

Geophysics data management at the UK Polar Data Centre

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UK Polar Data Centre, British Antarctic Survey

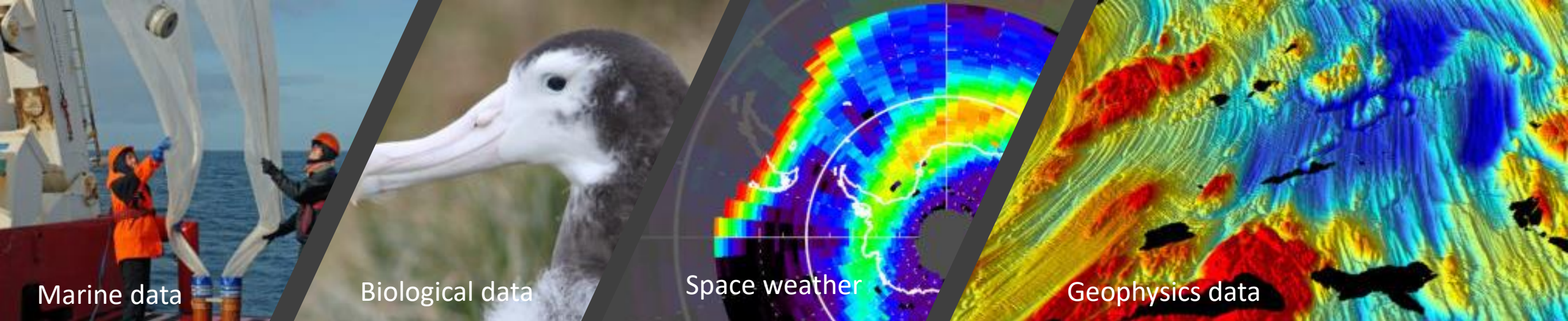


UK Polar Data Centre (PDC)



- Long-term repository for polar and cryospheric data.
- Part of the NERC Environmental Data Service (EDS)
- Based at the British Antarctic Survey
- **PDC coordinate the management of polar data from UK-funded research and support researchers in complying with national and international data legislation and policy.**
- Helps the UK to meet article III 1c of the Antarctic Treaty: “scientific observations and results from Antarctica shall be exchanged and made freely available”.





Marine data


Biological data

Space weather


Geophysics data

Data handled at the UK PDC

- Reflecting the multidisciplinary nature of polar science, the datasets handled by the data centre are extremely diverse.



Ozone and meteorological data



Physical samples

Data Management of Geophysics data

DATA PROVIDERS

1

Grant application with
description of the
research project



2

Data Management
Plan



3

Data acquisition

DATA PRESERVATION PLANNING

Assure preservation

Monitor new technology

Propose and maintain tools/software

PROCESSING + QC

Data processed within UK PDC

Scientists submit data processed to UK PDC

PUBLICATION

Published
data server

RAMADDA



Metadata
creation
Tool

DOI

Data ready
to be published
(raw + processed)

