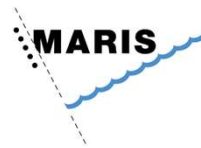


webODV - Interactive online data visualization and analysis

Reiner Schlitzer and Sebastian Mieruch



Outline

- ODV / webODV History
- webODV – Data Extraction & Download
- webODV – Data Analysis & Visualization
- Questions & Answers

- <https://emodnet-chemistry.webodv.awi.de/>



1988



1988

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 93, NO. C9, PAGES 10,699–10,723, SEPTEMBER 15, 1988

Modeling the Nutrient and Carbon Cycles of the North Atlantic 1. Circulation, Mixing Coefficients, and Heat Fluxes

REINER SCHLITZER¹

*Center for Meteorology and Physical Oceanography, Department of Earth, Atmospheric, and Planetary Sciences,
Massachusetts Institute of Technology, Cambridge*

A model of the nutrient and carbon cycles in the North Atlantic is formulated, and water flow rates, eddy mixing coefficients, particle fluxes and CO₂ gas exchange rates are calculated. The model incorporates geostrophy, wind-driven Ekman fluxes and budget equations for a suite of seven tracers. Geostrophic transports are based on Levitus' (1982) climatological data, and nutrient distributions are obtained from historical station

1988

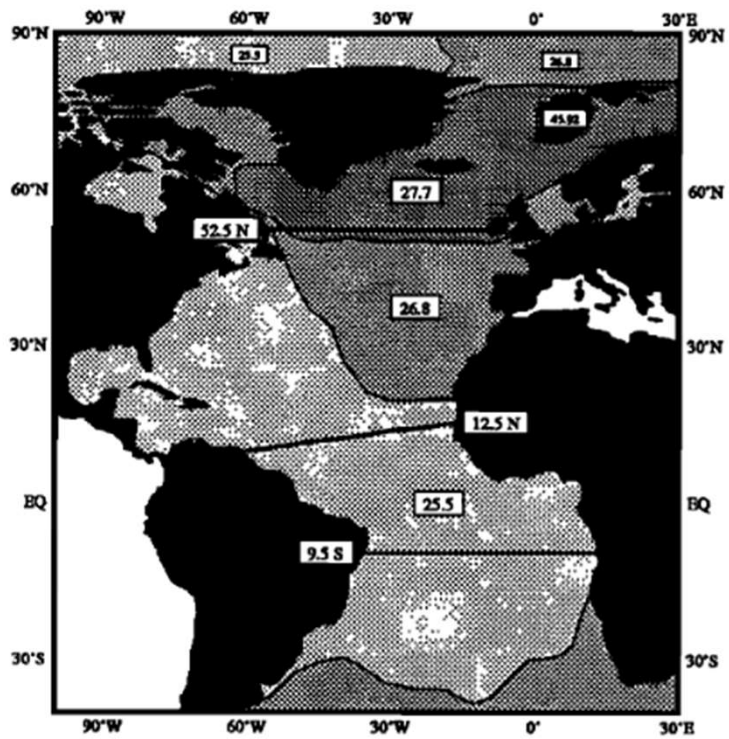
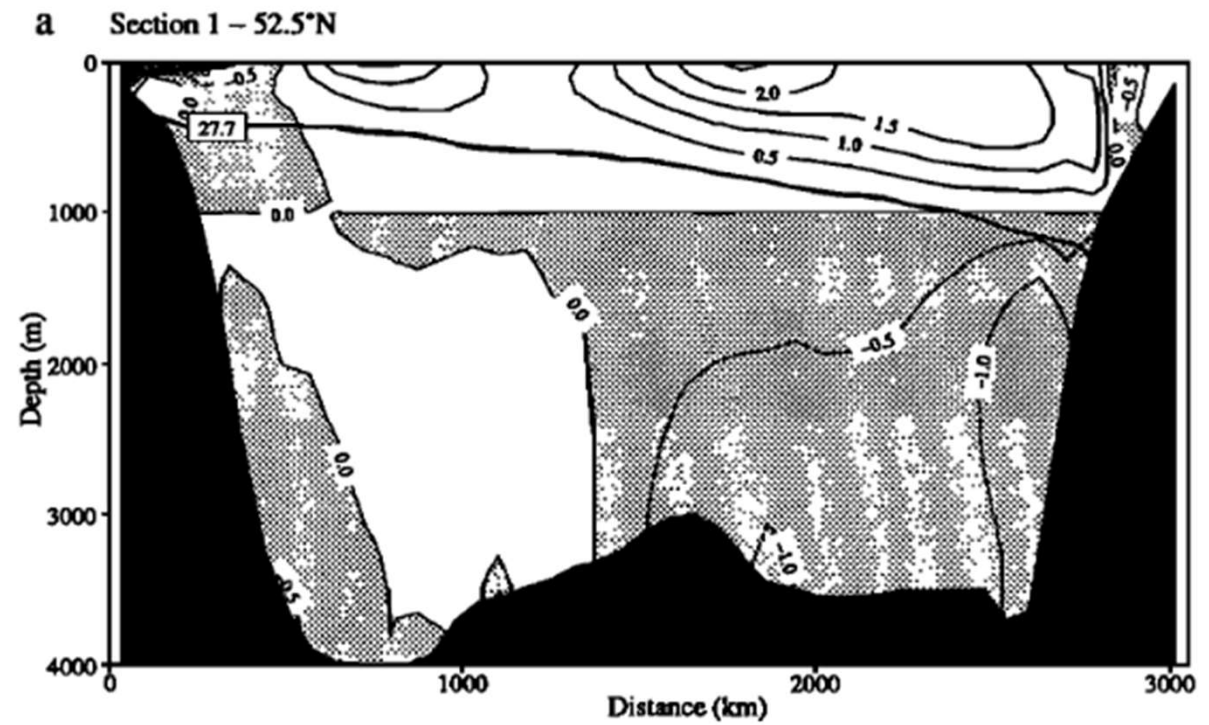
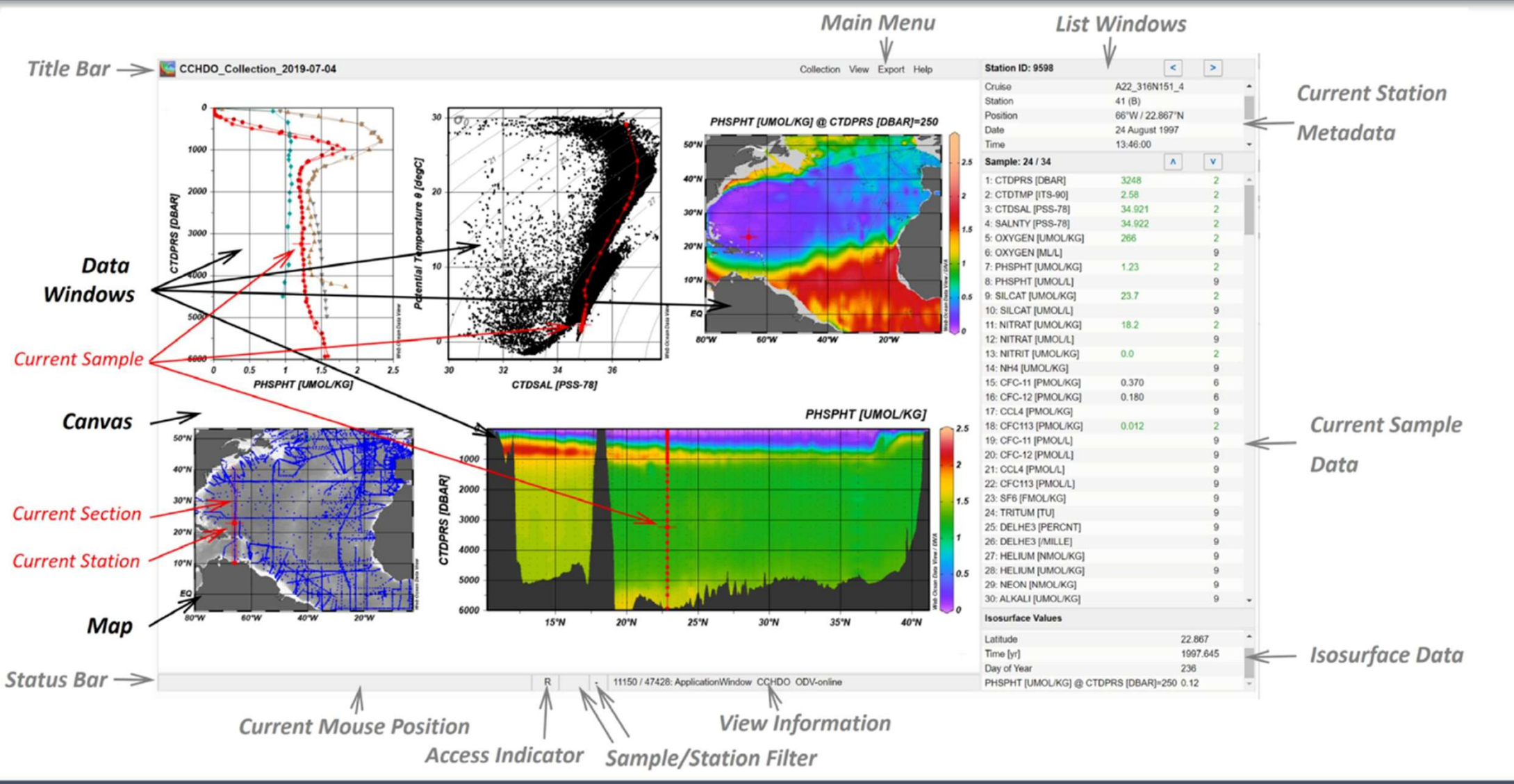


