



SeaDataCloud

webODV - a tool for the online analysis of marine data

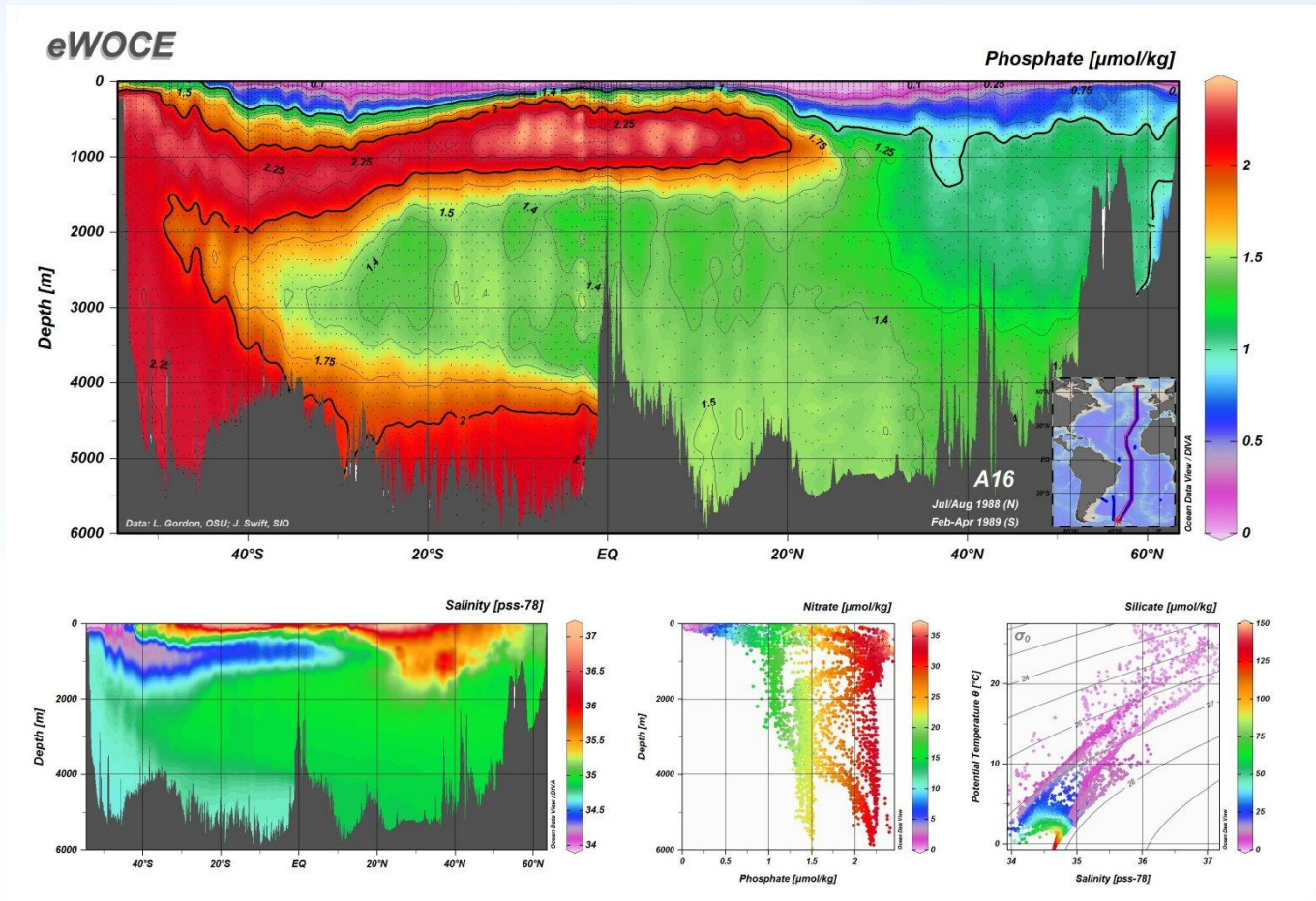
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