Raw data/processed data

Archival storage

Descriptive information

Marine metadata
portal

Build on the Marine
Metadata Portal
structure

Geophysics metadata
portal

ARCHIVAL STORAGE

ACCESS

Data visualisation
and Metadata
catalogue

Queries

Query
responses

Negotiate submission agreements

Archive standard and policies

Customer support

ADMINISTRATION

DATA USERS

Antarctic/ Arctic/
Community

Data re-use and
International
collaborations

Discuss DMP

1. 2. 3. Data Planning and acquisition



Most of the data acquired in Geophysics at BAS are NERC funded



A Data Management Plan is required for all NERC projects

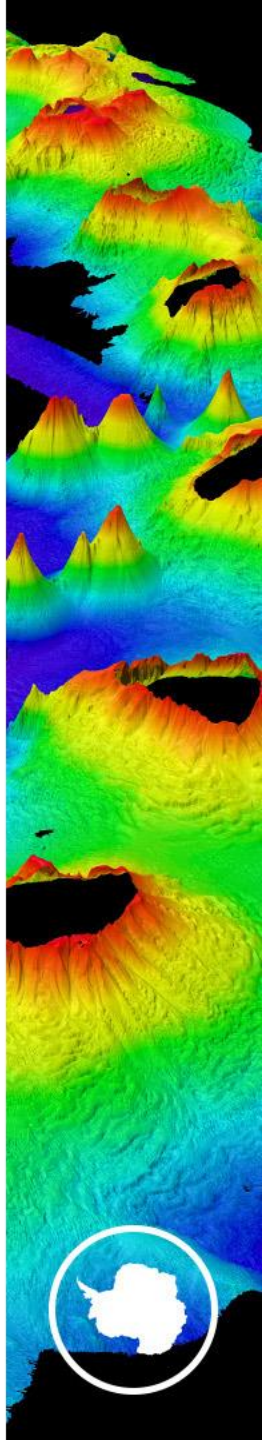
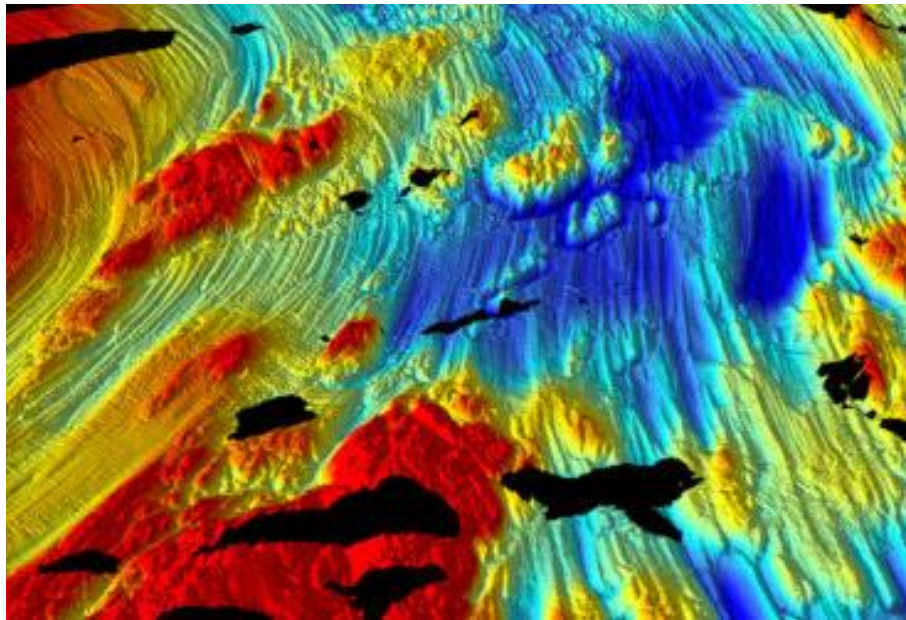


UK PDC is helping scientists write their DMP



Geophysics datasets

- Bathymetry: Provide information about the seabed topography
- Aero-geophysics including Aerogravity, Aeromagnetics, Airborne radar depth soundings: Provide information about the Earth's geological structure and the ice thickness.