Fig. 2. Map of the North Atlantic showing the sections of the model and the annual mean outcrop regions of the model layers.



1988-now: Ocean Data View

- Interactive data analysis and visualization software for Windows, MacOS and Linux
- 3 decades of development
- Very large user community (110,000 registered users; 25 new users per day; 250 visitors per day)
- ODV graphics published in more than 1.400 articles, Nature, Science, PNAS, PlosOne, etc.
- ODV collection format adopted by SeaDataNet, EMODnet, US SeaCube
- Continuous EU funding since 1995
- AGU Ocean Sciences Section Award 2010 to Reiner Schlitzer



Title Bar

Main Menu

List Windows

Current Station Metadata

Data Windows

Current Sample

Canvas

Current Section

Current Station

Map

Status Bar

Current Sample Data

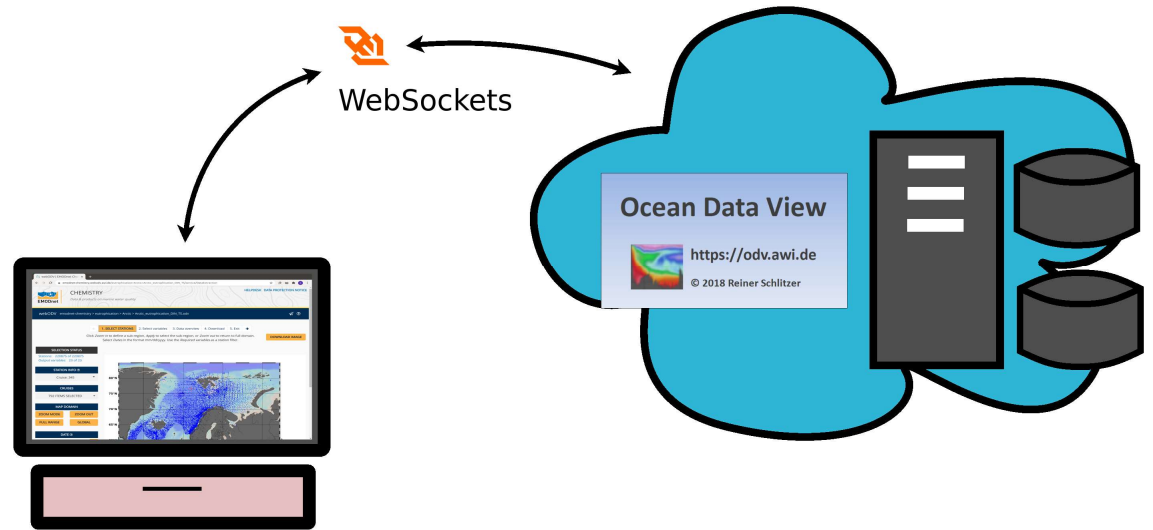
Isosurface Data

Current Mouse Position

Access Indicator Sample/Station Filter


View Information

2016 - webODV



webODV - Instances

<https://webodv.awi.de>



webodv.awi.de

ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR-
UND MEERESFORSCHUNG

webODV

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.

