

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



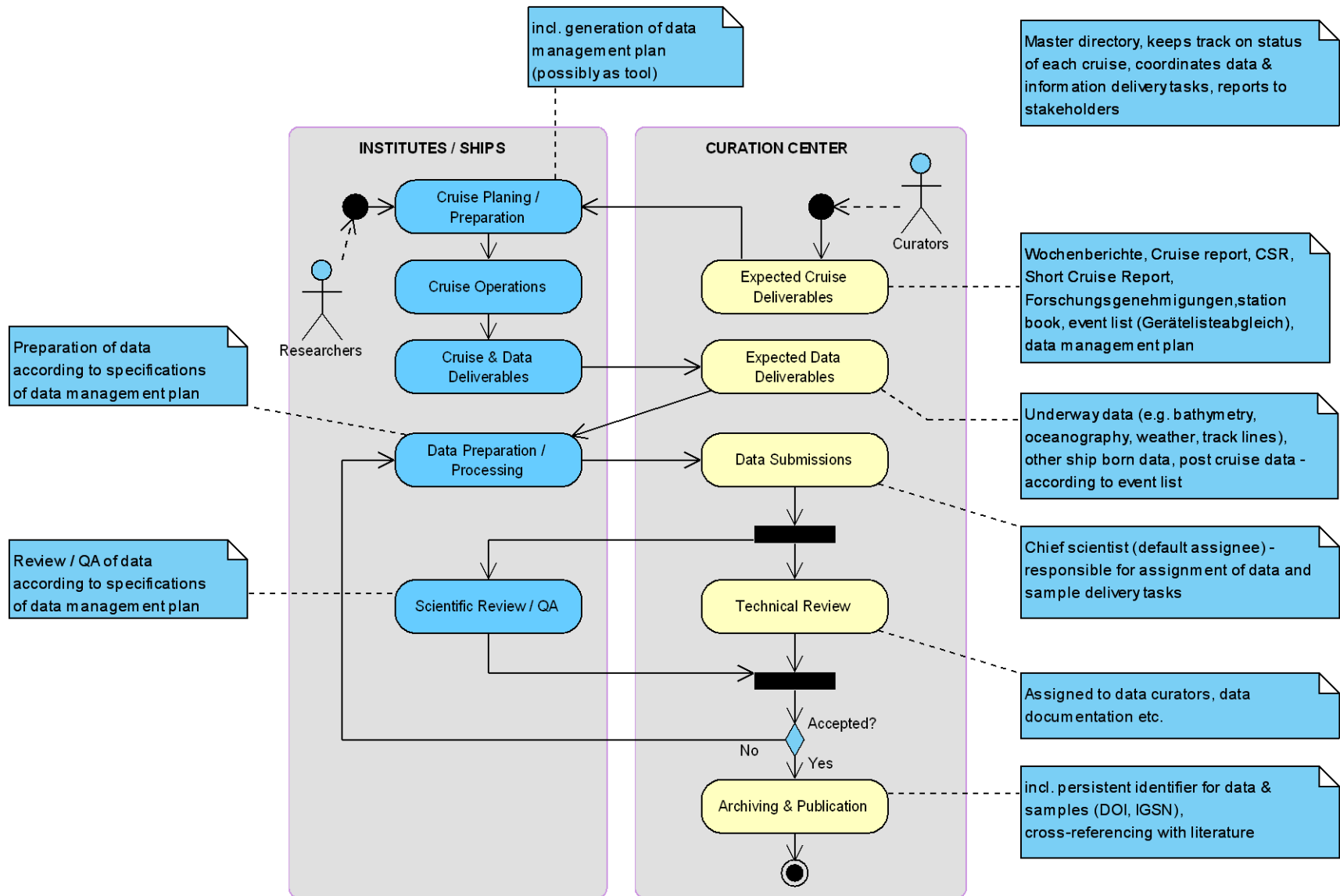
- Archivierung je nach Datentyp

