

Cruise tracks from RVIB Nathaniel B. Palmer cruises NBP1310B and NBP1409 in the Ross Sea, Western Antarctic Peninsula, Antarctic, Antarctic Peninsula from 2013 to 2014 (PHANTASTIC project)

Website: <https://www.bco-dmo.org/dataset/550307>

Version: 07 January 2016

Version Date: 2016-01-07

Project

» [Phaeocystis antarctica adaptive responses in the Antarctic ecosystem](#) (PHANTASTIC)

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Table of Contents

- [Dataset Description](#)
 - [Methods & Sampling](#)
 - [Data Processing Description](#)
- [Data Files](#)
- [Parameters](#)
- [Instruments](#)
- [Deployments](#)
- [Project Information](#)
- [Funding](#)

Dataset Description

NBP1310B and NBP1409 Cruise tracks generated from MGDS:Nav files
Cruise Id, Date/Time UTC, Lat, Lon, SOG, COG
1 minute fixes

Marine Geoscience Data System (MGDS): [NBP1310B](#)

Marine Geoscience Data System (MGDS): [NBP1409](#)

Methods & Sampling

Processed ship-based Navigation Data (version 2) from the Southern Ocean acquired during the Nathaniel B. Palmer expedition NBP1310B (2013-2014) and NBP1409 (2014)

[Cruise Report - NBP1409](#)

Data Processing Description

Quality 2 - The data have been processed/modified to a level beyond that of basic quality control (e.g. final processed sonar data, photo-mosaics).

BCO-DMO Processing Notes

- Generated from NBP1310B and NBP1409 Primary Navigation data (quality version 2) downloaded from the Marine GeoScience Data System (MGDS)

Marine Geoscience Data System (MGDS): [NBP1310B](#)

Marine Geoscience Data System (MGDS): [NBP1409](#)

- Awk routine generated to reformat original files into BCO-DMO servable file format
- Awk routine: "MGDS_Nav_2_CruiseTrack.awk"
- Parameter names generated to conform to BCO-DMO naming convention found at [Choosing Parameter Name](#)
- Date/Time reformatted to ISO DateTime format
- Cruise Id added to data
- SOG and COG values not reported in original files
- SOG and COG (both set to 0.0) added to each data record for compatibility with other BCO-DMO cruise track datasets

[[table of contents](#) | [back to top](#)]

Data Files

File
CruiseTracks.csv (Comma Separated Values (.csv), 6.63 MB) MD5:8bf348ded453dad76ec5b2a8041530c1
Primary data file for dataset ID 550307

[[table of contents](#) | [back to top](#)]

Parameters

Parameter	Description	Units
CruiseId	Official UNOLS cruise id	text
ISO_DateTime_UTC	ISO formatted UTC Date and Time	YYYY-MM-DDTHH:MM:SSZ
Latitude	Latitude Position (South is negative)	decimal degrees
Longitude	Longitude Position (West is negative)	decimal degrees
SOG	Instantaneous Speed-over-ground	meters/sec
COG	Instantaneous Course-over-ground [deg. clockwise from North]	decimal degrees

[[table of contents](#) | [back to top](#)]

Instruments

Dataset-specific Instrument Name	GPS
Generic Instrument Name	Global Positioning System Receiver
Dataset-specific Description	This data set was acquired with a ship-based Navigation system
Generic Instrument Description	The Global Positioning System (GPS) is a U.S. space-based radionavigation system that provides reliable positioning, navigation, and timing services to civilian users on a continuous worldwide basis. The U.S. Air Force develops, maintains, and operates the space and control segments of the NAVSTAR GPS transmitter system. Ships use a variety of receivers (e.g. Trimble and Ashtech) to interpret the GPS signal and determine accurate latitude and longitude.

[[table of contents](#) | [back to top](#)]

Deployments

NBP1310B

Website	https://www.bco-dmo.org/deployment/546764
Platform	RVIB Nathaniel B. Palmer
Start Date	2013-12-03
End Date	2014-01-23
Description	Marine Geoscience Data System (MGDS): NBP1310B Nathaniel B. Palmer Systems and Specifications

NBP1409

Website	https://www.bco-dmo.org/deployment/631736
Platform	RVIB Nathaniel B. Palmer
Report	http://dmoserv3.who.edu/data_docs/PHANTASTIC/PhantasticII_Cruise_Report_NBP1409.pdf
Start Date	2014-10-26
End Date	2014-11-26
Description	Marine Geoscience Data System (MGDS): NBP1409 Cruise Track Image Nathaniel B. Palmer Systems and Specifications

[[table of contents](#) | [back to top](#)]

Project Information

Phaeocystis antarctica adaptive responses in the Antarctic ecosystem (PHANTASTIC)

Website: <http://ocean.stanford.edu/phantastic/>

Coverage: Ross Sea, Western Antarctic Peninsula, Antarctic Circumpolar Current

Global climate change is having significant effects on areas of the Southern Ocean, and a better understanding of this ecosystem will permit predictions about the large-scale implications of these shifts. The haptophyte *Phaeocystis antarctica* is an important component of the phytoplankton communities in this region, but little is known about the factors controlling its distribution. Preliminary data suggest that *P. antarctica* possesses unique adaptations that allow it to thrive in regions with dynamic light regimes. This research will extend these results to identify the physiological and genetic mechanisms that affect the growth and distribution of *P. antarctica*. This work will use field and laboratory-based studies and a suite of modern molecular techniques to better understand the biogeography and physiology of this key organism. Results will be widely disseminated through publications as well as through presentations at national and international meetings. In addition, raw data will be made available through open-access databases. This project will support the research and training of two graduate students and will foster an established international collaboration with Dutch scientists. Researchers on this project will participate in outreach programs targeting K12 teachers as well as high school students.

[[table of contents](#) | [back to top](#)]

Funding

Funding Source	Award
NSF Office of Polar Programs (formerly NSF PLR) (NSF OPP)	OPP-1142095
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[[table of contents](#) | [back to top](#)]