

Ran missions from Nathaniel B. Palmer cruise NBP1902 - Ran missions NBP009 and NBP011 from Nathaniel B Palmer cruise NBP1902

SND-ID: 2020-193-1. **Version:** 1. **DOI:** <https://doi.org/10.5878/yw26-vc65>

Download data

CTDO2_NBP19_02_009.csv (6.04 MB)

CTDO2_NBP19_02_011.csv (5.95 MB)

RawData/NBP1902_009_SBE19.zip (14 MB)

RawData/NBP1902_011_SBE19.zip (16.27 MB)

Associated documentation

Readme_NBP.pdf (285.31 KB)

Seabird_Scientific_formats.txt (387 bytes)

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2020-193-1-1.zip (~42.54 MB)

Citation

Wåhlin, A. (2021) Ran missions from Nathaniel B. Palmer cruise NBP1902 - Ran missions NBP009 and NBP011 from Nathaniel B Palmer cruise NBP1902 (Version 1) [Data set]. University of Gothenburg. Available at: <https://doi.org/10.5878/yw26-vc65>

Creator/Principal investigator(s)

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Research principal

[University of Gothenburg](#) - Department of Marine Sciences, Marine Infrastructure

Principal's reference number

NBP011

NBP009

Description

Temperature, salinity and dissolved oxygen from several missions with the Ran AUV during the Palmer cruise NBP1902 to the Amundsen Sea.

Variable List:

Date and time (UTC)

Latitude (decimal degree)

Longitude (decimal degree)

Pressure (dBar)

Absolute salinity S_A (g/kg), calculated according to www.teos-10.org & <http://www.teos-10.org>;

Conservative temperature (degrees), calculated according to

www.teos-10.org<<http://www.teos-10.org>>

Dissolved oxygen (ml/l)

Matlab time (numeric)

AUV mission 009 from NBP1902.

The mission went partway (0.6 km) underneath Thwaites glacier.

AUV mission 011 from NBP1902.

The mission went partway (3 km) underneath Thwaites glacier.

The autonomous underwater vehicle 'Ran' is a Kongsberg Hugin AUV depth-rated to 3000 m. It is equipped with a Honeywell Hg9900 inertial navigation unit, aided with Nortek 500 kHz upward- and downward-looking doppler velocity loggers (DVL). Navigation was also aided by deploying several underwater transponders (UTP, cNode maxi) at the sea floor. The AUV was equipped with two SeaBird SBE19plus V2 systems for conductivity, temperature and depth (CTD) and two SeaBird SBE43 sensors for dissolved oxygen. The post-cruise calibrated data set from these two sensors are provided here in 1 s bins.

Variable List:

Date and time (UTC)

Latitude (decimal degree)

Longitude (decimal degree)

Pressure (dBar)

Absolute salinity S_A (g/kg), calculated according to www.teos-10.org<<http://www.teos-10.org>>

Conservative temperature (degrees), calculated according to

www.teos-10.org<<http://www.teos-10.org>>

Dissolved oxygen (ml/l)

Matlab time (numeric)

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

2019-02-03 - 2019-03-09

Variables

8

Data format / data structure

[Numeric](#)

[Text](#)

Geographic spread

Geographic location: [Antarctica](#)

Geographic description: Amundsen Sea, West Antarctica, including partway under Thwaites Glacier.

Responsible department/unit

Department of Marine Sciences, Marine Infrastructure

Contributor(s)

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Jonas Andersson - MMT Sweden AB

Funding 1

- Funding agency: Natural Environment Research Council
- Funding agency's reference number: NE/S006419/1, NE/S006664/1

Funding 2

- Funding agency: National Science Foundation, Office of Polar Programs
- Funding agency's reference number: 1929991, 1738942

Funding 3

- Funding agency: Swedish Foundation for Strategic Research, project: Swedish Maritime Robotics Centre (SMarC)
- Funding agency's reference number: IRC15-0046

Research area

[Oceanography, hydrology and water resources](#) (Standard för svensk indelning av forskningsämnen 2011)

[Oceans](#) (INSPIRE topic categories)

Keywords

[Glaciers/ice sheets](#), [Cryospheric indicators](#), [Antarctica](#), [Polar region](#), [Hydrography](#), [Ocean-ice interaction](#), [Amundsen sea](#), [Ice shelves](#), [Autonomous underwater vehicle \(auv\)](#), [Thwaites glacier](#)

Publications

A. K. Wåhlin, A. Graham, K. A. Hogan, B. Y. Queste, L. Boehme, R. Larter, E. Pettit, J. Wellner and K. J. Heywood, Pathways and modification of warm water flowing beneath Thwaites Ice Shelf, West Antarctica. *Science Advances* 7, eabd7254 (2021).

DOI: <https://doi.org/10.1126/sciadv.abd7254>

A. K. Wåhlin, An AUV underneath the 'Doomsday glacier': Revealing pathways and modification of warm water flowing beneath Thwaites ice shelf, West Antarctica. Presented at the 2020 IEEE OES Autonomous Underwater Vehicle Symposium, St. Johns, NL, Canada, September 30-October 2, 2020.

International Thwaites Glacier Collaboration. (2019). Nathaniel B. Palmer : Cruise NBP1902. Version 1.0. Rolling Deck to Repository (R2R).

DOI: <https://doi.org/10.7284/908147>

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Polygon (Lon/Lat)

-106.79397339128, -74.698237260256

-106.79397339128, -75.269826716301

-104.37075144089, -75.269826716301

-104.37075144089, -74.698237260256

-106.79397339128, -74.698237260256

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1. 2021-02-10

Homepage

<https://thwaitesglacier.org/>

This resource has the following relations

Is part of [Nathaniel B. Palmer : Cruise NBP1902](#)

Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

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[File overview \(CSV\)](#)

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