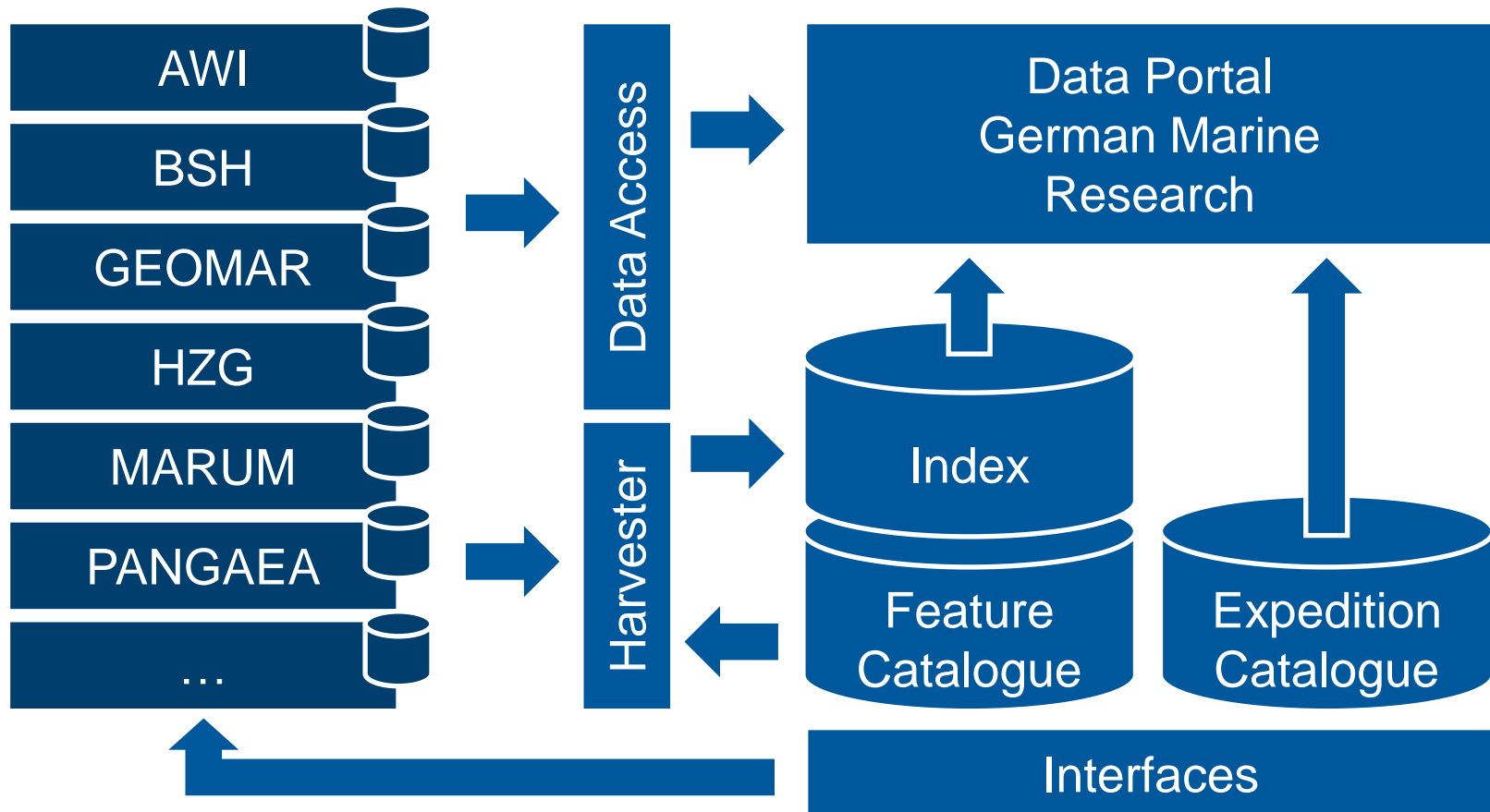
- Near Real Time Data
 - COSYNA – Verschiedene Dateiformate und relational
 - Interne Datenbanken

