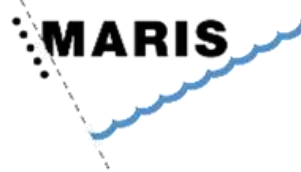


27-29 May 2024 

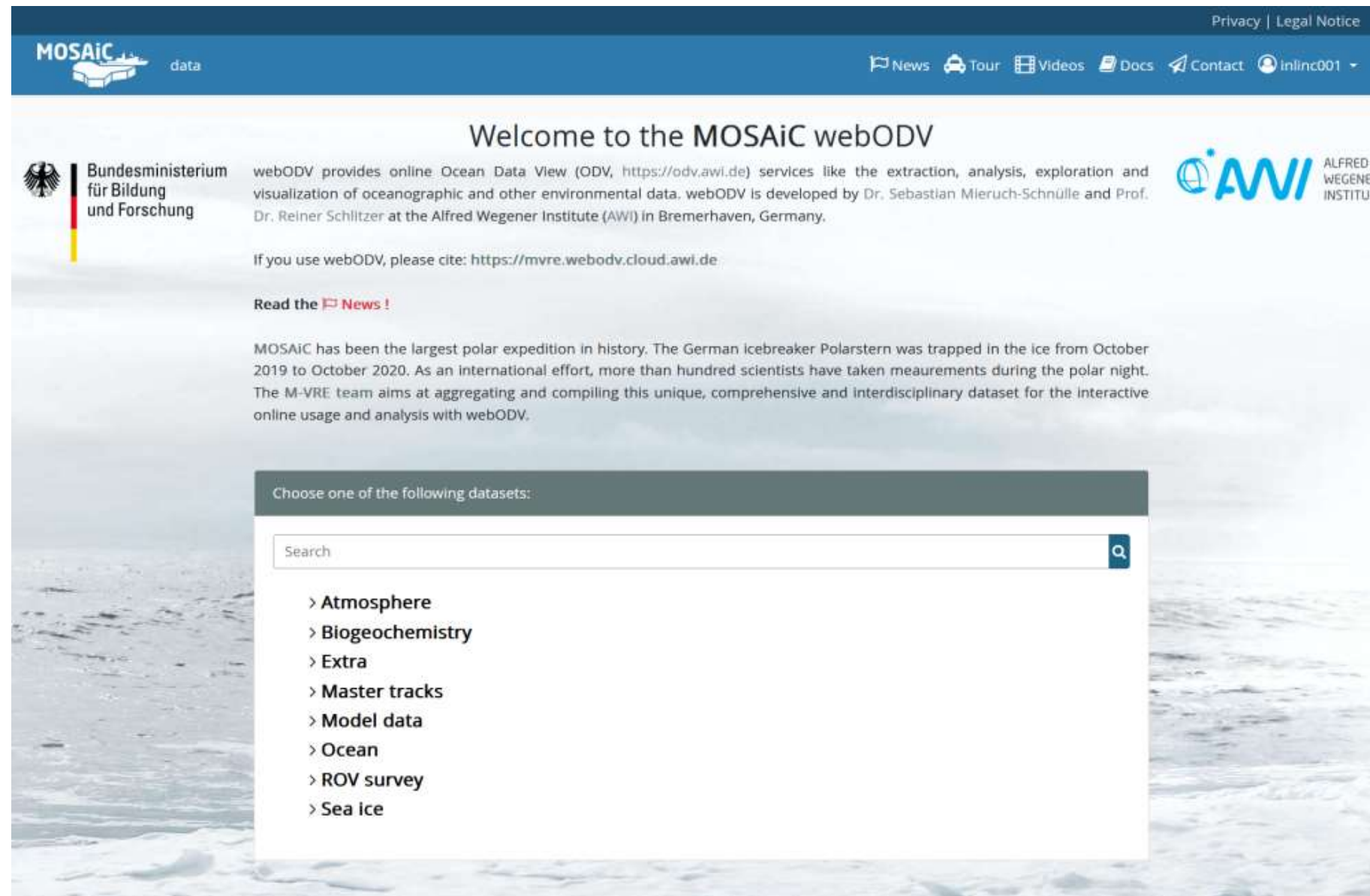


imdis

International conference on Marine Data and Information Systems



The data conversion process for the M-VRE webODV



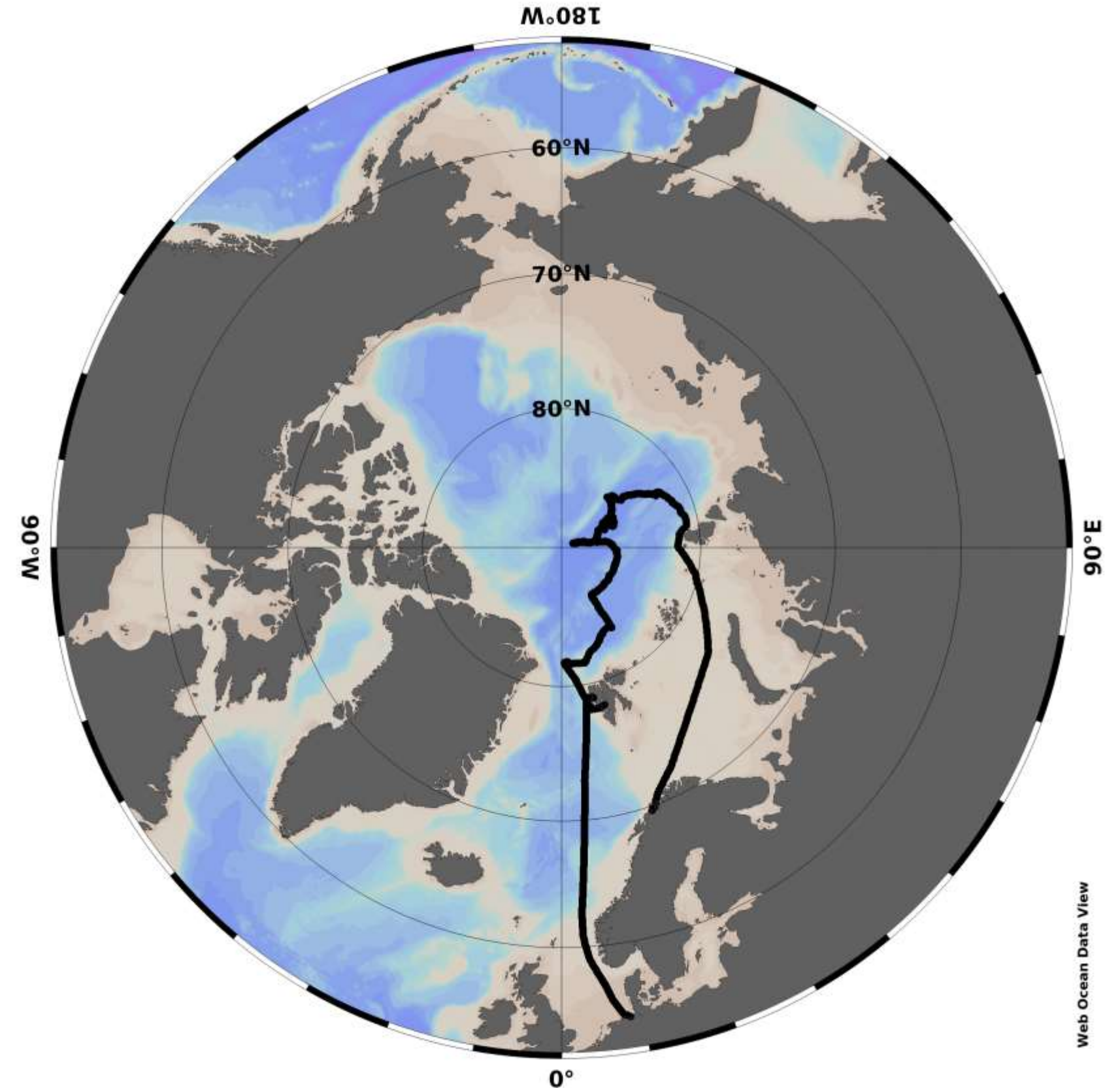
The screenshot shows the MOSAIC webODV website. At the top, there is a navigation bar with the MOSAIC logo, a 'data' link, and links for News, Tour, Videos, Docs, Contact, and a user profile 'inlinc001'. Below the navigation bar, the main heading reads 'Welcome to the MOSAIC webODV'. To the left is the logo of the 'Bundesministerium für Bildung und Forschung'. The main text explains that webODV provides online Ocean Data View (ODV) services for oceanographic and environmental data, developed by Dr. Sebastian Mieruch-Schnülle and Prof. Dr. Reiner Schlitzer at the Alfred Wegener Institute (AWI). A citation link is provided: <https://mvre.webodv.cloud.awi.de>. A 'Read the News!' link is also present. A paragraph describes the MOSAIC expedition, mentioning the German icebreaker Polarstern and the M-VRE team's goal of creating an interdisciplinary dataset. Below this is a search box with the text 'Choose one of the following datasets:' and a list of categories: Atmosphere, Biogeochemistry, Extra, Master tracks, Model data, Ocean, ROV survey, and Sea ice.

