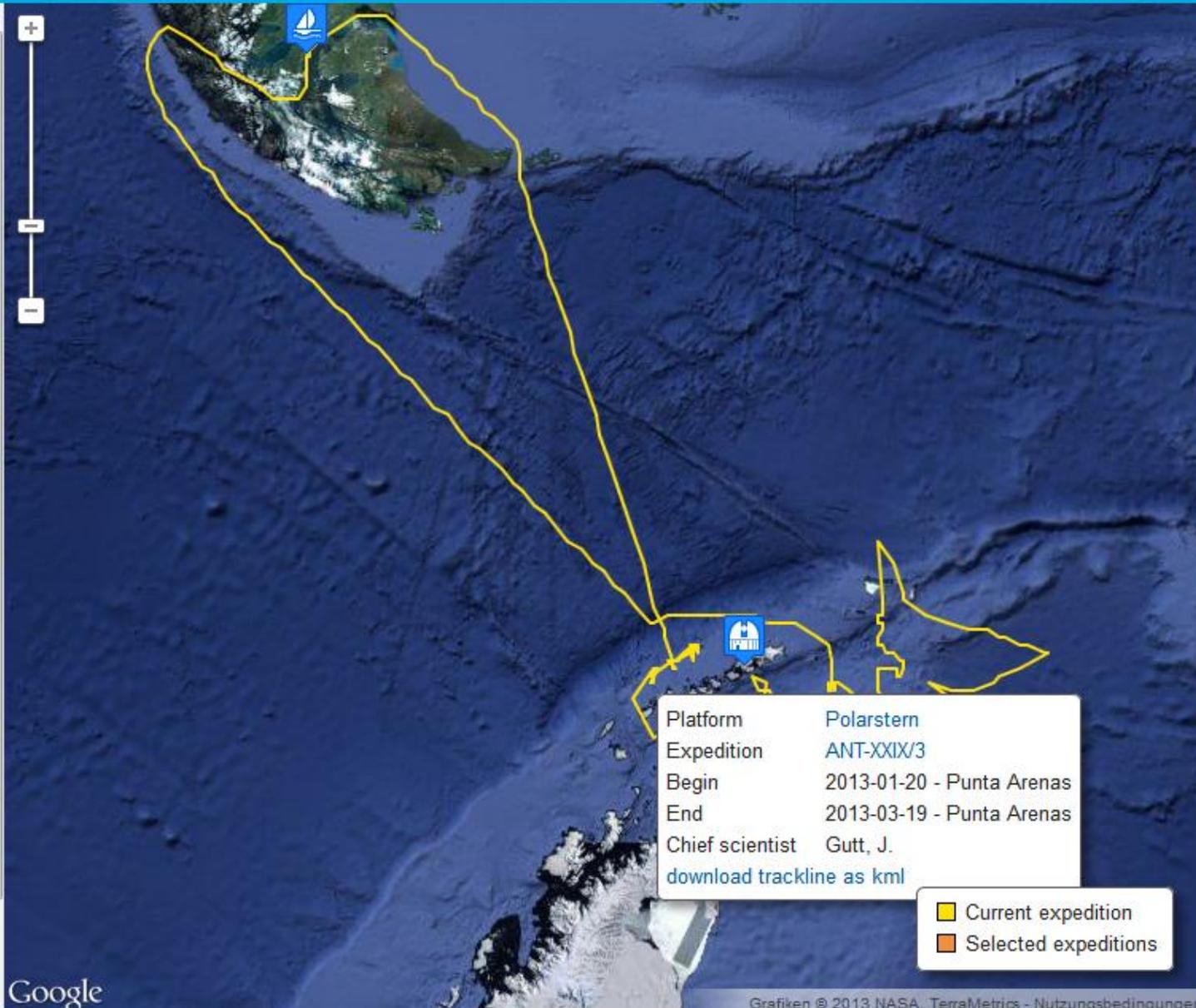
- Alkor
- Elisabeth Mann Borgese
- Heincke
- Littorina
- Maria S. Merian
- Meteor
- Meteor (1924)
- Meteor (1964)
- Meteor (1986)
- Polarstern
- Poseidon
- Senckenberg
- Sonne
- Uthörn