The webODV Data Extractor service for fast and easy data subsetting and downloading (netcdf, odv, ASCII). The webODV Data Exploration service, the "ODV-online" for the analysis and visualization of the GEOTRACES data set. Start with pre-created "views", which can be loaded. No authentication required.

GEOTRACES
An International Study of the Marine Biogeochemical Cycles of Trace Elements and their Isotopes

CHEMISTRY
EMODnet | Data and products on marine water quality

Explore, subset, visualize, and extract data sets in multiple formats from the harmonized, standardized, validated data collections that EMODnet Chemistry is regularly producing and publishing for all European sea basins for eutrophication and contaminants. Authentication with Marine-ID required.

Large ocean, atmosphere, sediment, ice and river data for analysis, exploration and visualisation. No registration.

webODV Explore



MOSAIC

webODV for MOSAIC, the largest polar expedition in history. The German icebreaker Polarstern was trapped in the ice from October 2019 to October 2020. Access atmospheric, ocean and ice data and more. At the moment only accessible by the MOSAIC consortium. Freely available from January 2023.

HIFIS | HELMHOLTZ FEDERATED IT SERVICES

HIFIS provides a private webODV implementation. Users can import their own data and work with ODV-online in "ReadWrite" mode.

EGI-ACE

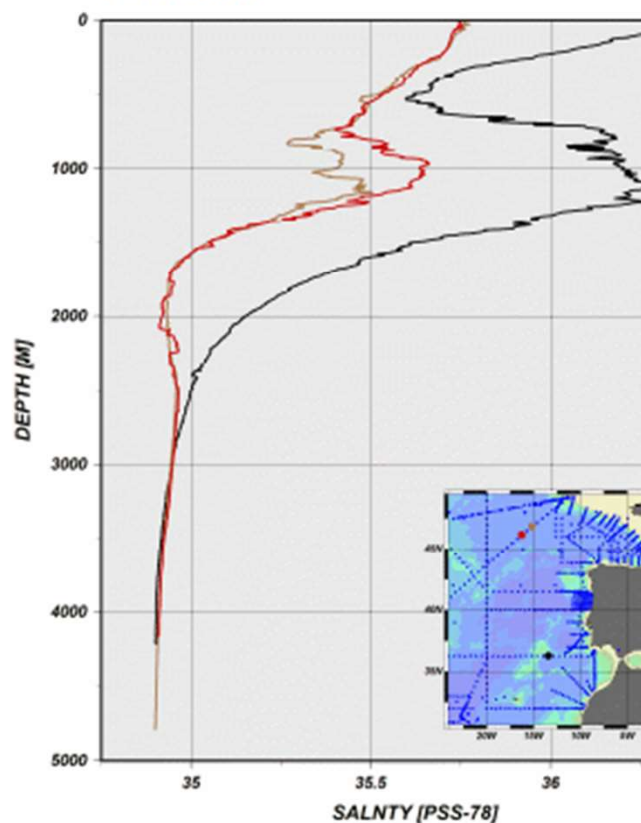
The webODV implementation in the frame of the EGI-ACE project provides large ocean datasets from the global Argo program and the SeaDataNet infrastructure.