Ingrid Linck Rosenhaim
Sebastian Mieruch
Reiner Schlitzer

May 29th 2024, Bergen - Norway

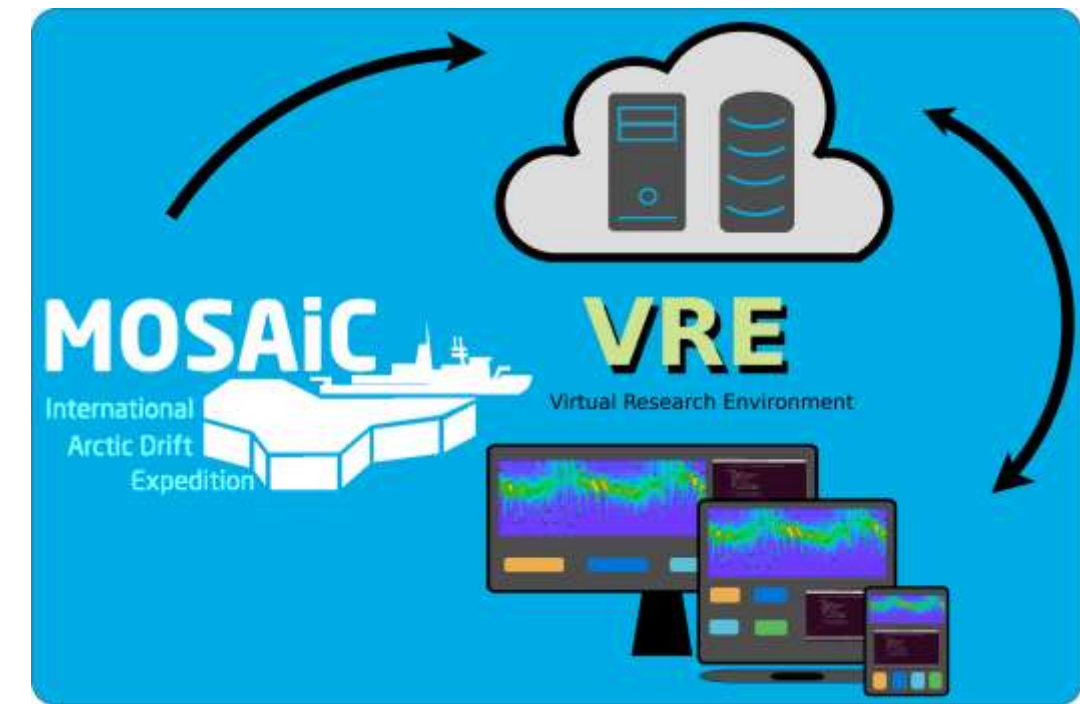
MOSAiC Expedition

- The icebreaker Polarstern was frozen in the Arctic Sea ice for a year (2019-2020) following the Transpolar Drift
- An international expedition involving many countries and more than 100 scientists
- An incredible amount of measurements were collected above, within, and under the sea ice
- These data are available as open source since January 2023 in PANGAEA



MOSAiC-Virtual Research Environment Project

- The M-VRE Project offers different tools for the exploration of MOSAiC data.
- One of these tools is webODV.
- webODV is the online version of Ocean Data View (ODV)
 - ODV is an established software for the analysis and visualization of oceanographic and georeferenced data
- webODV is an interactive and powerful tool accessible via the browser and in a user-friendly virtual environment
- In M-VRE webODV, the MOSAiC data is uploaded and kept up-to-date with PANGAEA, and the data can be analyzed and visualized directly.



<https://mosaic-vre.org>



<https://webodv.awi.de>



Ocean Data View

Interactive exploration, analysis and visualization of oceanographic and other geo-referenced data.