## Temporal coverage

Begin

End

## Search for keyword



Search



Anmelden

Orte

- [Trackline ANT-XXIX](#)  
Trackline for expedition ANT-
- [Trackline ANT-XXIX](#)  
Trackline for expedition ANT-
- [Trackline HE387](#)  
Trackline for expedition HE387.
- [Trackline HE386](#)  
Trackline for expedition HE386.
- [Trackline HE385](#)  
Trackline for expedition HE385.
- [Trackline ARK-XXVII](#)  
Trackline for expedition ARK-
- [Trackline HE384](#)  
Trackline for expedition HE384.
- [Trackline HE382](#)  
Trackline for expedition HE382.
- [Trackline ARK-XXVII](#)  
Trackline for expedition ARK-
- [Trackline HE381](#)  
Trackline for expedition HE381.
- [Trackline HE380](#)  
Trackline for expedition HE380.
- [Trackline HE379](#)  
Trackline for expedition HE379.



Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
 Image IBCAO  
 © 2013 Cnes/Spot Image  
 Image © 2013 TerraMetrics

Google earth



Ebe Google Earth-Galerie >>

Reiseführer

65°20'52.97" N 0°52'03.61" O Höhe 0 m sichthöhe 6907.57 km

# Data Portal German Marine Research

## ▼ Platforms

- Alkor
- Elisabeth Mann Borgese
- Heincke
- Littorina
- Maria S. Merian
- Meteor
- Meteor (1924)
- Meteor (1964)
- Meteor (1986)
- Polarstern
- Poseidon
- Senckenberg
- Sonne
- Uthörn

[select all](#) | [deselect all](#)

## ▼ Temporal coverage

Begin

End

## ▼ Search for keyword

## ▼ Services

[download schedules as pdf](#)

Platform	Expedition	Alias	Begin	End	Chief scientist(s)
Polarstern	ARK-XXVIII/3	PS82	2014-07-30 - Tromsø	2014-10-07 - Bremerhaven	Stein, R.
Polarstern	ARK-XXVIII/2	PS82	2014-06-25 - Longyearbyen	2014-07-28 - Tromsø	Boetius, A.
Polarstern	ARK-XXVIII/1	PS82	2014-05-08 - Bremerhaven	2014-06-23 - Longyearbyen	
Polarstern	ANT-XXIX/10	PS81	2014-03-08 - Cape Town	2014-04-08 - Bremerhaven	Deneke, H.
Polarstern	ANT-XXIX/9	PS81	2013-12-20 - Cape Town	2014-03-05 - Cape Town	Knust, R.
Polarstern	ANT-XXIX/8	PS81	2013-11-09 - Cape Town	2013-12-18 - Cape Town	Schindwein, V.
Polarstern	ANT-XXIX/7	PS81	2013-08-14 - Punta Arenas	2013-10-16 - Cape Town	Meyer, B.
Polarstern	ANT-XXIX/6	PS81	2013-06-08 - Cape Town	2013-08-12 - Punta Arenas	Lemke, P.
Polarstern	ANT-XXIX/5	PS81	2013-04-18 - Punta Arenas	2013-05-29 - Cape Town	Jokat, W.
Polarstern	ANT-XXIX/4	PS81	2013-03-22 - Punta Arenas	2013-04-16 - Punta Arenas	Bohrmann, G.
Polarstern	ANT-XXIX/3	PS81	2013-01-20 - Punta Arenas	2013-03-19 - Punta Arenas	Gutt, J.
Polarstern	ANT-XXIX/2	PS81	2012-11-30 - Cape Town	2013-01-18 - Punta Arenas	Boebel, O.
Polarstern	ANT-XXIX/1	PS81	2012-10-27 - Bremerhaven	2012-11-27 - Cape Town	Auel, H.
Polarstern	ARK-XXVII/3	PS80	2012-08-02 - Tromsø	2012-10-07 - Bremerhaven	Boetius, A.
Polarstern	ARK-XXVII/2	PS80	2012-07-15 - Longyearbyen	2012-07-30 - Tromsø	Soltwedel, T.
Polarstern	ARK-XXVII/1	PS80	2012-06-14 - Bremerhaven	2012-07-15 - Longyearbyen	Beszczyńska-M., A.
Polarstern	ANT-XXVIII/5	PS79	2012-04-10 - Punta Arenas	2012-05-15 - Bremerhaven	Bumke, K.
Polarstern	ANT-XXVIII/4	PS79	2012-03-13 - Punta Arenas	2012-04-09 - Punta Arenas	Lucassen, M.