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

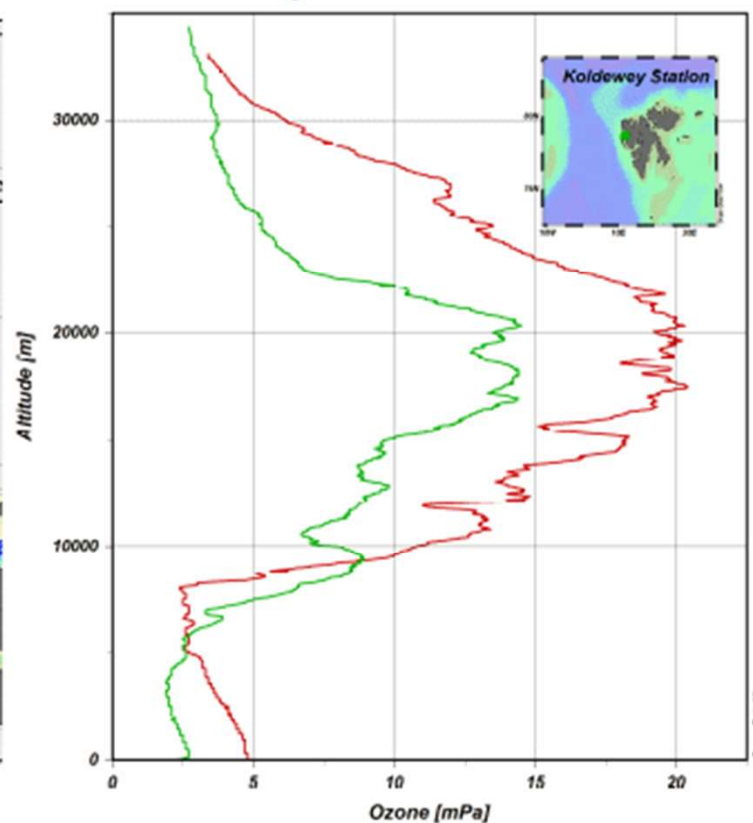
SeaDataCloud

Profiles

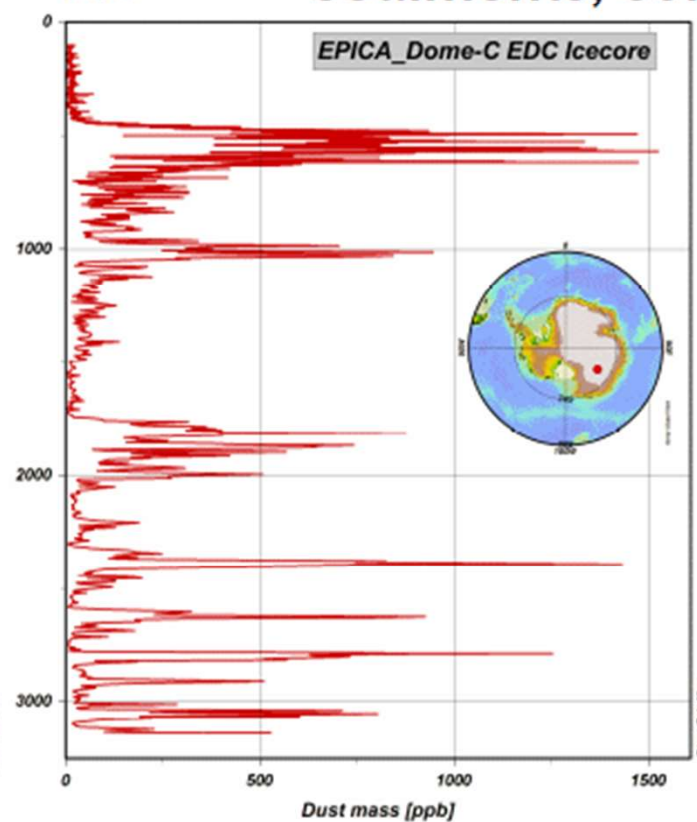
Ocean



Atmosphere



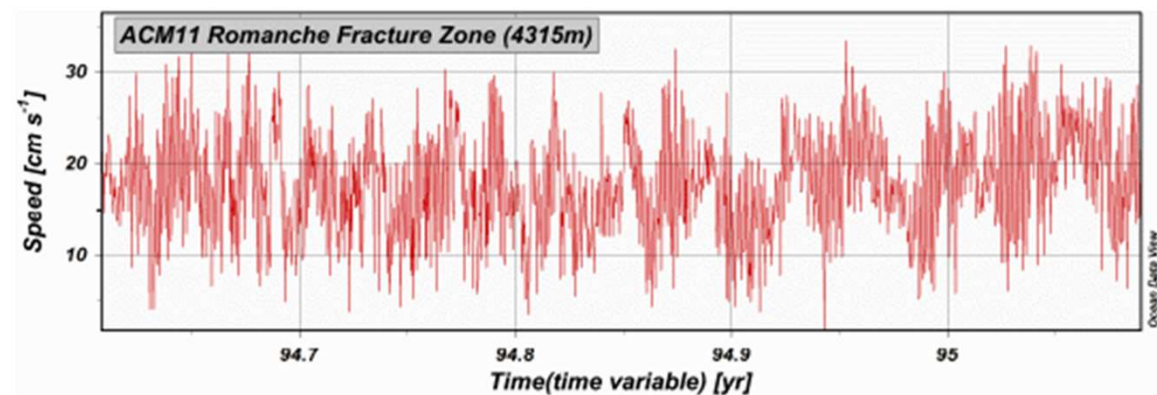
Ice



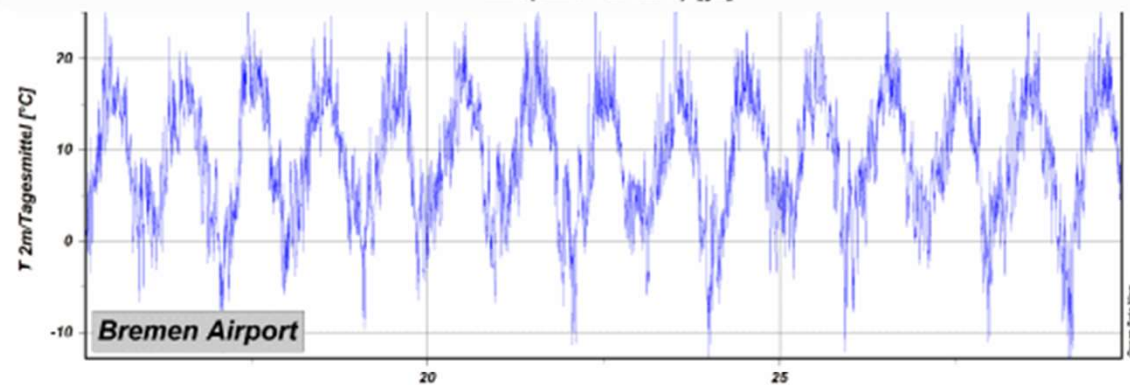
Sediments, Soil, ...

