

## OPEN SCIENCE FACTSHEET NO. 4

based on the 59th online seminar:

Research Data Management – a biodiverse MOSAIC ([Slides](#))

### MOSAIC

“Multidisciplinary drifting Observatory for the Study of Arctic Climate”

Aim: Investigating “the Arctic as the epicenter of global warming and to gain fundamental insights that are key to better understand[ing] global climate change.”

[\[https://mosaic-expedition.org\]](https://mosaic-expedition.org)



The largest Arctic research expedition ever:

- 🕒 First year-round operation of research icebreaker near north pole
- 🚢 5 icebreakers
- ✈️ Polar 5 & 6 research aircraft + support helicopters + support aircraft
- 🌐 20 nations
- 👥 More than 70 institutions
- 👥 A total of ~600 people will operate in the central Arctic
- 💰 > € 140 Mill. budget

By Glöckner, Frank Oliver from presentation slides, slide 19

### WHAT IS RESEARCH DATA MANAGEMENT (RDM)?

- ▶ From “[Recommendations for guidelines at the Helmholtz centres on handling research data](#)”
- ▶ Further information (available in German only) “[BMBF-Aktionsplan Forschungsdaten](#)”

Sensor  
Metadata  
Description

Data  
Acquisition

Data  
Ingestion

Data  
Storage

Data  
Monitoring

Data  
Analysis

Data  
Archiving

#### Research data

- All data generated in the research process via various methods
- Finally archived in a manner depending on the specific research topic
- Occurs in different media types and formats, depending on the stage of the data's life cycle.

#### RDM

- Recording the metadata of research data and documenting the context in which it was created, as well as the tools or software used to grant long-term access and subsequent use (incl. scientific software).

#### CASE STUDY: MOSAIC DATA POLICY

“The [MOSAiC] project’s success, and its ultimate impact on science and society, relies upon professional coordination and data sharing across the participants. A transparent Data Policy is essential to achieve MOSAiC science objectives, to facilitate collaboration, and to enable broad use and impact of the MOSAiC data legacy.”

##### Metadata standards

- Machine-readable and interpretable as well as human understandable; following the [FAIR data principles](#).

##### Data ingest, transfer, storage and archiving

- [MOSAiC Central Storage \(MCS\)](#) aboard [Polarstern](#) gathering data; land MCS as the central database of MOSAiC data.

##### Data Provision, Access and Sharing

- All MOSAiC raw and primary data are freely available to MOSAiC consortium members as soon as they are stored in MCS; for using data from the MCS for publications, data provider or data PI must be informed and offered collaboration on the scientific analysis.

##### Public Release of Data

- MOSAiC data will be freely and publicly available on the open MCS or [PANGAEA](#) and/or alternate public archives on Jan 1, 2023.
- As of Jan 1, 2023 no restrictions on data usage; but data users are encouraged to communicate with data providers or data PIs to ensure accurate usage and interpretation of data

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