- 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

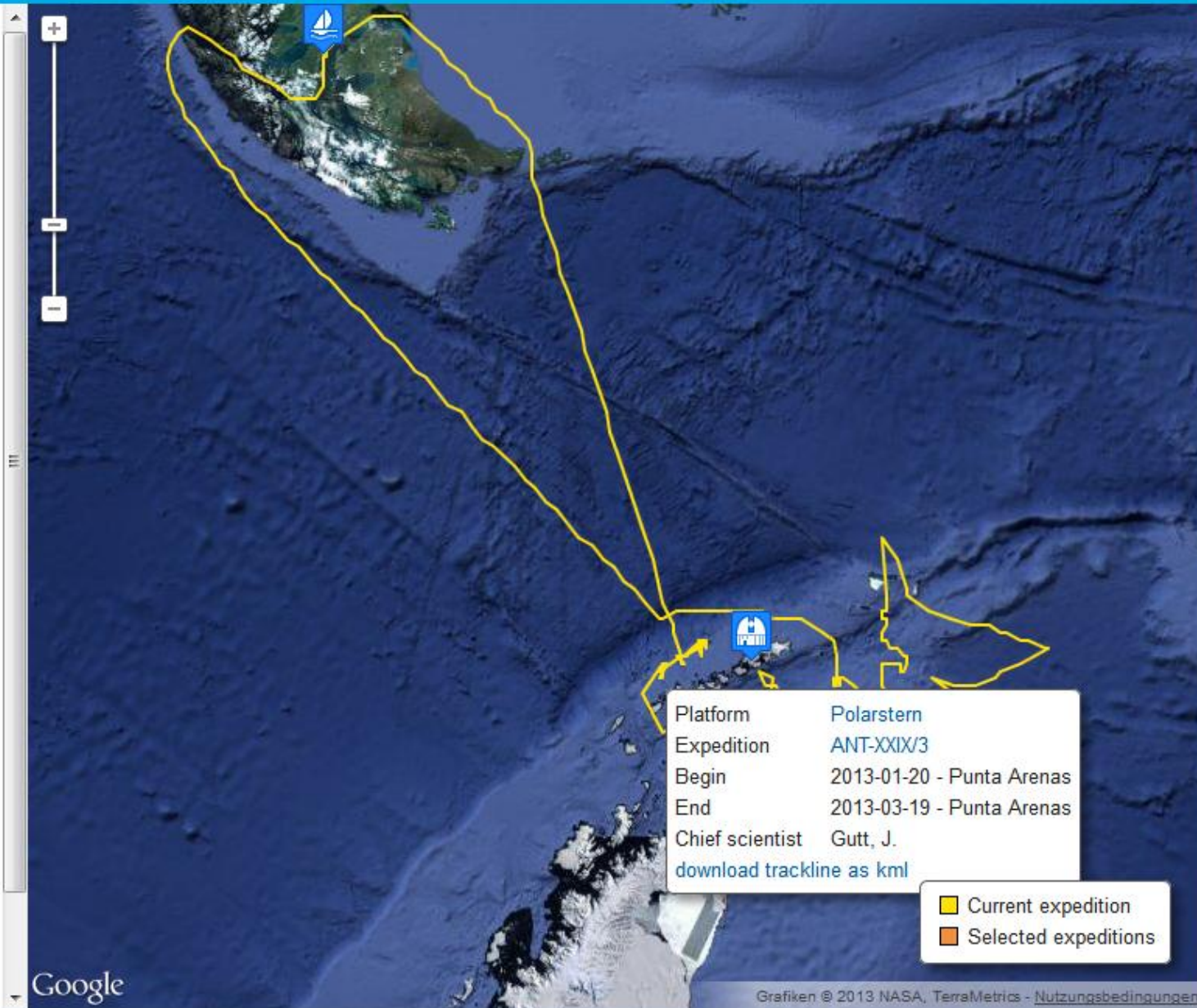
- Alkor
- Elisabeth Mann Borgese
- Heincke
- Littorina
- Maria S. Merian
- Meteor
- Meteor (1924)
- Meteor (1964)
- Meteor (1986)
- Polarstern
- Poseidon
- Senckenberg
- Sonne
- Uthörn

Temporal coverage

Begin

End

Search for keyword



Platform	Polarstern
Expedition	ANT-XXIX/3
Begin	2013-01-20 - Punta Arenas
End	2013-03-19 - Punta Arenas
Chief scientist	Gutt, J.
download trackline as kml	

- Current expedition
- Selected expeditions

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



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

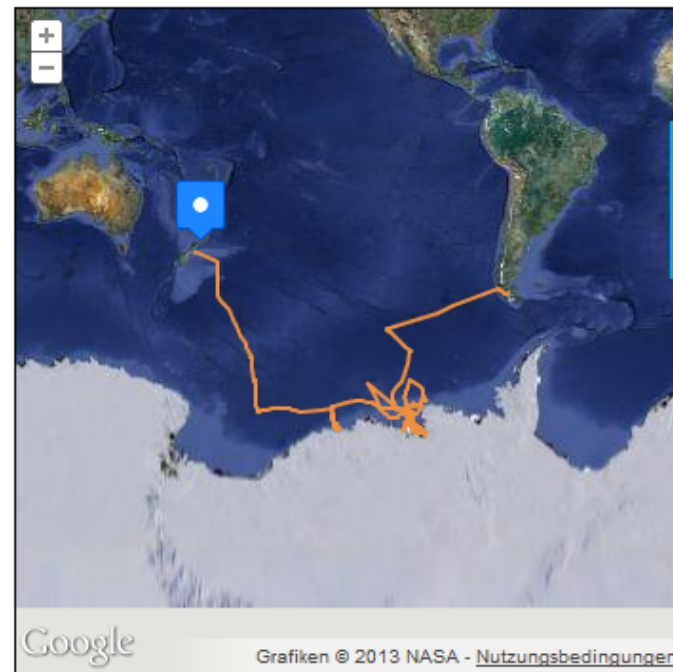
Publications



[download trackline as kml](#) | [zoom to trackline](#)