Timeseries

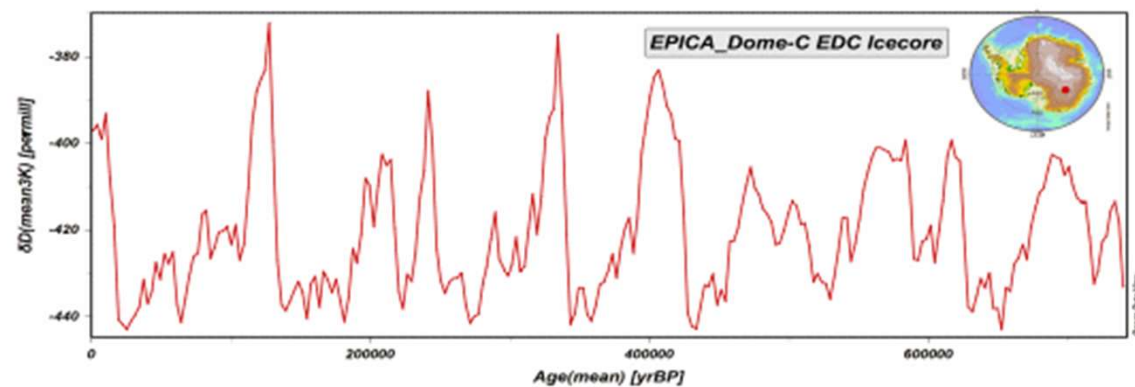
Ocean



Atmosphere



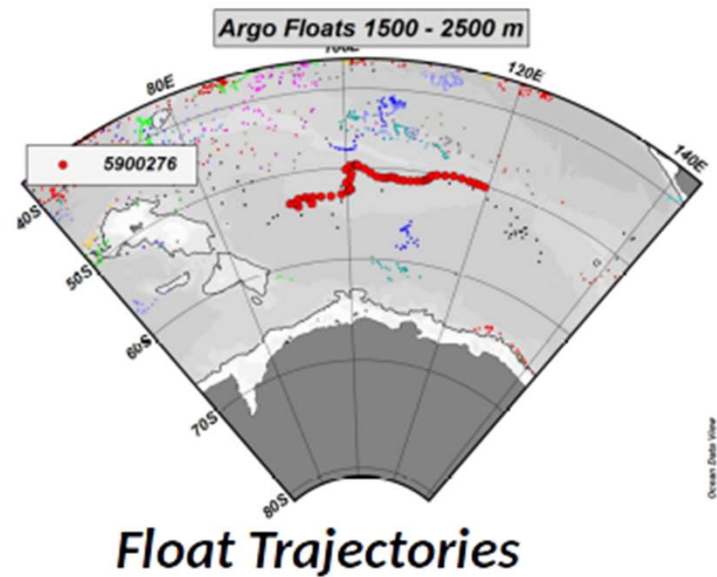
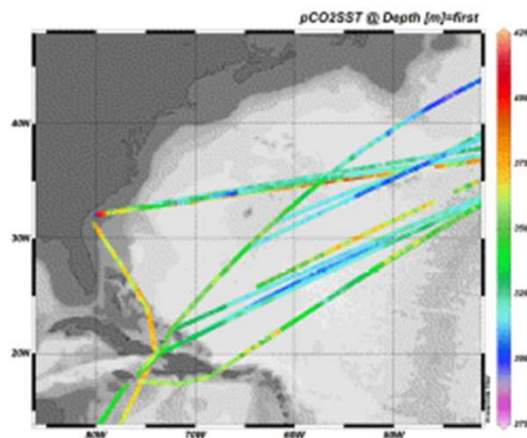
Ice



etc. ...