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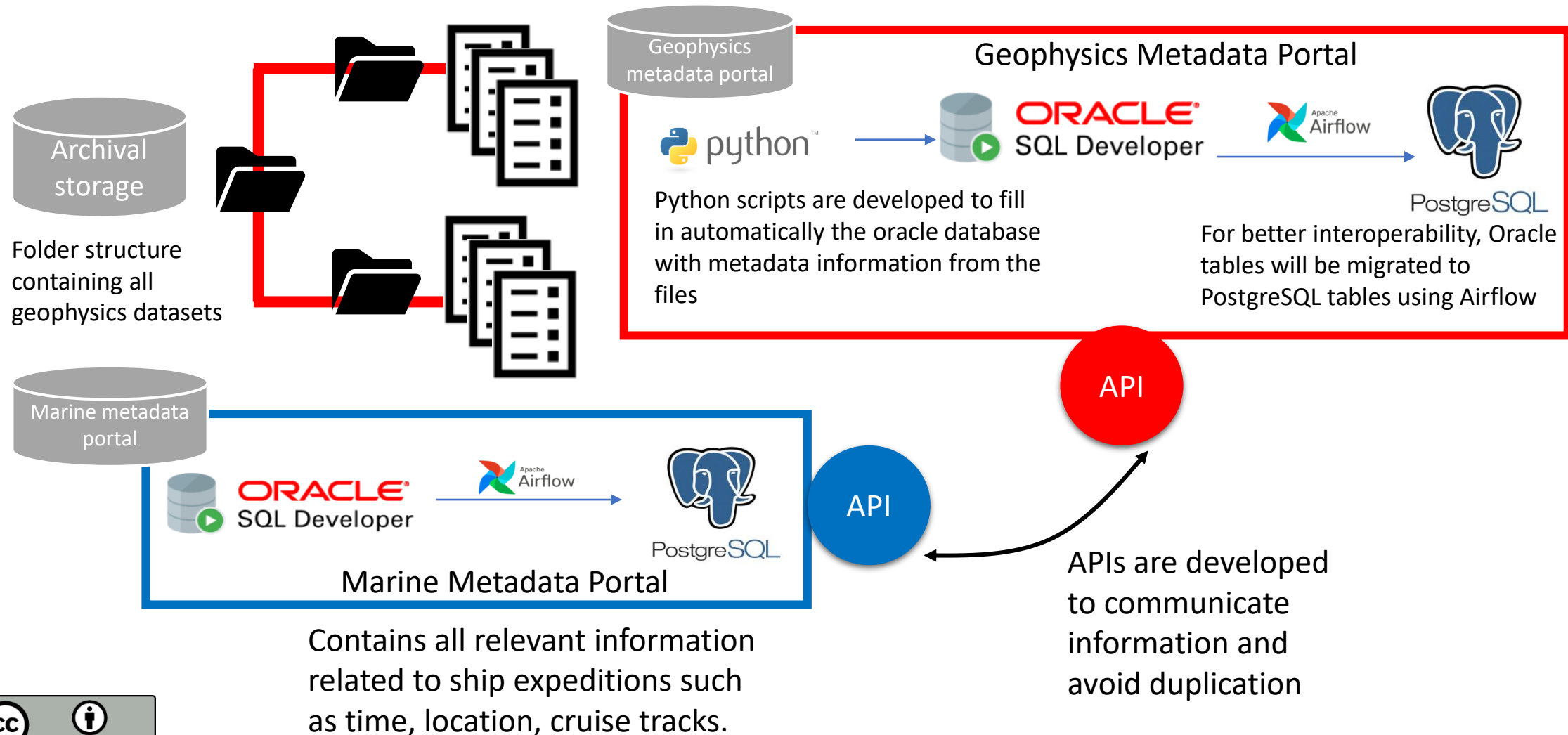
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4. Archival storage