▼ 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



[download trackline as kml](#) | [zoom to trackline](#)

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

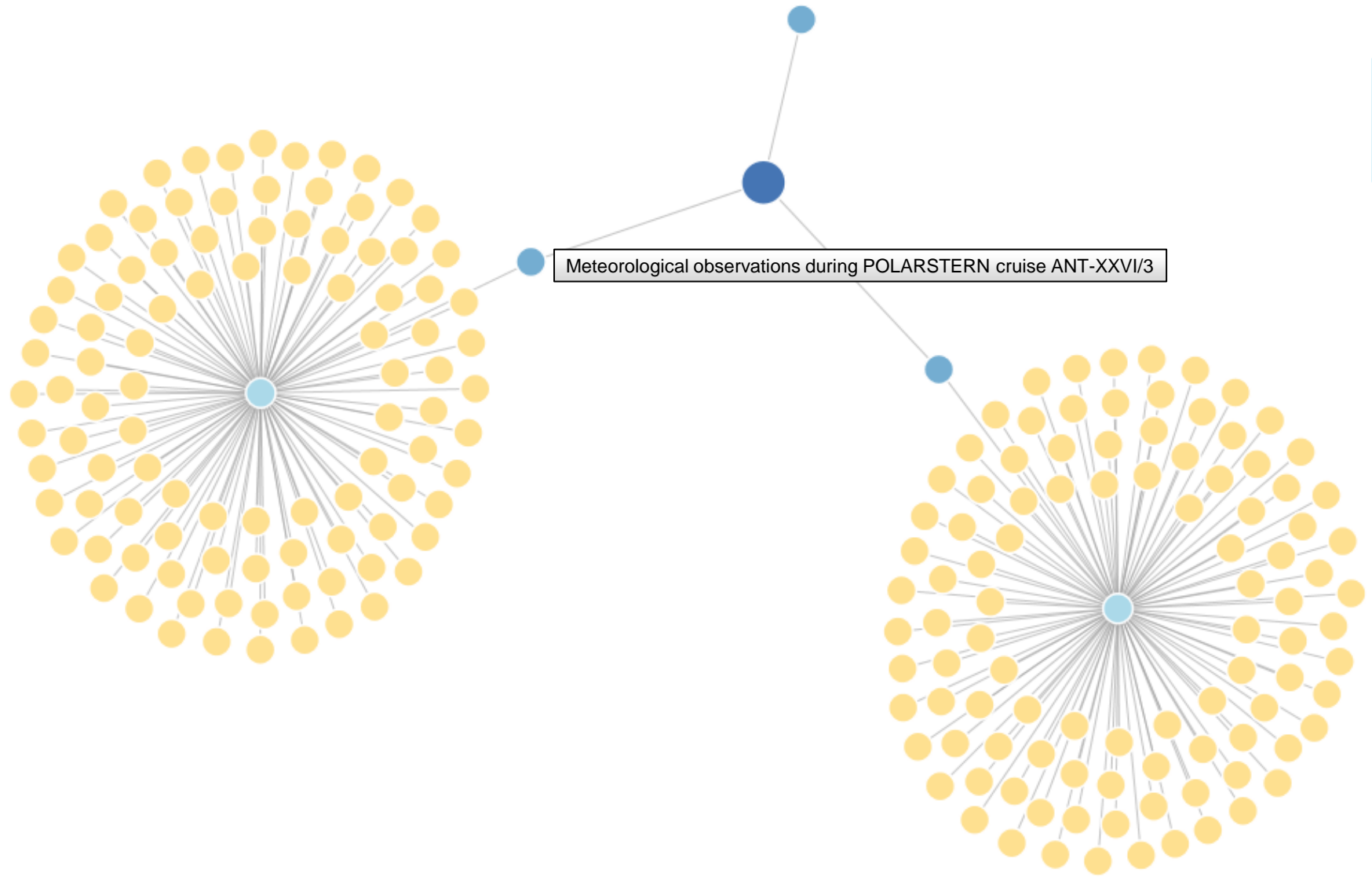
▼ Metadata

[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!

roland.koppe@awi.de