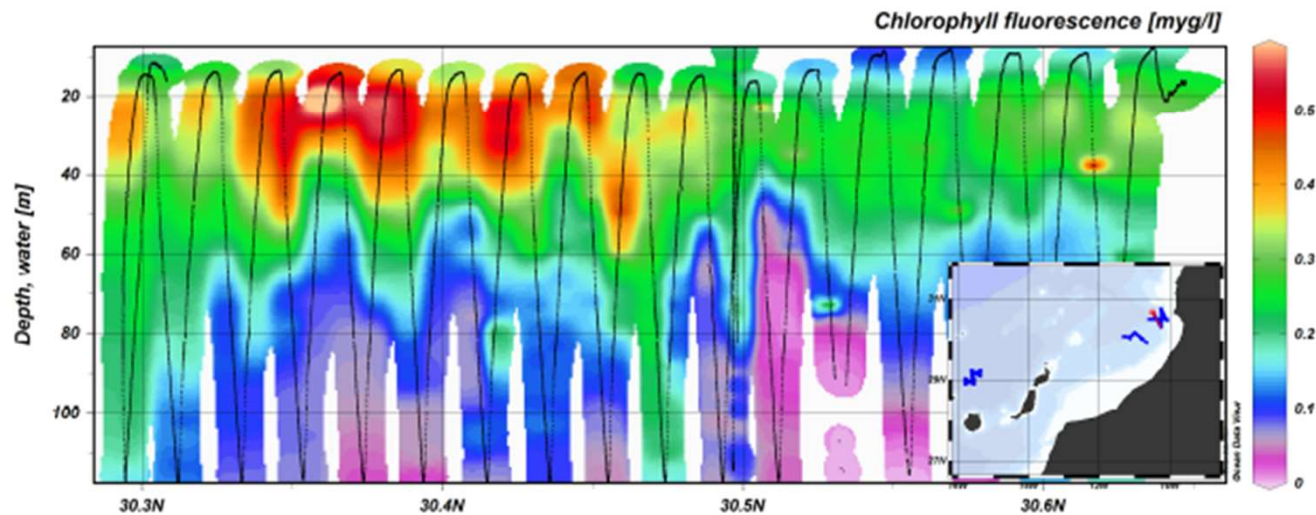
Trajectories

Underway
Ship Data

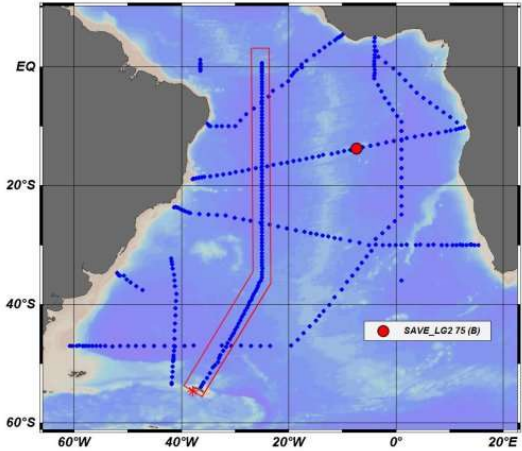
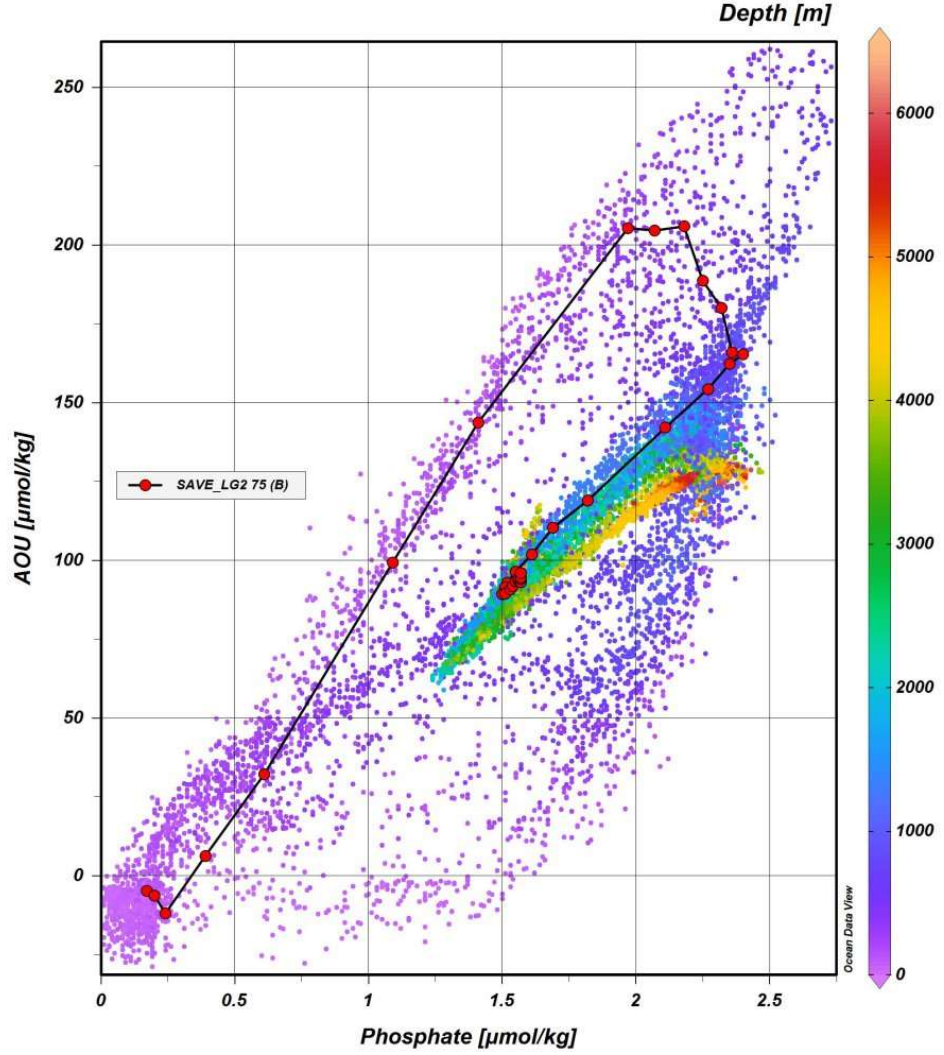
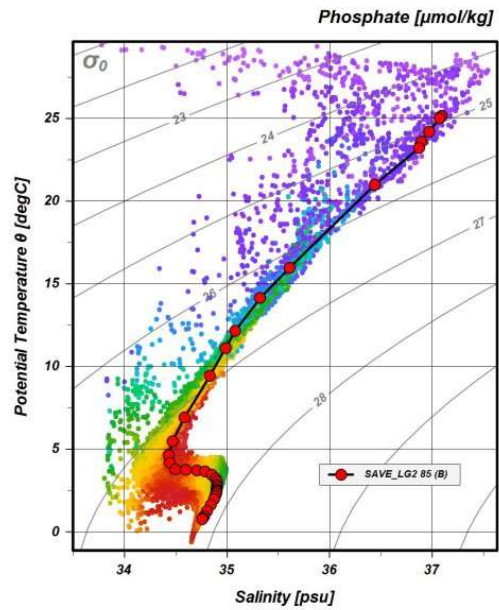


Float Trajectories

AUV, ROV,
Glider or
Towed
Instrument

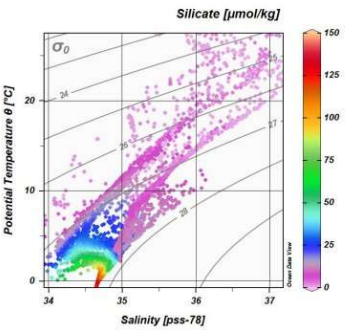
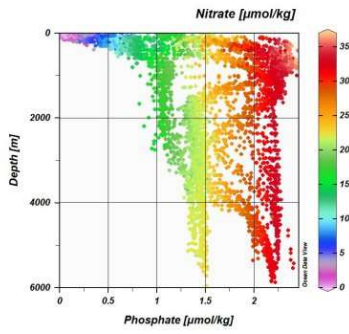
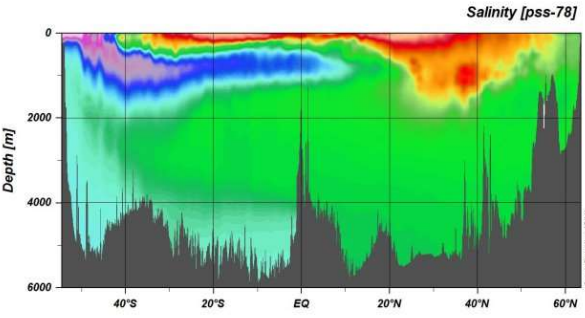
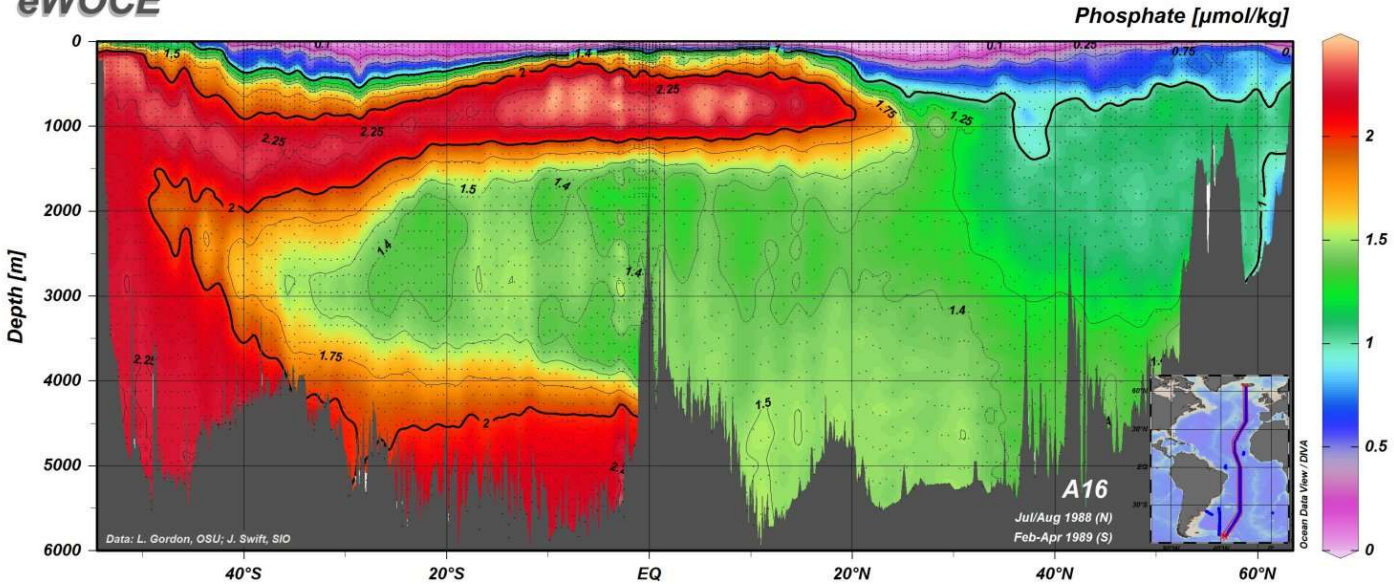