IMDIS, Barcelona, 5-7 November 2018
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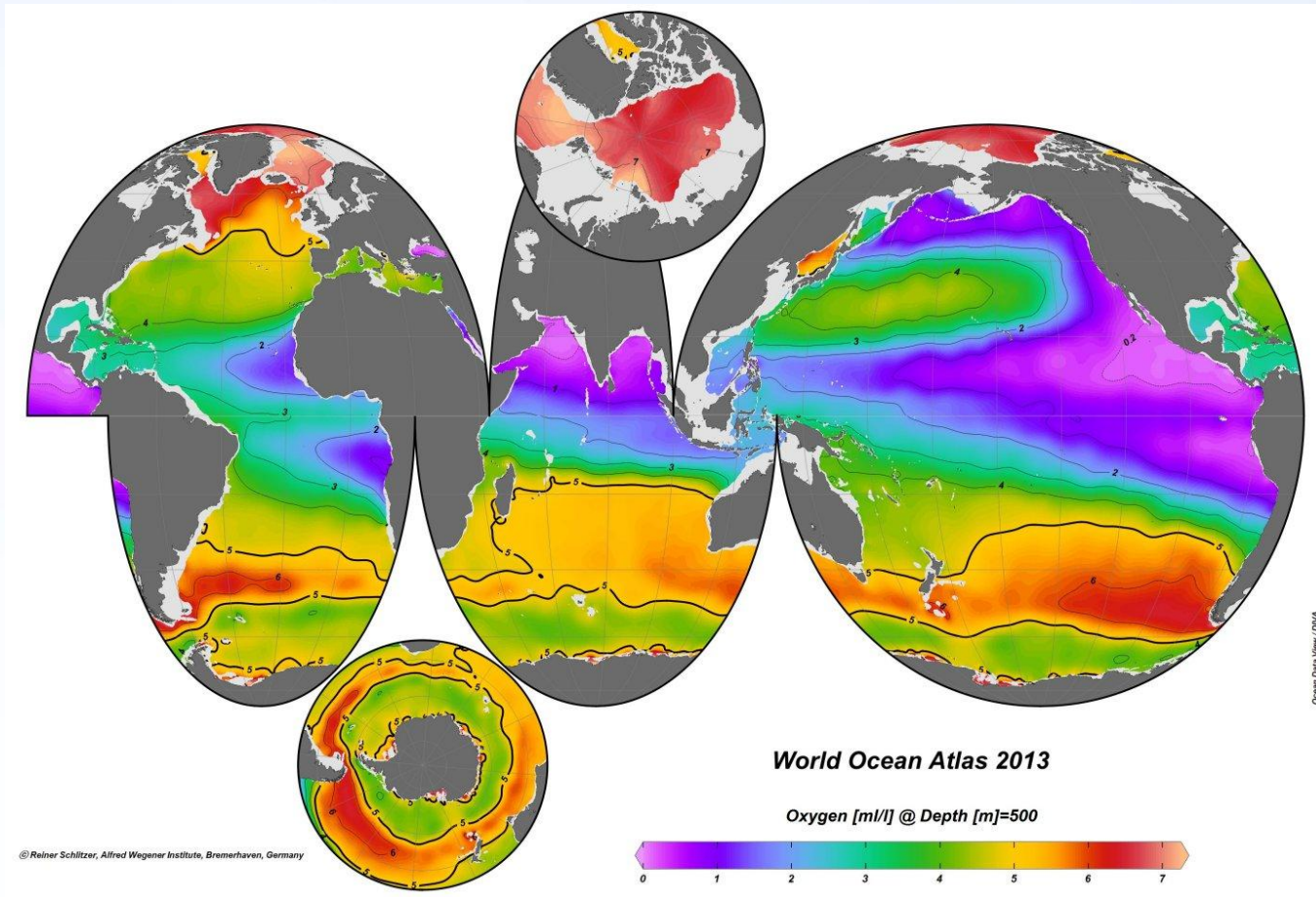
Ocean Data View (ODV)