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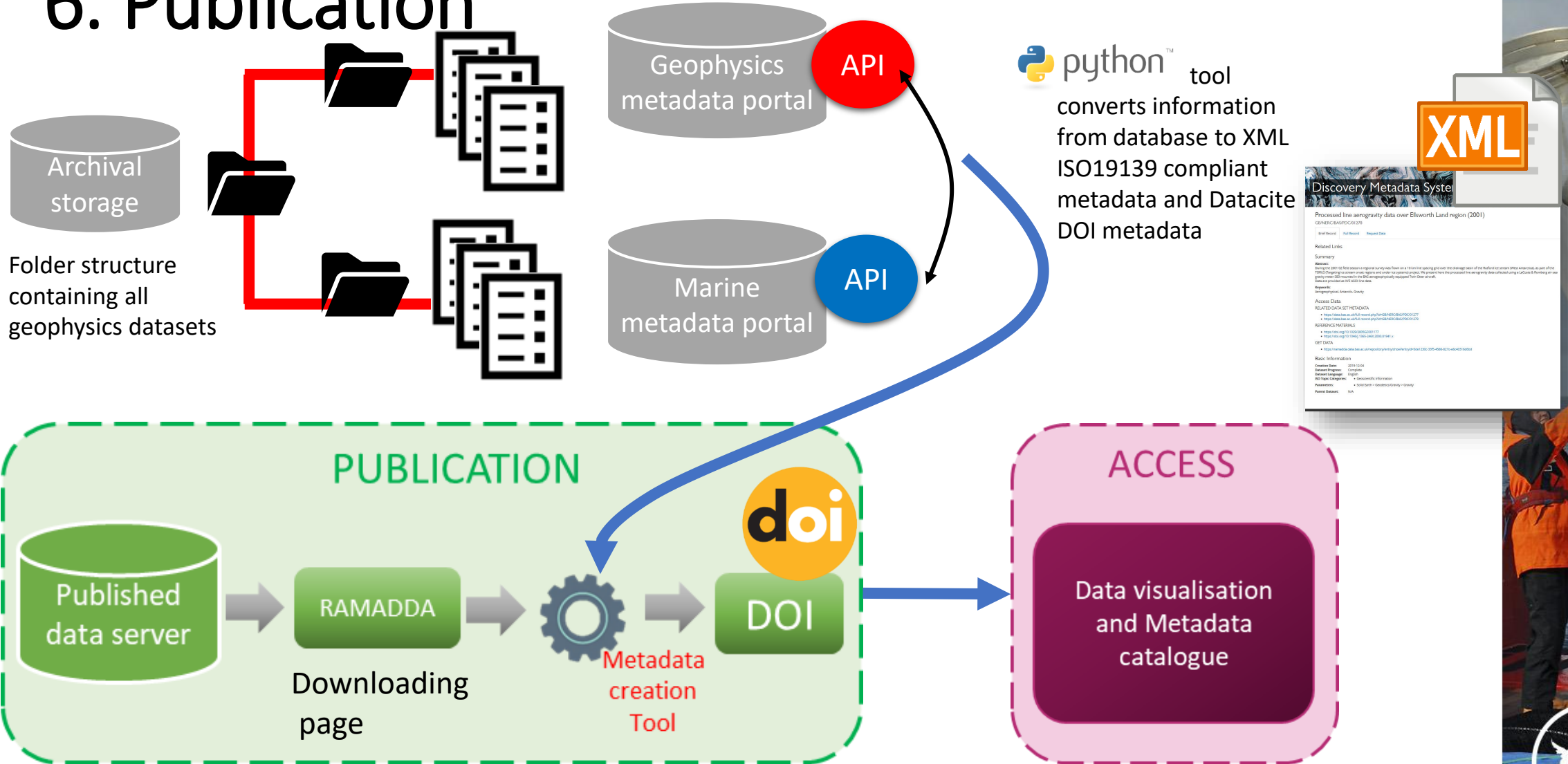
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6. Publication



7. Access



Provided for better citation and make data more discoverable

Discovery Metadata System

Processed line aerogravity data over Ellsworth Land region (2001)

GB/NERC/BAS/PDC/01278

[Brief Record](#) [Full Record](#) [Request Data](#)

Related Links

Summary

Abstract:
During the 2001-02 field season a regional survey was flown on a 10 km line spacing grid over the drainage basin of the Rutford Ice stream (West Antarctica), as part of the TORUS (Targeting ice stream onset regions and under-ice systems) project. We present here the processed line aerogravity data collected using a LaCoste & Romberg air-sea gravity meter S83 mounted in the BAS aerogeophysically equipped Twin Otter aircraft. Data are provided as XYZ ASCII line data.

Keywords:
Aerogeophysical, Antarctic, Gravity

Access Data

RELATED DATA SET METADATA

- <https://data.bas.ac.uk/full-record.php?id=GB/NERC/BAS/PDC/01277>
- <https://data.bas.ac.uk/full-record.php?id=GB/NERC/BAS/PDC/01279>

REFERENCE MATERIALS

- <https://doi.org/10.1029/2005GC001177>
- <https://doi.org/10.1046/j.1365-246X.2003.01941.x>

GET DATA

- <https://ramadda.data.bas.ac.uk/repository/entry/show?entryid=5de1230c-33f5-4586-821b-e6c40316d6bd>

Basic Information

Creation Date: 2019-12-04
Dataset Progress: Complete
Dataset Language: English
ISO Topic Categories:

- Geoscientific Information

Parameters:

- Solid Earth > Geodetics/Gravity > Gravity

Parent Dataset: N/A

Metadata on the repository

Processed line aerogravity data over Ellsworth Land region (2001)

British Antarctic Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL ☒ Polar Data Centre > DOI