## Expedition

Expedition	ANT-XXVI/3
Alias	PS75
Begin	2010-01-30 - Wellington
End	2010-04-05 - Punta Arenas
Platforms	Polarstern
Coordinator	
Chief scientists	Gohl, K.
Region	
Project(s)	

### Planned research

(no description available)

### Research description

HIPAS

### Events

### Reports

Cruise Planning Report

Expeditionsprogramm Nr. 84, FS Polarstern, ANT-XXVI/1, ANT-XXVI/2, ANT-XXVI/3, and ANT-XXVI/4 (2009)

Fahrbach, Eberhard

Cruise Report

The expedition of the Research Vessel "Polarstern" to the Amundsen Sea, Antarctica, in 2010 (ANT-XXVI/3) (2010)

Gohl, Karsten

### Archived data

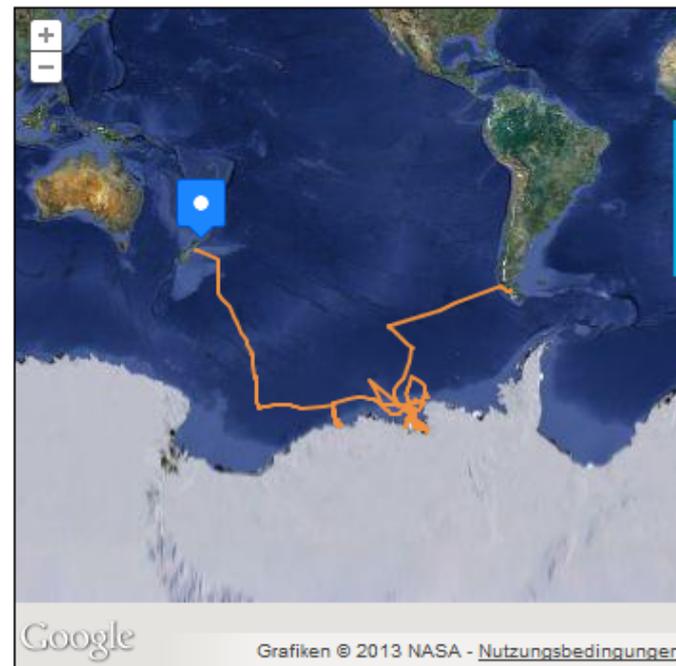
### Publications



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▼ Events

Event	Begin	Lng	Lat	End	Lng	Lat	Device
PS75/3-track	2010-01-30 00:00:00	174,83	-41,28	2010-04-05 00:00:00	-70,91	-53,14	Underway cruise track measurements
PS75/106-1	2010-01-31 00:00:00	173,34	-43,53	2010-01-31 00:00:00	173,35	-43,53	Magnetic Turn Circle
PS75/31134	2010-01-31 00:00:00	175,76	-44,30				Radiosonde
PS75/31135	2010-02-01 00:00:00	179,41	-45,44				Radiosonde
PS75/31136	2010-02-01 00:00:00	-179,37	-45,81				Radiosonde
PS75/107-1	2010-02-02 00:00:00	-178,41	-46,90	2010-02-02 00:00:00	-178,41	-46,93	Magnetic Turn Circle
PS75/31137	2010-02-02 00:00:00	-178,41	-48,26				Radiosonde
PS75/31138	2010-02-02 00:00:00	-178,41	-49,11				Radiosonde
PS75/108-1	2010-02-03 00:00:00	-178,42	-49,26				Test
PS75/31139	2010-02-03 00:00:00	-178,41	-51,37				Radiosonde
PS75/31140	2010-02-03 00:00:00	-178,41	-52,14				Radiosonde
PS75/109-1	2010-02-05 00:00:00	-174,50	-56,97	2010-02-05 00:00:00	-174,50	-56,97	Seismic refraction profile
PS75/31142	2010-02-05 00:00:00	-175,12	-56,56				Radiosonde
PS75/31143	2010-02-05 00:00:00	-174,46	-57,00				Radiosonde



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Feedback

## Search

  
All Archived data Publications Reports Near real time Search

### Selected facets

(no facets selected)

### Provider

- pangaea (357665)
- bsh (31006)
- epic (30925)
- hzg (28447)
- oceanrep (15194)

### Dissemination

- download (402961)
- sos (10227)