- Developed by Reiner Schlitzer (AWI)
- Approx. 8,000 active users (>60,000 registrations)
- Oceanographic and other geo-referenced data
- Interactive exploration, analysis and visualisation
- Profiles, time series, trajectories, other sequence data
- Windows, Mac, Linux, Unix
- <https://odv.awi.de>

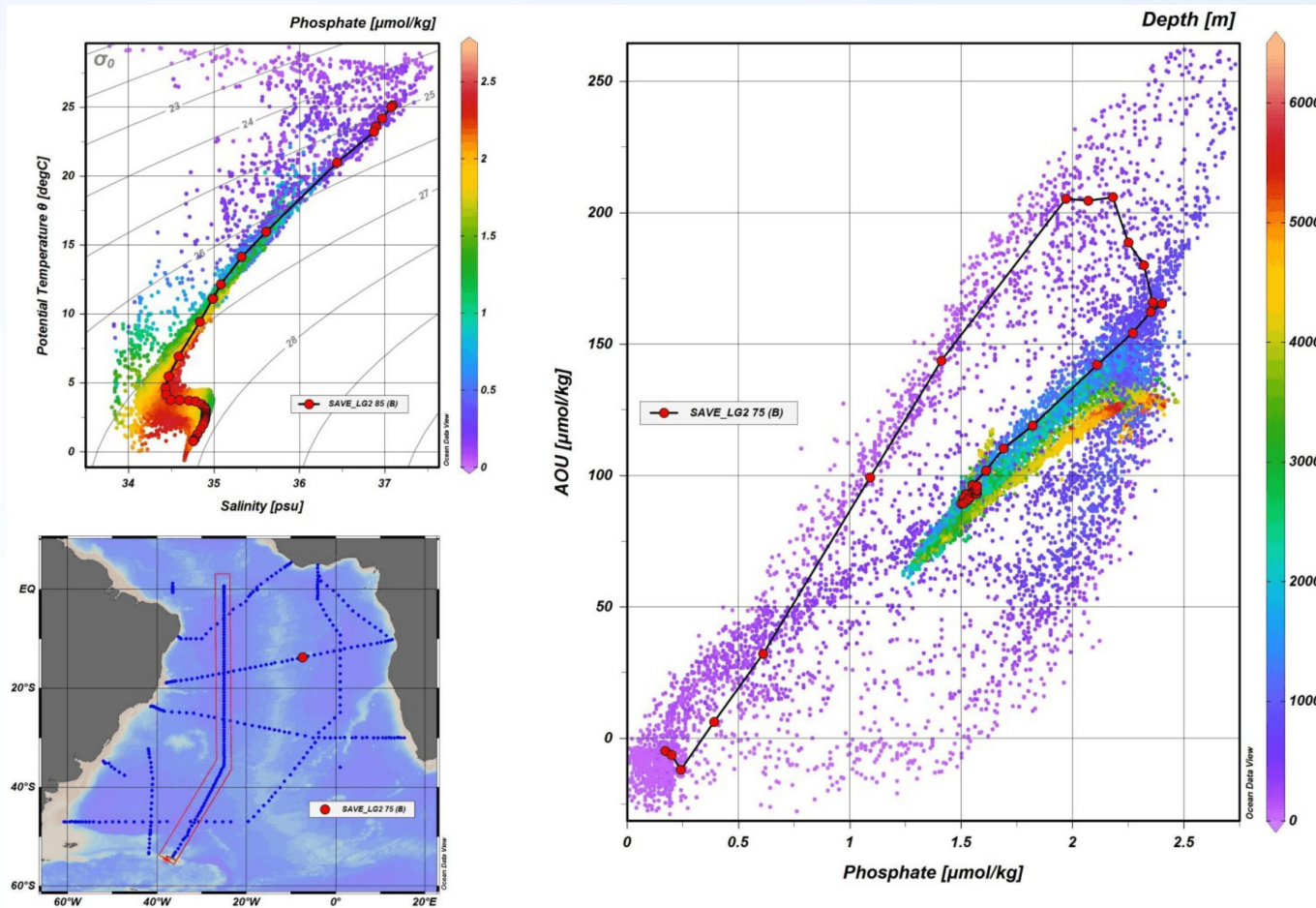
Sections



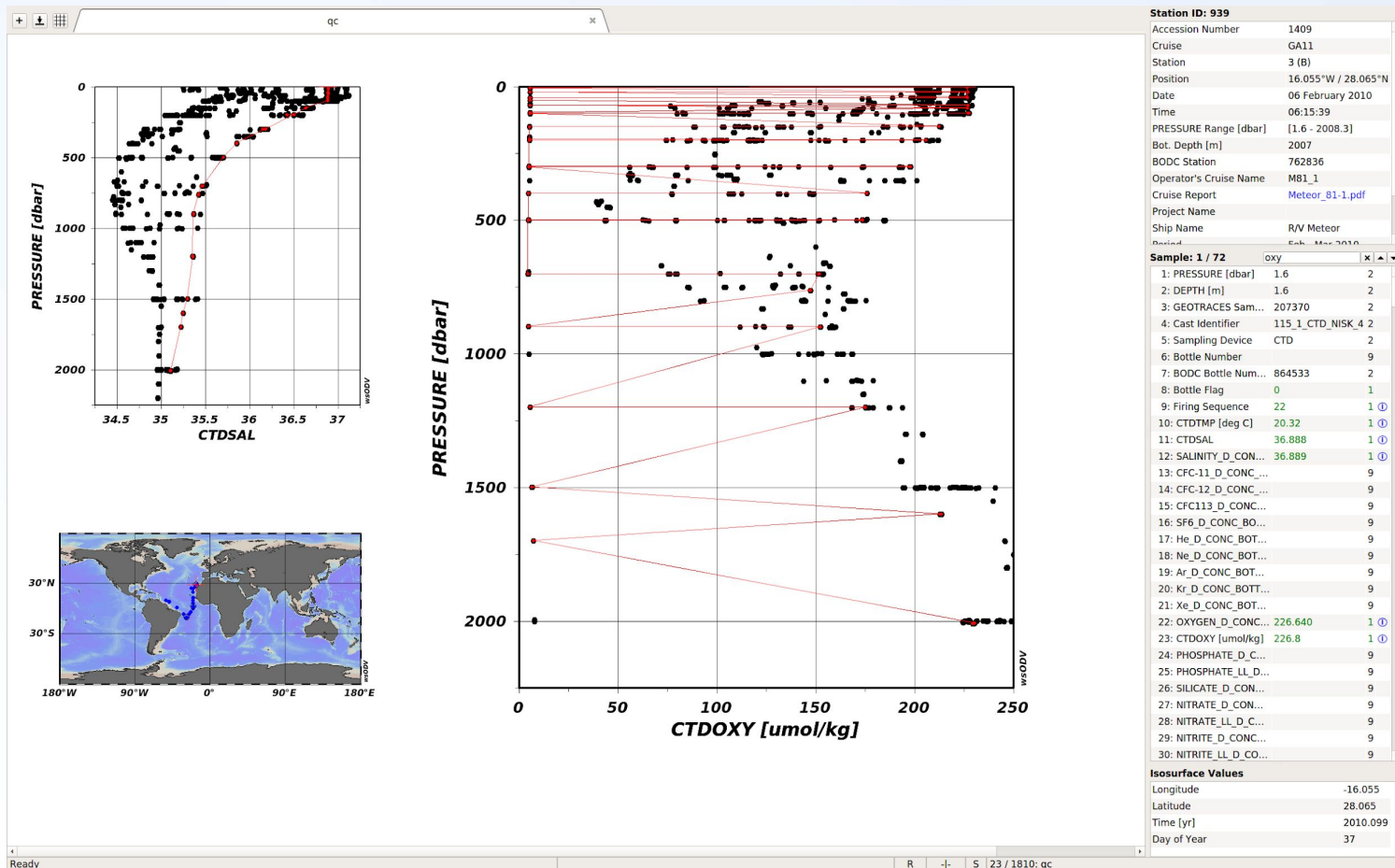
Maps



Scatter plots



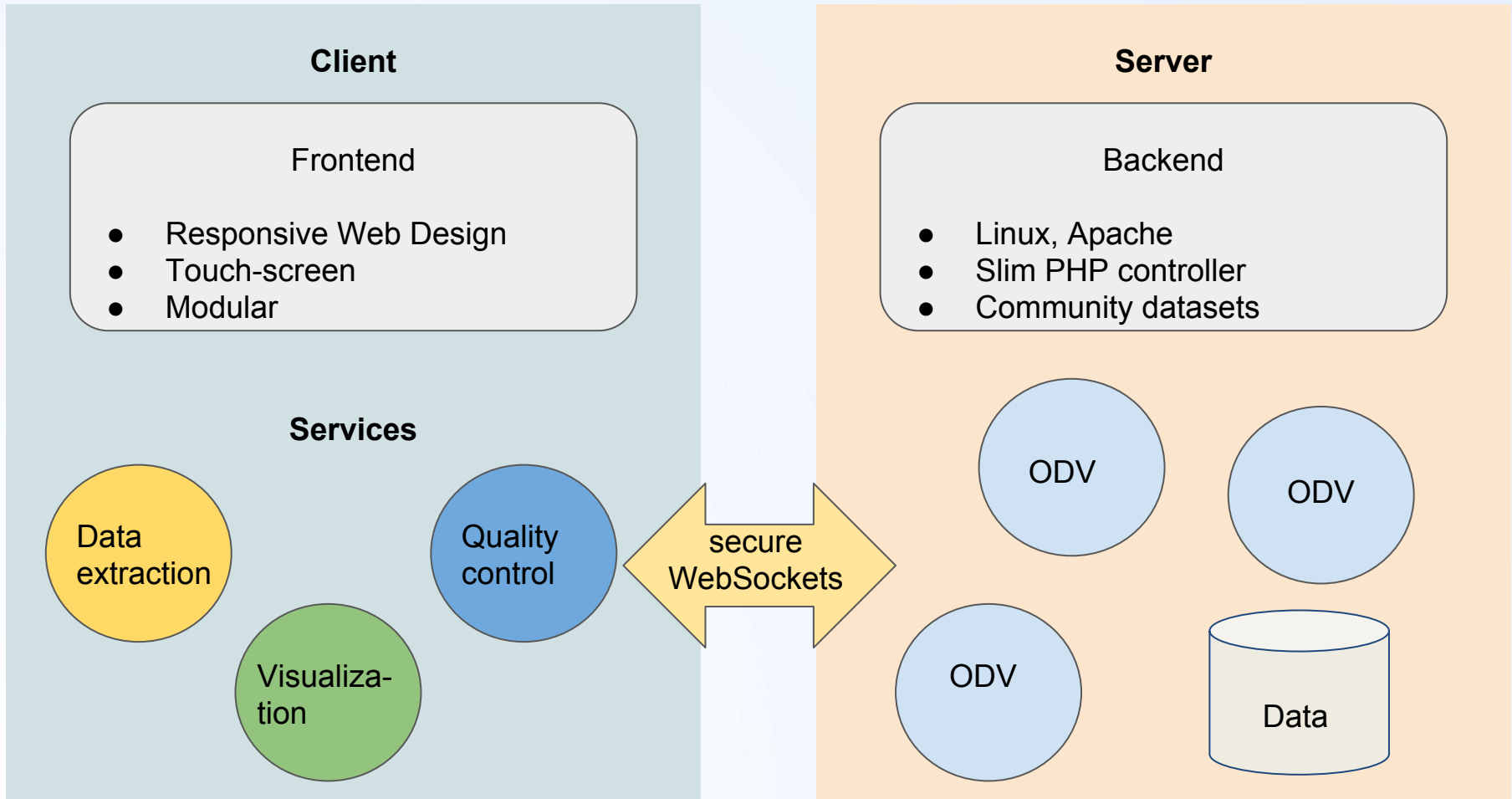
Quality Control



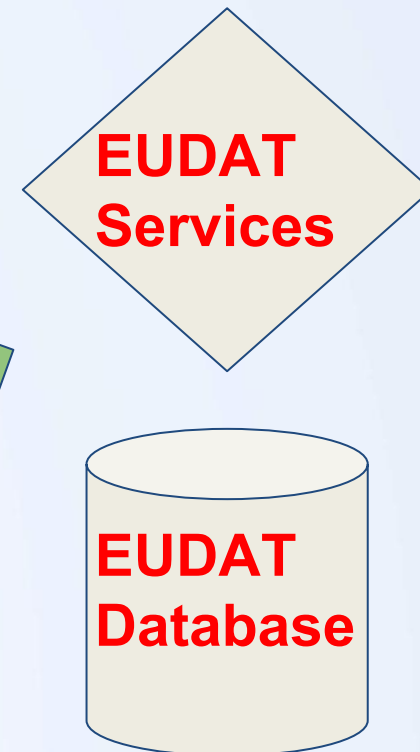
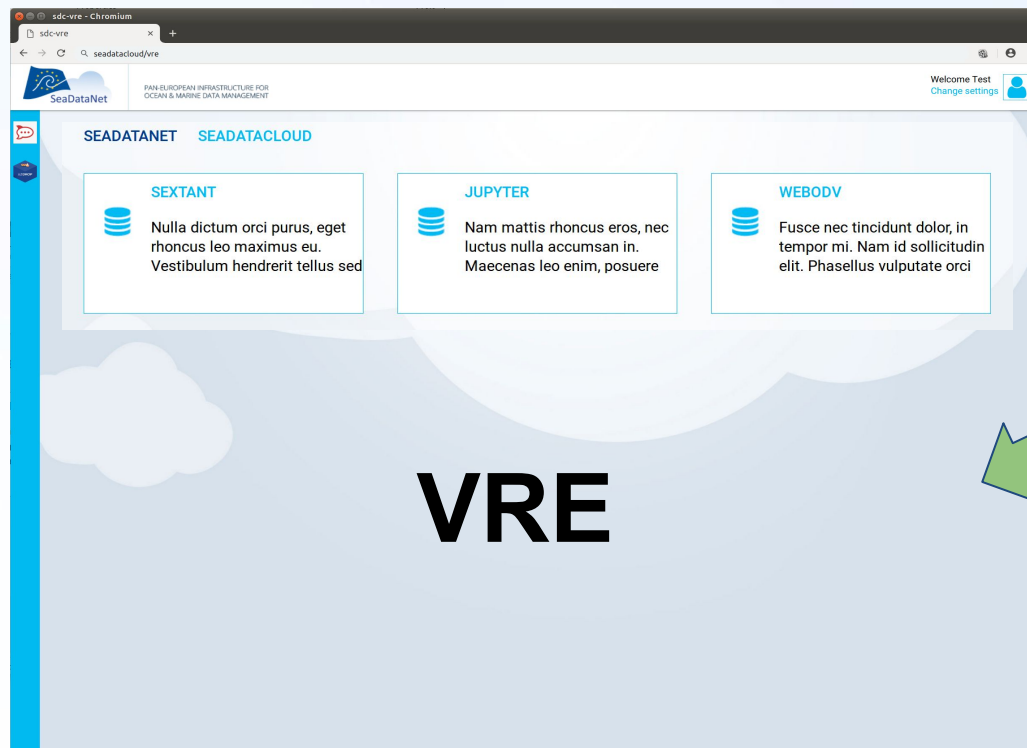
Future

- Continue **ODV** standalone development
 - Personal data
 - No Internet connection
- Develop **webODV** - a tool for the online analysis of marine data
 - Large community datasets
 - No copys of datasets
 - No installation of software
 - Available on all devices (PC, Laptop, Tablet, Smartphone)
 - Integration into Virtual Research Environments (SeaDataCloud)

webODV - Concept



- **SeaDataCloud project**
- **EUDAT cloud infrastructure**
- **Virtual Research Environment (VRE)**
- **webODV**



Quality control

[video](#)