Jones, P., Ferraccioli, F., & Smith, A. (2020). *Processed line aerogravity data over Ellsworth Land region (2001)* [Data set]. UK Polar Data Centre, Natural Environment Research Council, UK Research & Innovation. <https://doi.org/10.5285/5DE1230C-33F5-4586-821B-E6C40316D6BD>

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Name	Date	Created	Size	Kind
TORUS_Grav_ByFlight.XYZ	2019/12/05	2019/12/05	96.06 MB	File

Information

Processed line aerogravity data over Ellsworth Land region (2001)

Kind: Server Side Files

Downloading page on RAMADDA

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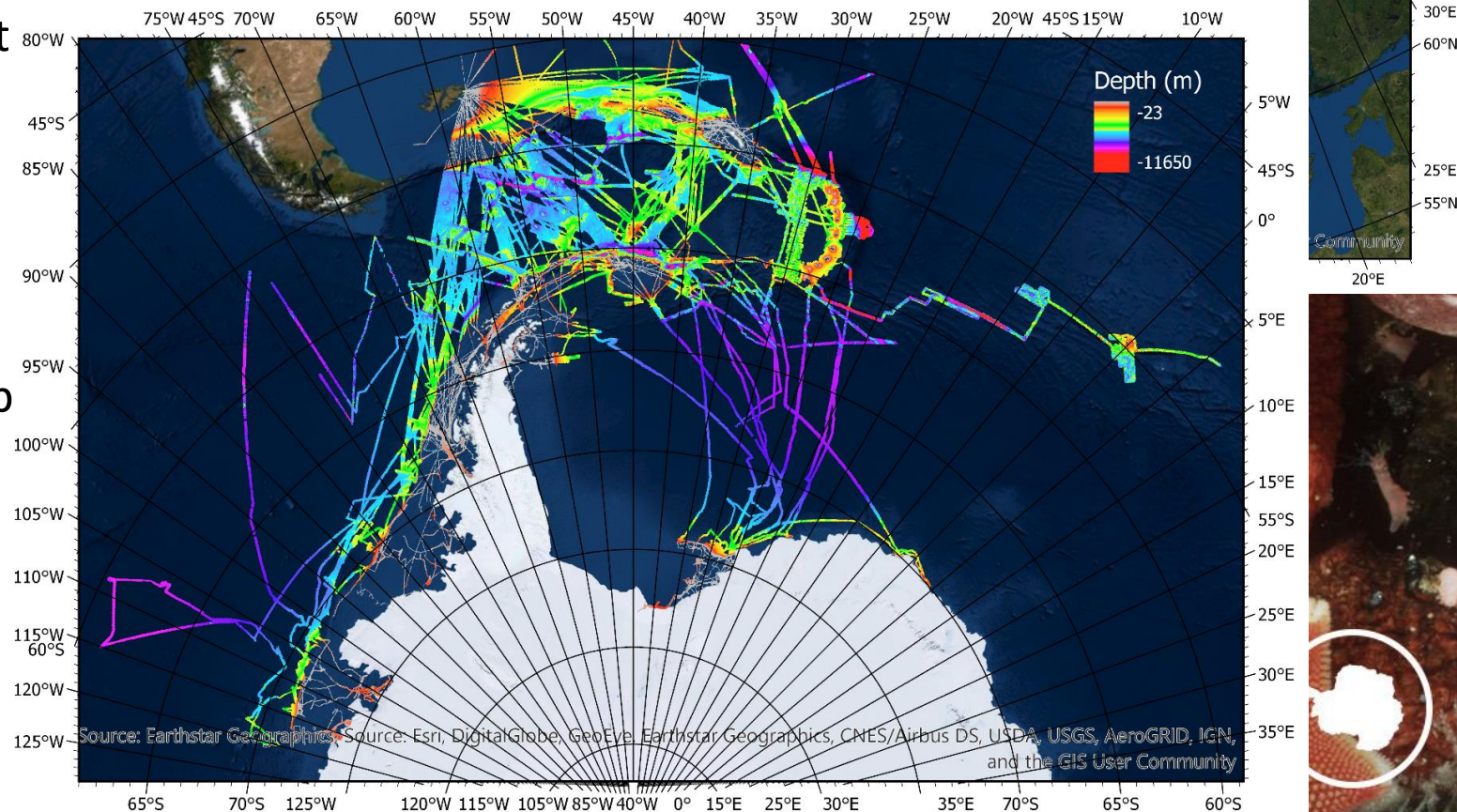
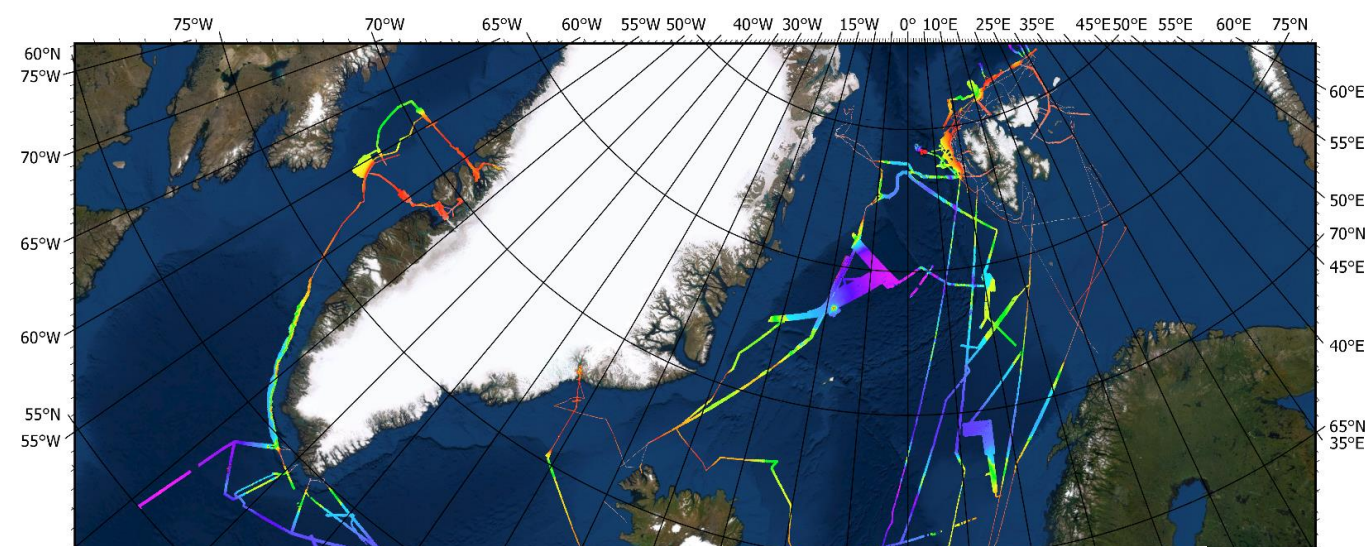
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8. Data Reuse

