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-XXIV/7 (Polarstern)**
  - Start: 2013-08-14 - Punta Arenas
  - End: 2013-10-15 - Cape Town

- **HE410 (Heincke)**
  - Start: 2013-10-04 - Bremerhaven
  - End: 2013-10-15 - Bremerhaven

**Platforms**

- Heincke
- Polarstern

**Temporal coverage**

- **Start**: 2013-10-15
- **End**: 2013-10-15

**Search for keyword**

**Layers**

- Stations
- DTOM Fram Strait
- DTOM Knipovich Ridge
- DTOM Scotia Sea
- Arctic Sea Ice
- Antarctic Sea Ice

**Services**

- Download tracklines as KML
- Download schedules as PDF
- Download schedules as XLSX

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**Near real time data**

- **Heincke**
  - Air temperature: 10.4°C
  - Wind direction: SW
  - Wind speed: 2.5 m/s
  - Water temperature: 13.3°C

- **Polarstern**
  - Air temperature: 15.0°C
  - Wind direction: W
  - Wind speed: 10.1 m/s
  - Water temperature: 0.0°C

- **Neumayer III Station**
  - Air temperature: -22.0°C
  - Wind direction: NW
  - Wind speed: 16.1 m/s

- **AVIPEV Station**
  - Air temperature: -7.2°C
  - Wind direction: SW
  - Wind speed: 1.7 m/s

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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 transect dimensions (2013)
- Documentation of sediment core PS75/214-1 (2013)
- Documentation of sediment core PS75/167-1 (2013)

**Publications**

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

Scientific Information
- Underway
- Publications
- Reports
- Bathymetry
- Seismic
- PANGAEA
- BSH
- COSYNA

Core Components
- Expedition Catalogue
- Generalized Tracklines
- DSHIP Data Acquisition

Services & Interoperability
- Vocabularies
- Gazetteer
- GIS
- NRT
- Reporting
Architecture

EXPEDIATION Portal

Planning

Reporting

Near Real Time Data

Reports and Publications

DShip Data Acquisition System

Expedition Catalogue
Coordination & Logistics

Arndt

Steinhage
Architecture

EXPEDITION Portal

Data Providers

DShip Data Acquisition System

Expedition Catalogue
Coordination & Logistics

Arndt
Steinhage
Facets to restrict results, e.g.

- Platform (research vessel)
- Chief scientist
- Project
- Device
<table>
<thead>
<tr>
<th>Platform</th>
<th>Expedition</th>
<th>Alias</th>
<th>Begin</th>
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Expedition

Expedition: ANT-XVII2
Alias: PS81
Begin: 2012-11-30 - Cape Town
End: 2013-01-18 - Punta Arenas
Platforms: Polarstern
Coordinator: Knust, R.
Chief scientists: Bebel, O.
Region: Atlantic Sector of Southern Ocean

Planned research
Physical Oceanography, geophysics, HAFOS, SWEAP

Research description

Events

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</table>
**Reports**
- Cruise Planning Report
- Experimentsprogramm Nr. 90, FS Polarstern, ANT-XX/1, ANT-XX/2, ANT-XX/3 (2012)
- Knust, Rainer

**Archived data**
- Continuous thermosalinograph oceanography along POLARSTERN cruise track ANT-XX/2 (2013)
  - Rohardt, Gerd
- Continuous meteorological surface measurement during POLARSTERN cruise ANT-XX/2 (2013)
  - König-Langlo, Gert
- Meteorological observations during POLARSTERN cruise ANT-XX/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 11:05h (2013)
  - König-Langlo, Gert

**Publications**
  - 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)
  - Retting, Stefanie; Boebel, Olaf; Menze, Sebastian; Kindermann, Lars; Thomisch, Karolin; van Opzeeland, Ilse
- Conference item: LOCAL TO BASIN SCALE ARRAYS FOR PASSIVE ACOUSTIC MONITORING IN THE ATLANTIC SECTOR OF THE SOUTHERN OCEAN (2013)
  - Retting, Stefanie; Boebel, Olaf; Menze, Sebastian; Kindermann, Lars; Thomisch, Karolin; van Opzeeland, Ilse
Facets to restrict results, e.g.

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

...
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; Förwick, 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; Förwick, 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; Förwick, 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.770867

Chlorofluorocarbons and noble gas measured on water bottle samples during POLARSTERN cruise ANT-XXII/2 (2013)
Huhn, Oliver; Rhein, Monika; Hoppema, Mario; van Heuven, Steven

doi:10.1594/PANGAEA.820322

Occurrence of 13 crab eater seals (Lobodon carcinophaga) from ARGOS satellite track observations during campaign DRE1998 (2013)
Bornemann, Horst; Plötz, Joachim

doi:10.1594/PANGAEA.819660
Investigation of sediment cores from the Amundsen Sea

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

Chlorofluorocarbons from ANT-XXIII/3 (2013)
Huhn, Oliver; Huhn, Kerstin; Förster, Bernd; Förster, Christian; Glatzel, Jochen; Köster, Jan; Leipold, Matthias; Weis, Wolfgang; Wirth, Werner; Khripounoff, Andrei

Occurrence of 13 crabeater seals (Lobodon carcinophaga) from ARGOS satellite observations during campaign DRE1998 (2013)
Bornemann, Horst; Plotz, Joachim

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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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