<https://odv.awi.de>

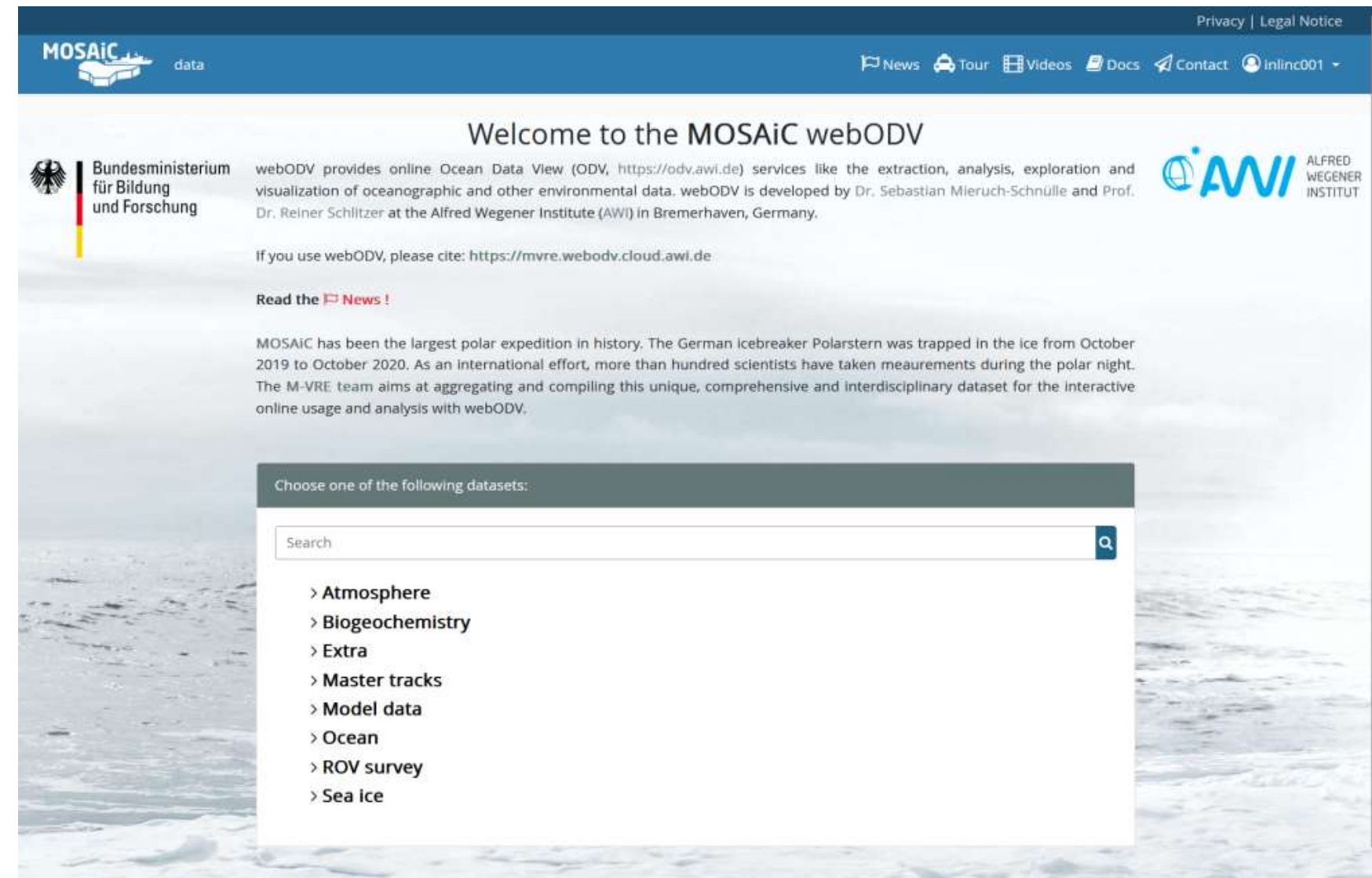
webODV and FAIR data

Findable
Accessible
Interoperable
Reusable

- **Findable:** every data set in webODV has a direct link to the original file in PANGAEA
- **Accessible:** data aggregated into collections of similar measurements. These data can be analyzed and visualized individually by filtering the data. The collections are kept up-to-date with the data, metadata, and data references in PANGAEA.
- **Interoperable:** Data collections are provided in webODV for download in three consistent formats: text, ODV, and netCDF.
- **Reusable:** copies of analysis and visualizations of collections created in webODV can be shared with co-authors and colleagues via links. These are easily **Reproducible** without changing the analysis and visualizations of the sender.