- wms (9449)

### Access

- open access (308521)
- access rights needed (66546)
- unrestricted (34904)
- by negotiation (2804)
- licence (712)

### Region

(no facets available)

### Author

- Shipboard Scientific Party (26770)
- WOCE Sea Level, WSL (19649)
- Hofmann, Jutta (19568)
- WOCE Hydrographic Programme

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station OACESWOCEP15S170W-98 (2002)  
Doval, María Dolores; Hansell, Dennis A

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station OACESWOCEP15S170W-99 (2002)  
Doval, María Dolores; Hansell, Dennis A

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station AzoresI-1-0 (2002)  
Doval, María Dolores

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station AzoresI-1-1 (2002)  
Doval, María Dolores

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station AzoresI-10-26 (2002)  
Doval, María Dolores

Part of the global DOC versus AOU (dissolved organic carbon/apparent oxygen utilization) data compilation, hydrographic station AzoresI-10-27 (2002)  
Doval, María Dolores

### Geographic coverage



filter by map bounding box

### Temporal coverage

Begin 2013-04-17

End 2013-04-17

filter by temporal coverage

### Object overview

Expeditions  
(no expeditions associated)

Platforms  
(no platforms associated)

Provider

## The expedition of the Research Vessel "Polarstern" to the Amundsen Sea, Antarctica, in 2010 (ANT-XXVI/3) (2010)

Gohl, Karsten

Type           Cruise Report  
Expedition(s)   ANT-XXVI/3  
Platform(s)     Polarstern  
Provider        epic

[+ Add object to basket](#)

Feedback

### ▼ Abstract

(no abstract available)

### ▼ Associated objects

is referenced by      Continuous thermosalinograph oceanography along POLARSTERN cruise track ANT-XXVI/3  
is referenced by      Continuous meteorological surface measurement during POLARSTERN cruise ANT-XXVI/3  
is referenced by      Meteorological observations during POLARSTERN cruise ANT-XXVI/3

[show map of associated objects](#)

### ▼ Dissemination

Type	Description	Access
 url	original source	open access
 download	Goh2010f.pdf	open access

