Online Sea Ice Data Platform

seaiceportal.de **meereisportal.de**

Universität Bremen

ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

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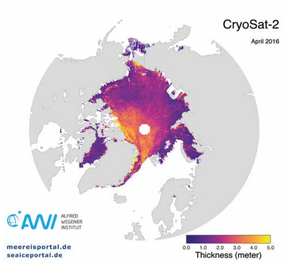
Remote Sensing Products

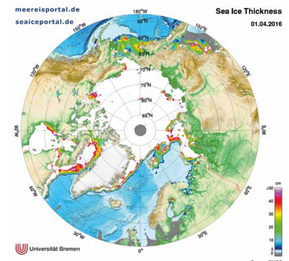
Sea Ice Thickness

CryoSat-2



Monthly gridded fields at 25 km resolution since November 2010: sea ice thickness & uncertainty,freeboard, lead fraction, snow depth, etc..

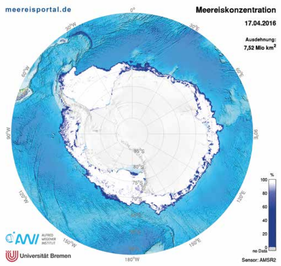
SMOS



Daily gridded (12.5 km) thickness of thin sea ice since October 2010.

- Ricker et al. (2014, The Cryosphere, doi:10.5194/tc-8-1607-2014)
- Huntemann et al. (2014, The Cryosphere, doi:10.5194/tc-8-439-2014)

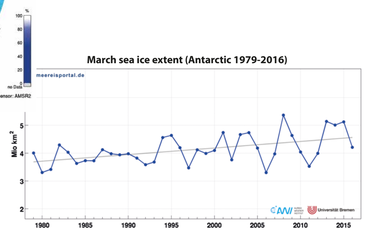
Sea Ice Concentration



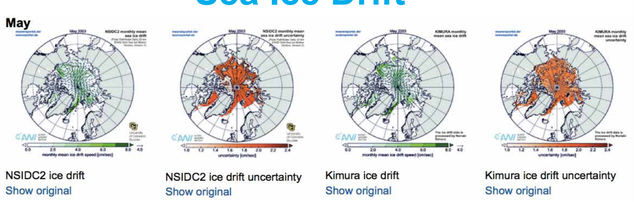
Daily data products (Universität Bremen) from AMSR-E and AMSR2 microwave sensors and ASI algorithm since 2002.

- Spreen et al. (2008, JGR-Oceans, doi:10.1029/2005JC003384)

Additional charts with analysis and trends are available and regularly updated.



Sea Ice Drift



Monthly mean sea ice drift in summer (May to July) for the Arctic Ocean from 2003 to 2007 for 2 algorithms: NSIDC2 and Kimura. - Sumata et al. (2015, JGR-Oceans, doi: 10.1002/2015JC010810)

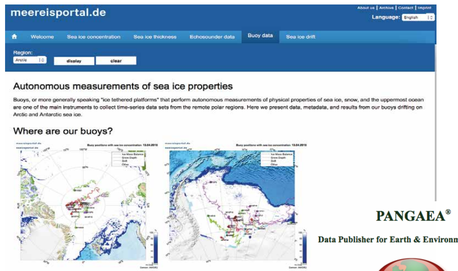
data.seaiceportal.de

The data portal

seaiceportal.de was launched in April 2013. Since then, near-real time and archive data of many key parameters of sea ice and its snow cover are provided.

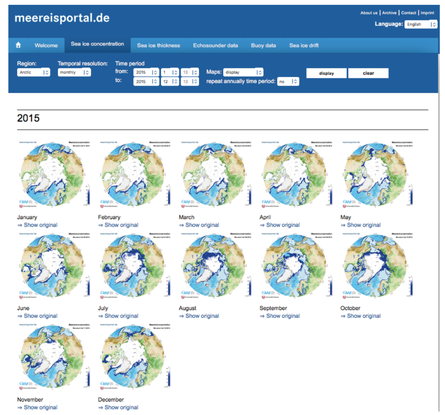
The portal provides unique data sets, describing the status of sea ice in the Arctic and Antarctic, including easy data access.