The MOSAiC data in webODV

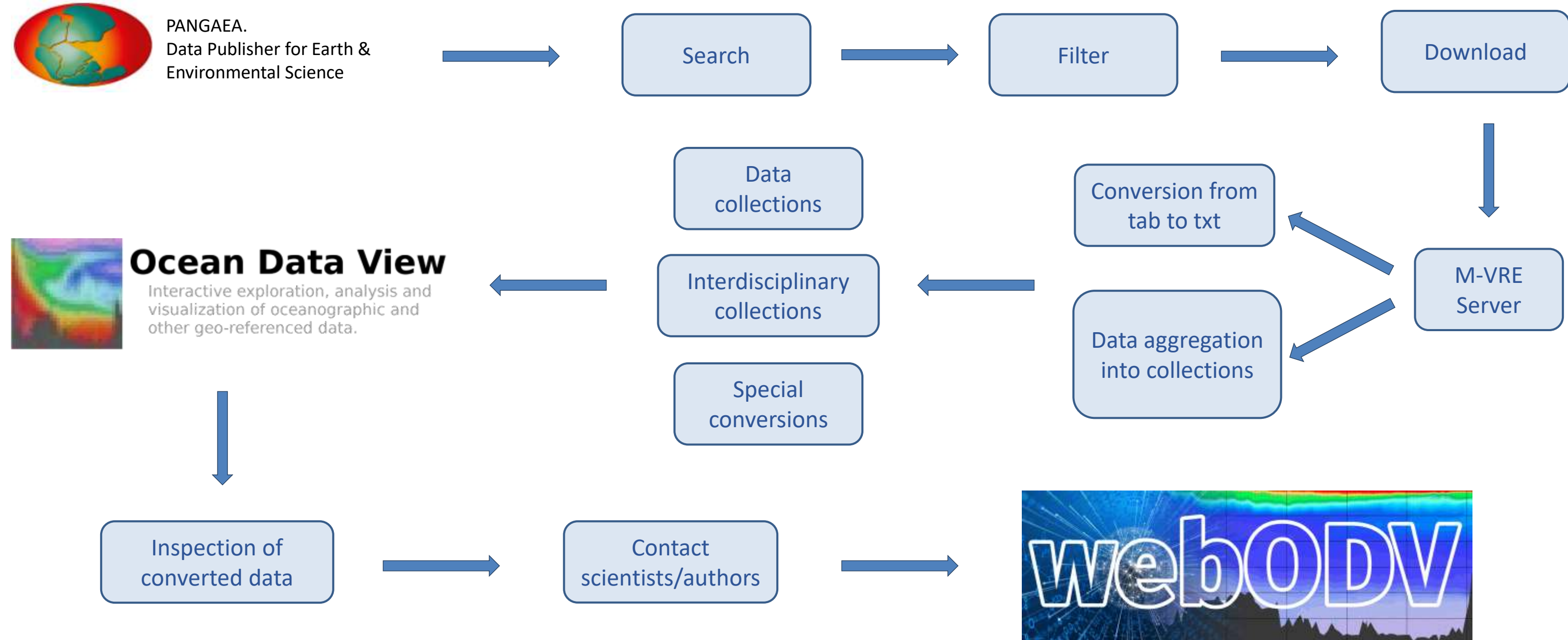
- The MOSAiC measurements in webODV are presented as data collections
- These data collections are separated into categories:
 - Atmosphere
 - Biogeochemistry
 - Interdisciplinary collections
 - Master tracks
 - Model data
 - Ocean
 - ROV survey
 - Sea ice
 - Extra



The screenshot shows the MOSAiC webODV website. The header includes the MOSAiC logo, a 'data' link, and navigation links for News, Tour, Videos, Docs, Contact, and InIinc001. The main content area features a welcome message, a logo for the Bundesministerium für Bildung und Forschung, and the Alfred Wegener Institute (AWI) logo. A search bar is present, and a dropdown menu lists the following categories: Atmosphere, Biogeochemistry, Extra, Master tracks, Model data, Ocean, ROV survey, and Sea ice.