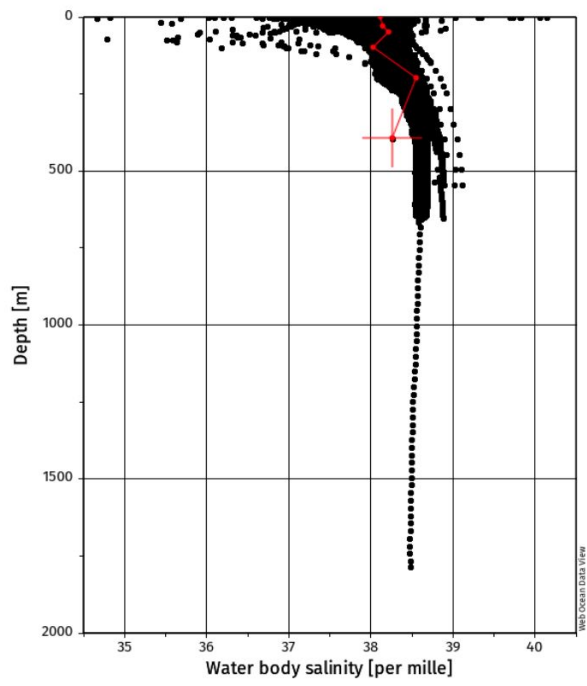
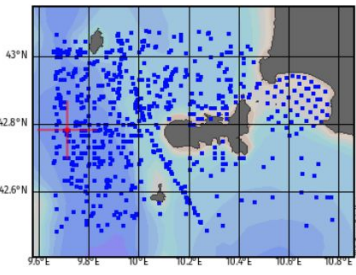
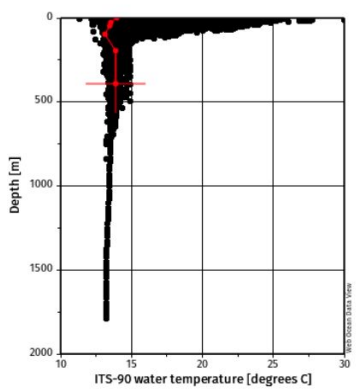
Quality Control Services

- ← previous
- 1. Select data set
- 2. QC Editor
- 3. Save/Export/Exit
- next →

Right click on the data windows or map window to open context menus and choose an options. Apply zoom by double left mouse click or *enter* key if *zoom mode* is active. Cancel *zoom mode* by *ESC* key. To assign a quality flag, right click on the value or flag of the respective variable in the "Sample" table at the bottom right of the page. Use the *arrow buttons* below to navigate from sample to sample within one station. Use double-clicking for larger steps.

↓

↑



Status: ▲

Data set: **VRE/SDN_test_EL...**

Mouse:

Station ID: 369 ▲

Accession Num...	369
Cruise	EAA2
Station	36950 (B)
Position	9.717°E / 42.783...
Date	25 March 1976
Time	10:05:59
Depth Range [m]	[0.00 - 396.45]
LOCAL_CDI_ID	158829
EDMO_CODE	120

Sample: 6/6 ▲

variable	value	flag
1: Depth [...]	396.45	1
2: ITS-90 ...	13.88	4
3: Water ...	38.26	4

Data Extractor

- ← previous
- 1. Select stations
- 2. Select variables
- 3. Download
- 4. Exit
- next →

Select cruises from the *Cruises* menu. Click *Zoom in* to define a sub-region, *Apply* to select the sub-region, or *Zoom out* to return to global domain. Use the *Required variables* as a station filter.

Selection status

Stations:
Output variables:

Cruises

cruises

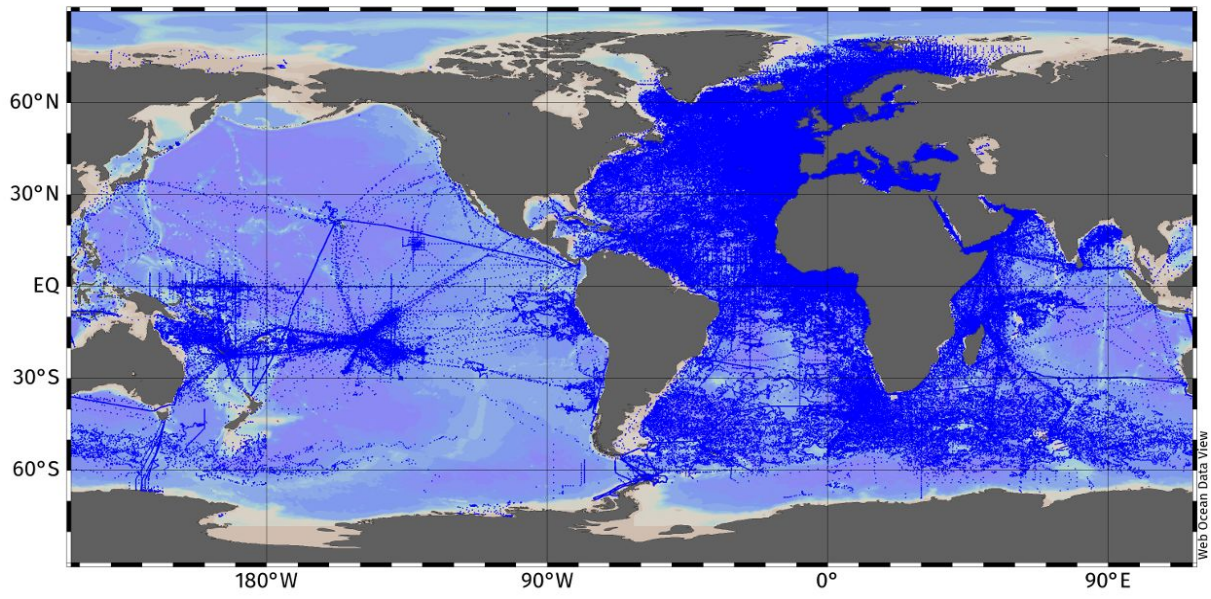
Map domain

Zoom in

Required variables ?

Nothing selected

Reset



The screenshot displays the ODV-online web interface. At the top, the browser address bar shows the URL: <https://webodv.awi.de/jsODV/wsODV/index.php>. The main window title is "SDN_2015-09_TS_MedSea_QC_done_v2".

On the right side, there is a metadata panel for "Station ID: 143027" with the following details:

Accession Number	143027
Cruise	PF_1900606
Station	1900606_20_A (B)
Position	24.553°E / 33.423°N
Date	10 November 2006
Time	11:01:00
Depth Range [m]	[0.0 - 1942.0]
Bot. Depth [m]	0
LOCAL_ID	4119995
	486
	PF_1900606_20_A_4119995
	Physical oceanography
	Water column temperature and Salinity of the water column;Te
	ODV
	0.4
	20100408
	33.42
	33.42
	24.55
	24.55
	point

The central area contains several data visualizations:

- Top left: A plot of "ITS-90 water temperature [degrees C] @ Depth [m]=300.0" showing temperature vs. depth (0 to 400m).
- Top middle: A depth profile plot showing data points and a fitted curve.
- Top right: A spatial map of "ITS-90 water temperature [degrees C] @ Depth [m]=300.0" with a color scale from 16 to 16.5.
- Bottom left: A plot of "Water body salinity" vs. depth (0 to 400m).
- Bottom middle: A spatial map of "Sea Surface Temperature" with a color scale from 14 to 16.
- Bottom right: A "Properties" panel showing "Sample: 32 / 97" and "Isosurface Values" for Longitude (24.553), Latitude (33.423), Time (2006.859), and Day of Year (314).

A large text overlay in the center reads "ODV-online Visualization Server" and lists the following features:

- Provide ODV look-and-feel in the browser window
- Fully interactive (mouse or touch; context menus, ...)
- Fast response, low latency
- Easy to learn and operate
- Creates all ODV graphics types

The browser status bar at the bottom shows "Window 5" and "RW Q| S 2298 / 215520".

Conclusions

- Concept works
- Desktop like user experience
- Fast, powerful, stable and efficient
- Scalable and modular

Next steps

- Implementation into the SeaDataCloud VRE in close collaboration with users and EUDAT partners
- Development of visualization services



Thank you for your attention.