Quality controlled final data sets are directly transfered to the data archive and publication system Pangaea.de.



- Grosfeld et al. (2016, Polarforschung)

PANGAEA®
Data Publisher for Earth & Environmental Science



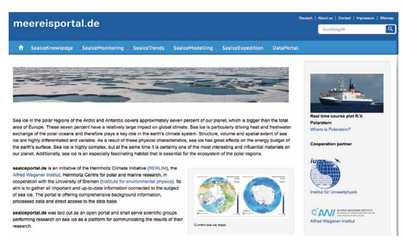
Content types of the data portal:
- Pre-processed data sets for download
- Plots for immediate use
- Documentation and meta data sets
- Near real-time and historic data sets

Additional benefit:
- Immediate interaction with experts on individual data sets / sources.

www.seaiceportal.de

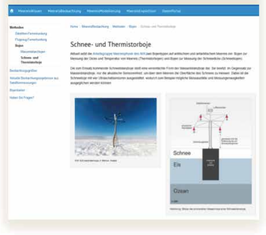
The knowledge portal

Provides general comprehensive background information on sea ice and snow as well as expert statements on recent observations and developments. This is mostly in German to complement existing international sites.



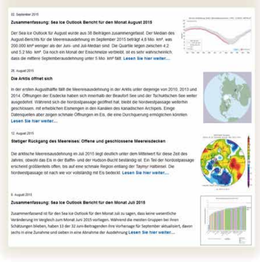
Information

- provides various background information about different sea ice aspects
- covering questions are: *How is sea ice formed?, Which role does sea ice play for global climate?*, or *How is sea ice explored?*
- includes user feedback form for questions and comments



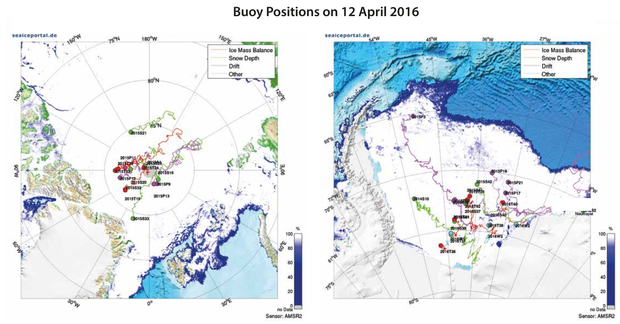
Expert statements

- presentations of actual sea ice conditions
- information about recent expeditions
- results from the sea ice outlook and sea ice modelling

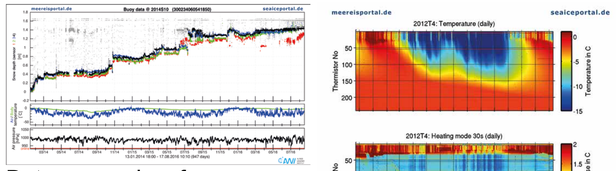


Buoy Data Products

Snow and Sea Ice Parameters



Sea ice and snow temperatures and thickness as well as atmospheric measurements and drift information are available from autonomous platforms since 2011.



Data examples from a snow buoy (top) and a thermistor string mass balance buoy (right).
Data are processed and plotted in near real time, depending on data availability per buoy type.

Outlook

Inclusion of additional data sets, e.g. from
- Ship (bridge) observations
- Sea ice station measurements
- Moorings in ice covered waters
- Other satellites
- Additional buoy types
- Monitoring sites, e.g. Antarctic Fast Ice Network
- Results from numerical models, e.g. from IPCC AR5

Interested? Feedback wanted!

Extension and improvement of metadata descriptions
Direct connection to a sensor data base
Improvements on the web front-end

Deutschland Land der Ideen
Awarded in 2015

Acknowlegement
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