<https://mvre.webodv.cloud.awi.de>

Data conversion workflow: from PANGAEA to webODV

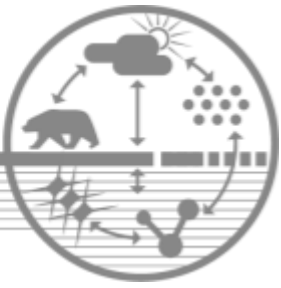


Metadata

- The following metadata variables are merged to the data:

- Basis
- Cruise
- Event
- Station
- Project
- URL
- RIS and BibTeX citations
- Version
- Last modified
- Scientists
- Main Scientist
- Contact
- Method
- Bottom Depth [m]
- Original file url
- Longitude and Latitude

- These metadata ensure:
 - Transparency
 - Traceability of data source and authors



Special conversions

- Data not in tab format:
 - netCDF
 - Text
 - TAR
 - zip
 - xlsx
 - Etc...

- Data structure:
 - Missing data variable / different data structure
 - Transformation of many columns into a few new ones

Data

Download dataset as tab-delimited text — use the following character encoding: UTF-8: Unicode (PANGAEA default)

All files referred to in data matrix can be downloaded in one go as ZIP or TAR. **Be careful:** This

1	2	3
Content	Binary	Binary (Size) [Bytes]
Coordinates of the nearest CCLM grid point (1h data)	C15_Lat_Lon_winter.txt	209.4 kBytes
CCLM near-surface data (1h): sea ice from AMSR data	C15_near-surface_winter.txt	556.1 kBytes
CCLM near-surface data (1h): sea ice from MODIS data	C15MOD0_near-surface_winter.txt	557.6 kBytes
CCLM Integrated humidity and temperature data (1h data)	C15MOD0_integrated_GS_winter.txt	170.1 kBytes

Sample: 1 / 1

1: time_ISO8601 [years since 0000-01-01]	2020.1134
2: Quality flag, position ()	0.00
3: Temperature, difference (Thermistor 1) [°C]	-31.84
4: Temperature, difference (Thermistor 2) [°C]	-31.82
5: Temperature, difference (Thermistor 3) [°C]	-31.74
6: Temperature, difference (Thermistor 4) [°C]	-31.87
7: Temperature, difference (Thermistor 5) [°C]	-31.73
8: Temperature, difference (Thermistor 6) [°C]	-31.98
9: Temperature, difference (Thermistor 7) [°C]	-31.87
10: Temperature, difference (Thermistor 8) [°C]	-31.93
11: Temperature, difference (Thermistor 9) [°C]	-31.88
12: Temperature, difference (Thermistor 10) [°C]	-31.93
13: Temperature, difference (Thermistor 11) [°C]	
14: Temperature, difference (Thermistor 12) [°C]	
15: Temperature, difference (Thermistor 13) [°C]	
16: Temperature, difference (Thermistor 14) [°C]	
17: Temperature, difference (Thermistor 15) [°C]	
18: Temperature, difference (Thermistor 16) [°C]	