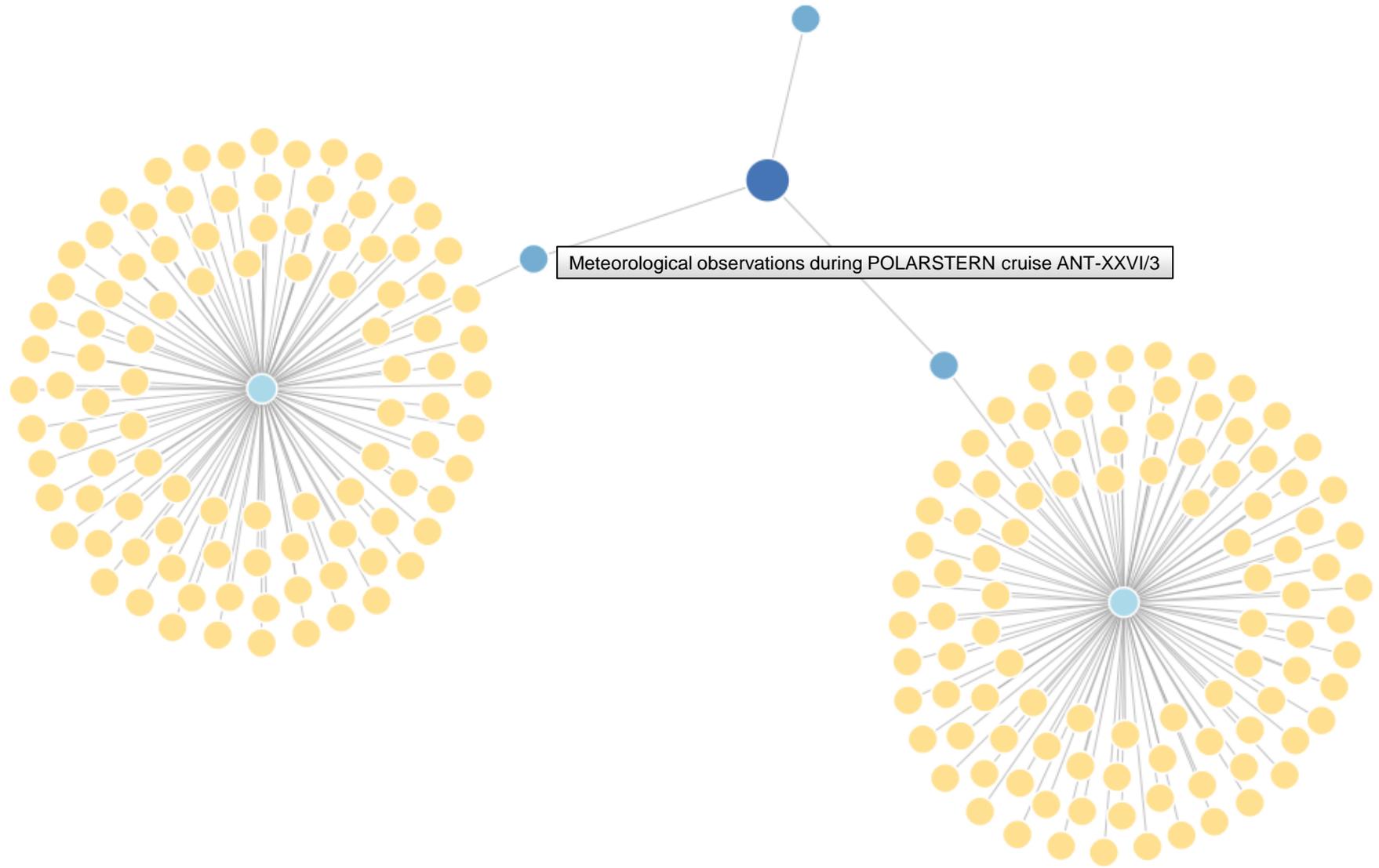
### ▼ Metadata

[download metadata](#)

# Relationships with The expedition of the Research Vessel "Polarstern" to the Amundsen Sea, Antarctica, 2010 (ANT-XXVI/3) (2010)

Gohl, Karsten

hide graph



- Web-Anwendung
  - Apache Tomcat, Spring MVC, Tiles, JSP, Servlets
  - jQuery, Ajax, JSON
- Metadaten Indexierung
  - Apache Lucene mit Taxonomy Erweiterung
- Relationale Datenbanken
  - PostgreSQL mit PostGIS Erweiterung
  - Hibernate ORM
- Autorisierung und Authentifizierung
  - Apache Shiro

# Vielen Dank für die Aufmerksamkeit!

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