The data coverage of BAS multibeam data holding is significant in the Antarctic Polar region leading to participation in a number of collaborations:

- **IBCSO:** International Bathymetric Chart of the Southern Ocean).
- **IBCAO:** International Bathymetric Chart of the Arctic Ocean
- **BatDrake:** multibeam bathymetry map of the Drake Passage. This is part of IBCSO under the SCAR umbrella
- **SEABED30:** to map 100% of the ocean floor mapped by 2030



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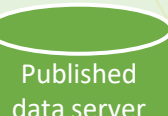
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9. Data Preservation Planning

All procedures to preserve, archive and distribute geophysics data have been revised and updated to comply with the recommendations from the Standing Committee on Antarctic Data Management (SCADM) and the requirements of CoreTrustSeal for a future certification. The goal is to make data:

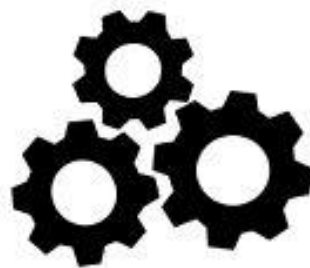
F_{indable}



A_{ccessible}



I_{nteroperable}



R_{eusable}



THANK YOU!

UK Polar Data Centre
polardatacentre@bas.ac.uk

More information:
[BAS website](#)