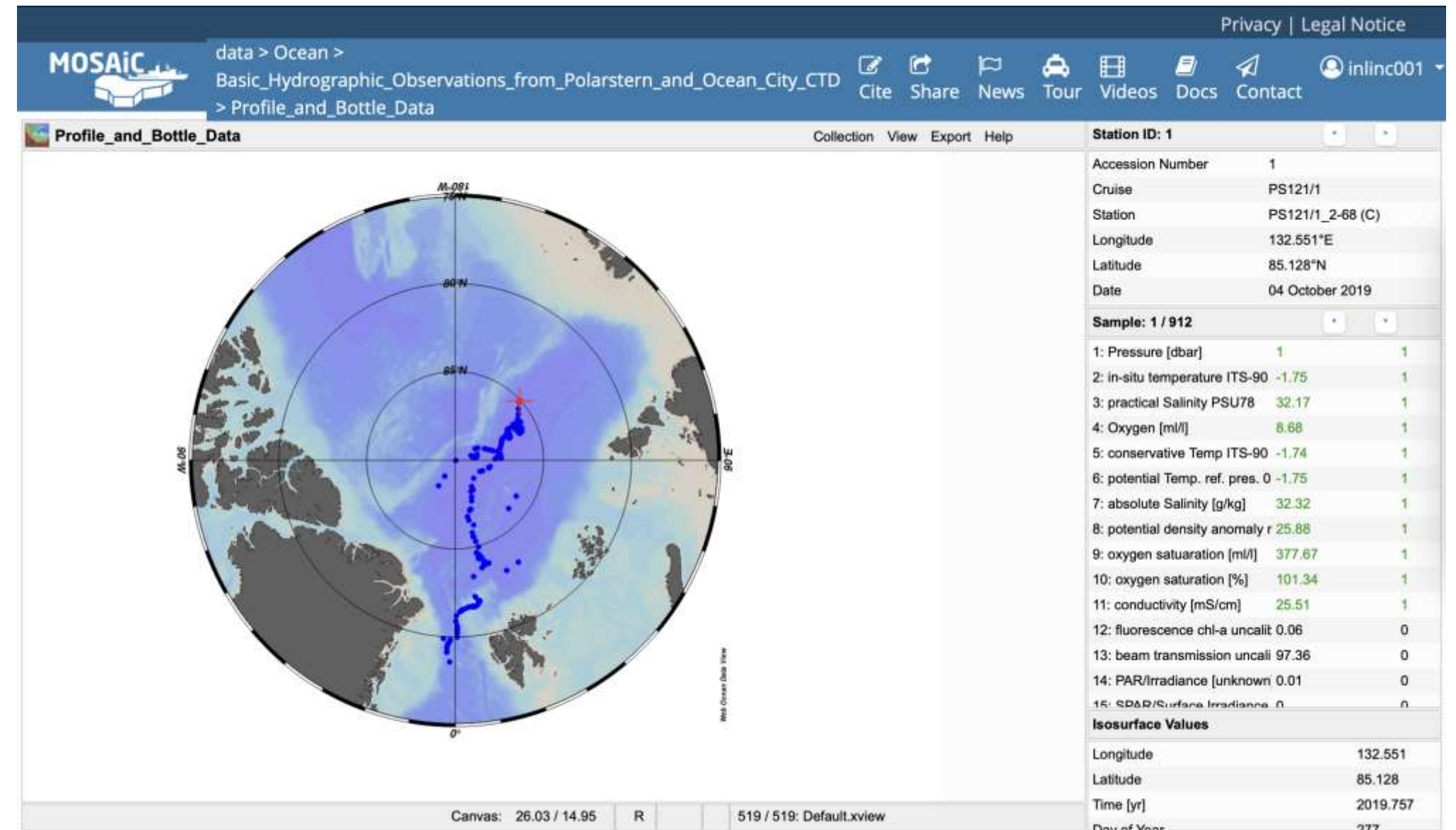
Sample: 1 / 208

1: time_ISO8601 [years since 0000-01-01]	2019.7603
2: Quality flag, position ()	0
3: Seconds after the heating cycle [sec]	0
4: Thermistor number	2
5: Temperature, difference [°C]	-9.62