Scatter Plots



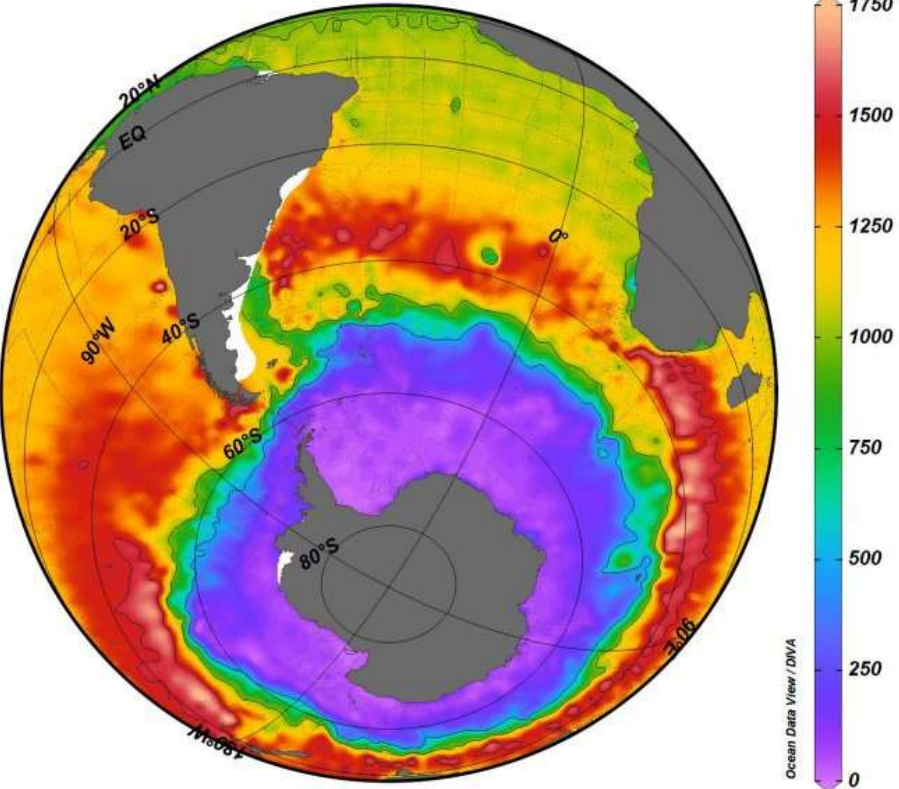
Section Plots

eWOCE

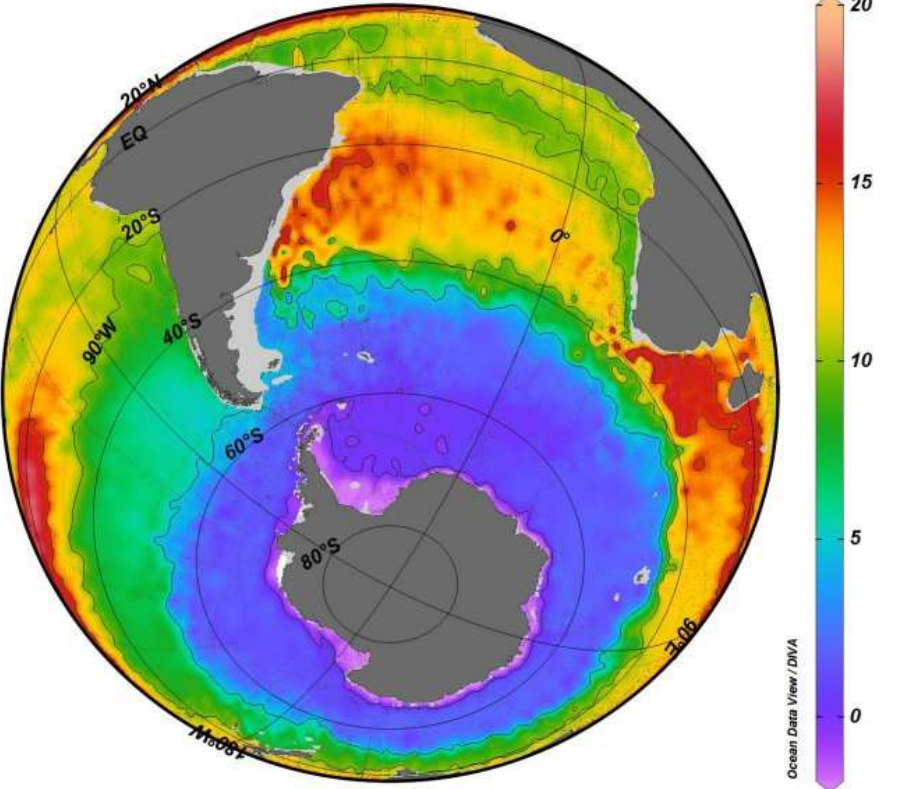


Surface Plots

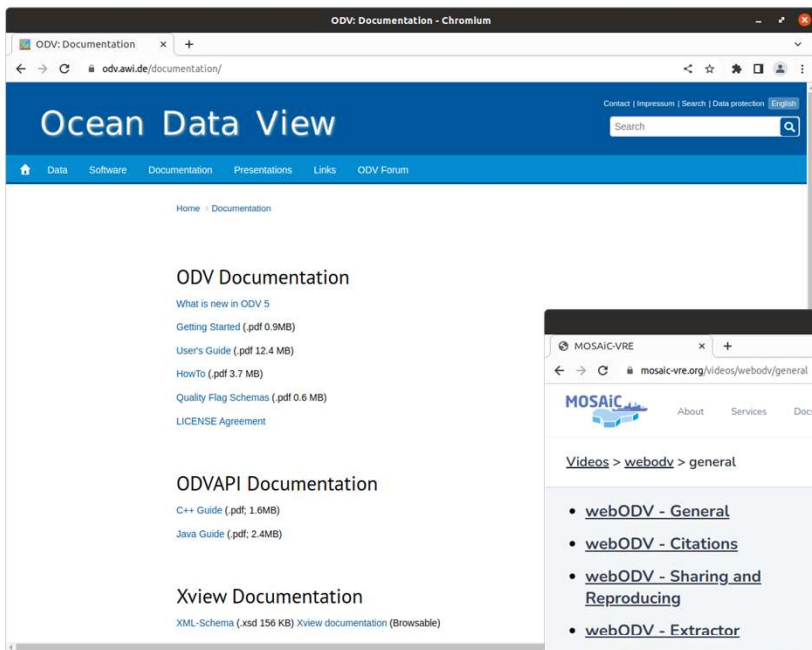
Depth [m] @ Sigma-0 [kg/m³]=27.500



Temperature [C] @ Depth [m]=300



Documentation



ODV: Documentation - Chromium

odvawi.de/documentation/

Ocean Data View

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ODV Documentation

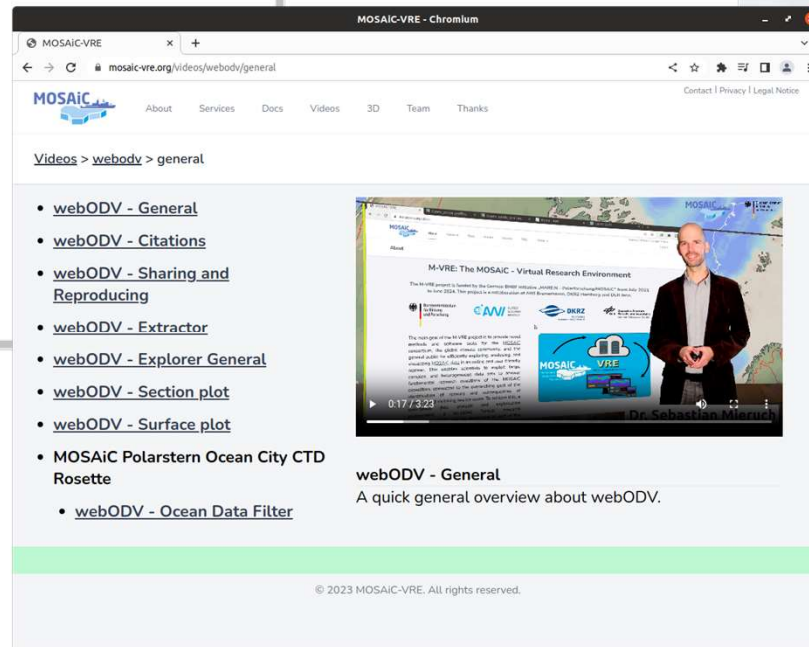
- What is new in ODV 5
- Getting Started (pdf 0.9MB)
- User's Guide (pdf 12.4 MB)
- HowTo (pdf 3.7 MB)
- Quality Flag Schemas (pdf 0.6 MB)
- LICENSE Agreement

ODVAPI Documentation

- C++ Guide (pdf; 1.6MB)
- Java Guide (pdf; 2.4MB)

Xview Documentation

- XML-Schema (.xsd 156 KB) Xview documentation (Browsable)



MOSAIC-VRE - Chromium

mosaic-vre.org/videos/webody/general

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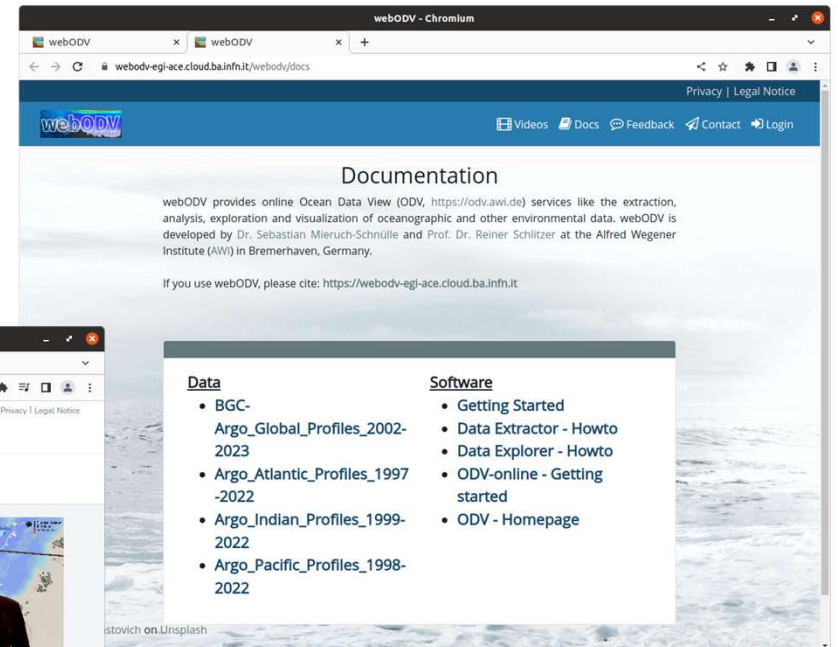
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- [webODV - Explorer General](#)
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- [MOSAIC Polarstern Ocean City CTD Rosette](#)
 - [webODV - Ocean Data Filter](#)

webODV - General
A quick general overview about webODV.

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webodv-egi-ace.cloud.ba.inf.it/webody/docs

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Documentation

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If you use webODV, please cite: <https://webodv-egi-ace.cloud.ba.inf.it>

Data	Software
<ul style="list-style-type: none">BGC-Argo_Global_Profiles_2002-2023Argo_Atlantic_Profiles_1997-2022Argo_Indian_Profiles_1999-2022Argo_Pacific_Profiles_1998-2022	<ul style="list-style-type: none">Getting StartedData Extractor - HowtoData Explorer - HowtoODV-online - Getting startedODV - Homepage