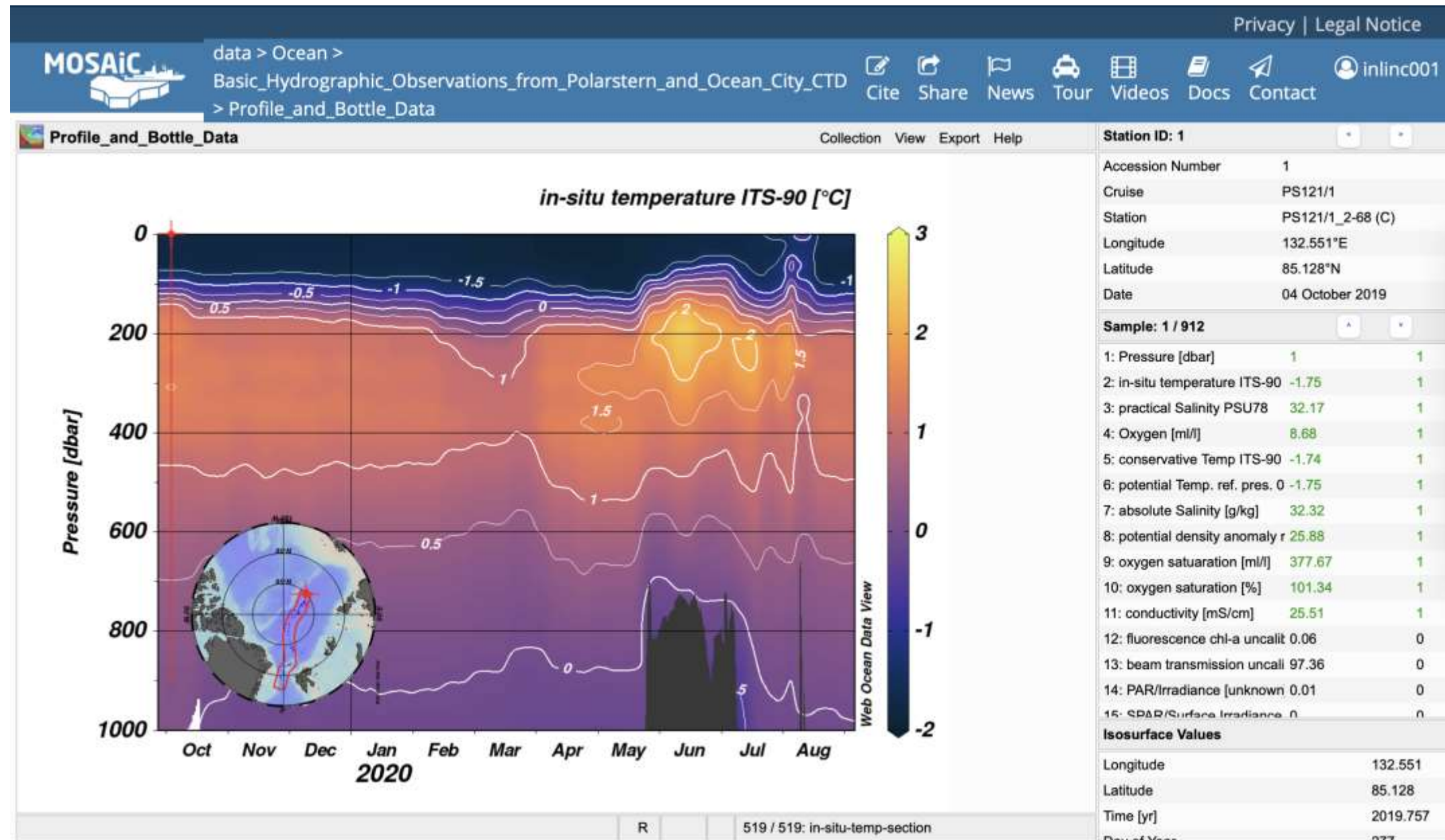
204: Temperature, difference (Thermistor 202) [°C]	-1.88
205: Temperature, difference (Thermistor 203) [°C]	-1.79
206: Temperature, difference (Thermistor 204) [°C]	-1.90
207: Temperature, difference (Thermistor 205) [°C]	-1.73
208: Temperature, difference (Thermistor 206) [°C]	-1.73
209: Temperature, difference (Thermistor 207) [°C]	-1.74
210: Temperature, difference (Thermistor 208) [°C]	-1.77

Data conversion to ODV format

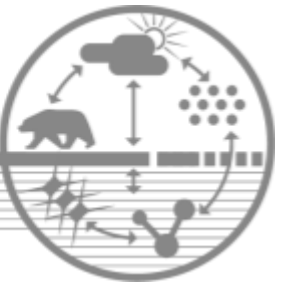
- Bash scripted
 - .Data folder and default views
 - .odv file
 - .nc files used by other M-VRE tools like DIVAnd
- The collections are then uploaded onto our webODV test
 - Through inspection of the converted data
- The collections are uploaded onto webODV and are ready for use.



Section layout in webODV



Physical oceanography based on ship CTD during POLARSTERN cruise PS122
<https://doi.pangaea.de/10.1594/PANGAEA.959963>




Thank you!

Privacy | Legal Notice


MOSAIC data

News Tour Videos Docs Contact InIinc001


Welcome to the MOSAIC webODV

 **Bundesministerium für Bildung und Forschung**

webODV provides online Ocean Data View (ODV, <https://odv.awi.de>) services like the extraction, analysis, exploration and visualization of oceanographic and other environmental data. webODV is developed by Dr. Sebastian Mieruch-Schnülle and Prof. Dr. Reiner Schlitzer at the Alfred Wegener Institute (AWI) in Bremerhaven, Germany.


 **ALFRED WEGENER INSTITUT**

If you use webODV, please cite: <https://mvre.webodv.cloud.awi.de>

Read the  News !

MOSAIC has been the largest polar expedition in history. The German icebreaker Polarstern was trapped in the ice from October 2019 to October 2020. As an international effort, more than hundred scientists have taken measurements during the polar night. The M-VRE team aims at aggregating and compiling this unique, comprehensive and interdisciplinary dataset for the interactive online usage and analysis with webODV.

Choose one of the following datasets:

- > Atmosphere
- > Biogeochemistry
- > Extra
- > Master tracks
- > Model data
- > Ocean
- > ROV survey
- > Sea ice

<https://mvre.webodv.cloud.awi.de>

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