

Bringing the *Ocean Data View* (ODV) software to the web



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ODV - As Standalone Tool

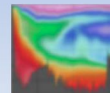
- Interactive analysis and visualization software for Windows, Linux and MacOS
- Very large user community (>66,000 registered users; ca. 20 new users per day; ca. 200 website visitors per day; >8000 ODV5 installations since Mar/15/2018)
- ODV graphics published in high-level scientific journals (e.g., Nature, Science, PNAS and PlosOne) as well as textbooks
- ODV formats adopted by international projects and data systems (e.g., EU SeaDataCloud, US SeaCube, ERDDAP)
- Widely used importers for SeaDataNet, World Ocean Database, Argo, GTSP, WOCE, SeaBird, etc.

Data formats

1. ODV Collections

Optimized for dense storage and fast access

Ocean Data View



<https://odv.awi.de>

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2. netCDF

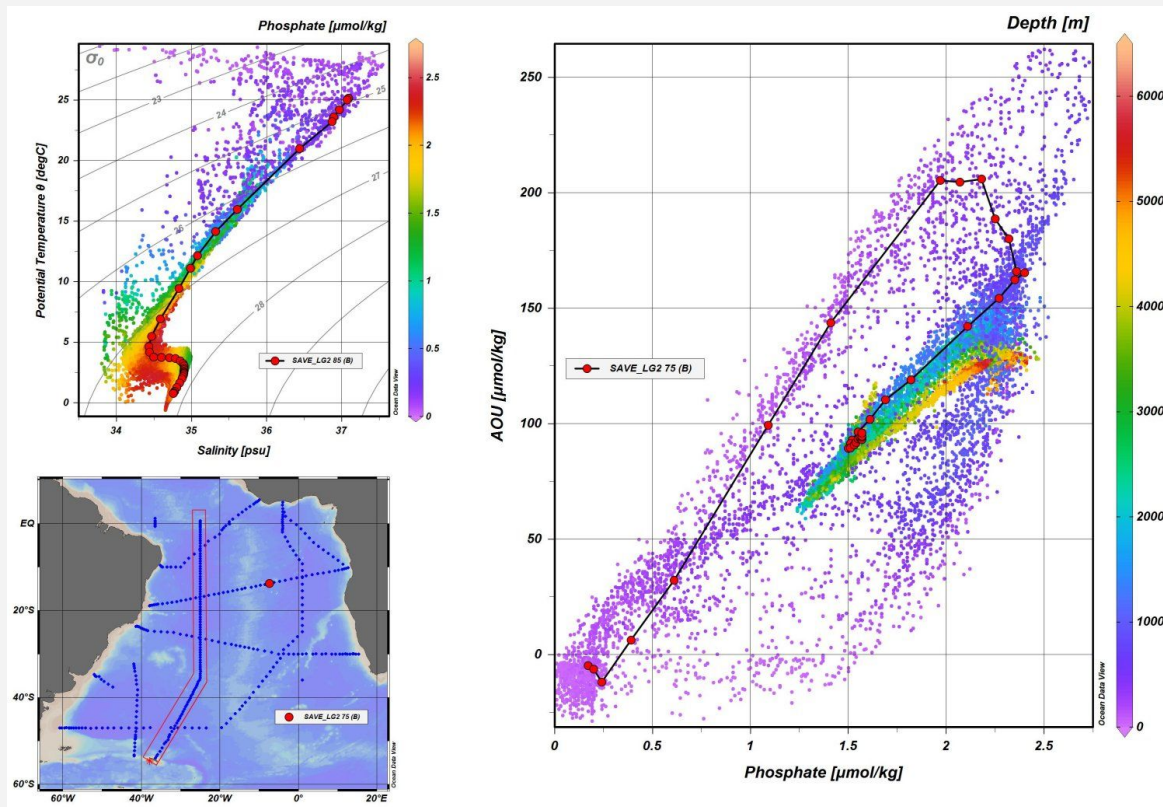


3. ASCII text

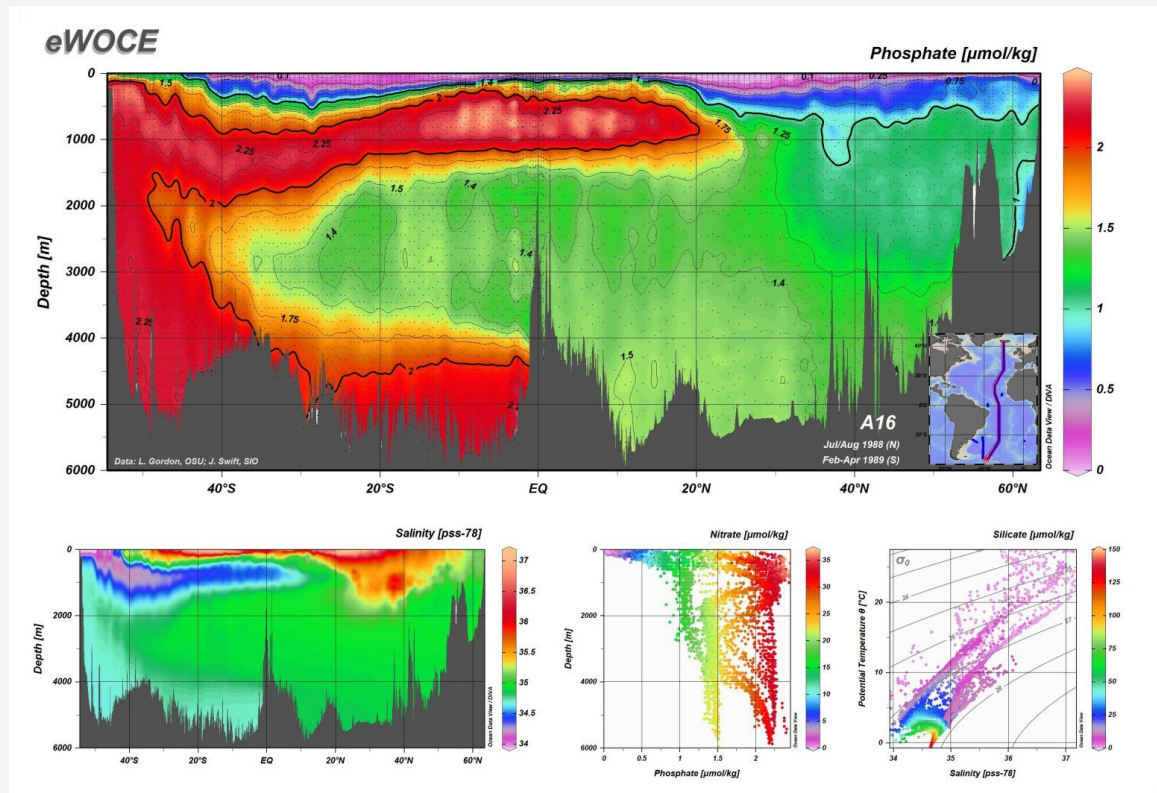
USASCII code chart

		00000000							
		0	1	2	3	4	5	6	7
0	0	NUL	DLE	SP	0	9	P	V	x
0	0	1	SON	DC1	1	A	Q	a	n
0	0	1	2	STX	DC2	2	B	R	o
0	0	1	3	ETX	DC3	3	C	S	s
0	0	1	4	EOF	DC4	4	D	T	t
0	0	1	5	END	NAK	5	E	U	u
0	0	1	6	ACK	SYN	6	F	V	v
0	0	1	7	BEL	ETB	7	G	W	w
0	0	1	8	BS	CAN	8	H	X	x
0	0	1	9	HT	EM	9	I	Y	y
0	0	1	10	LF	SUB	10	J	Z	z
0	0	1	11	VT	ESC	11	K	[{
0	0	1	12	FF	PS	12	L	\	
0	0	1	13	CR	GS	13	M]	~
0	0	1	14	SD	RS	14	N	^	~
0	0	1	15	SI	US	15	O	_	DEL

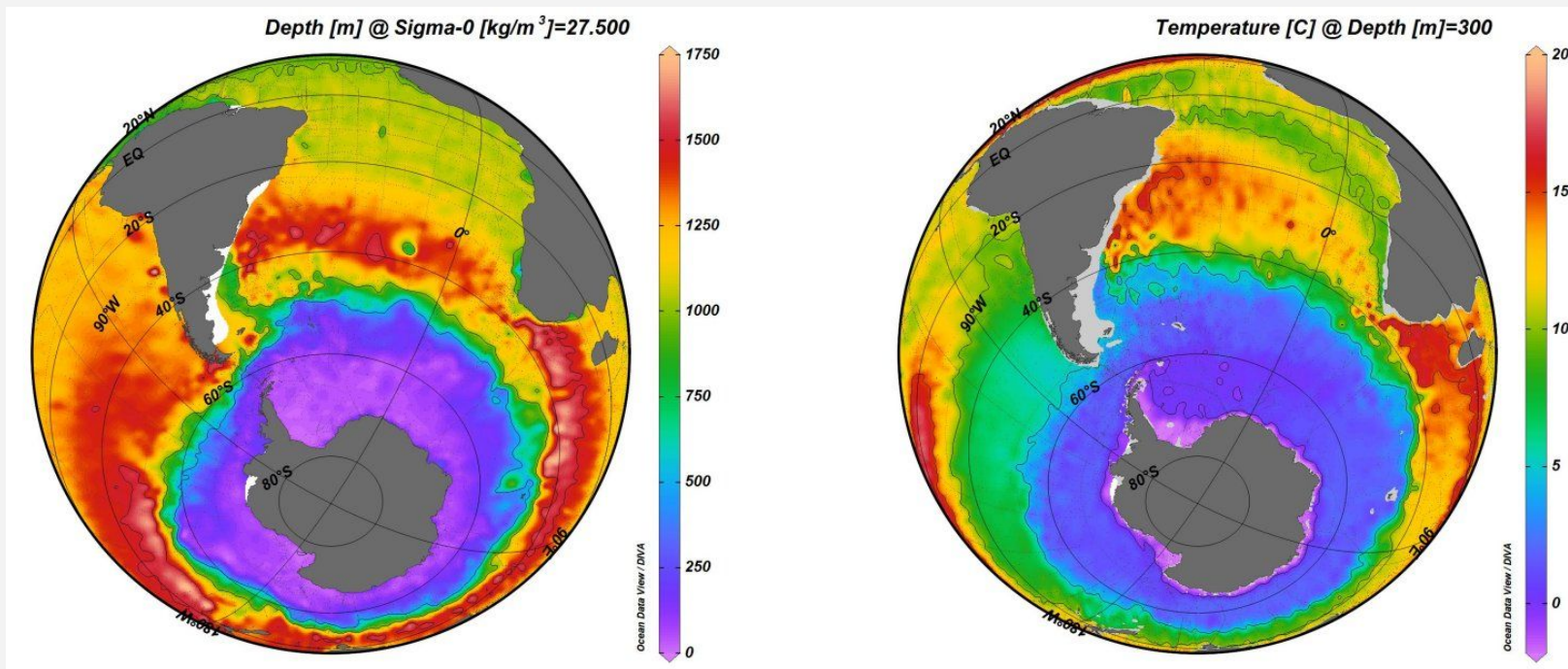
Property/property plots of all stations



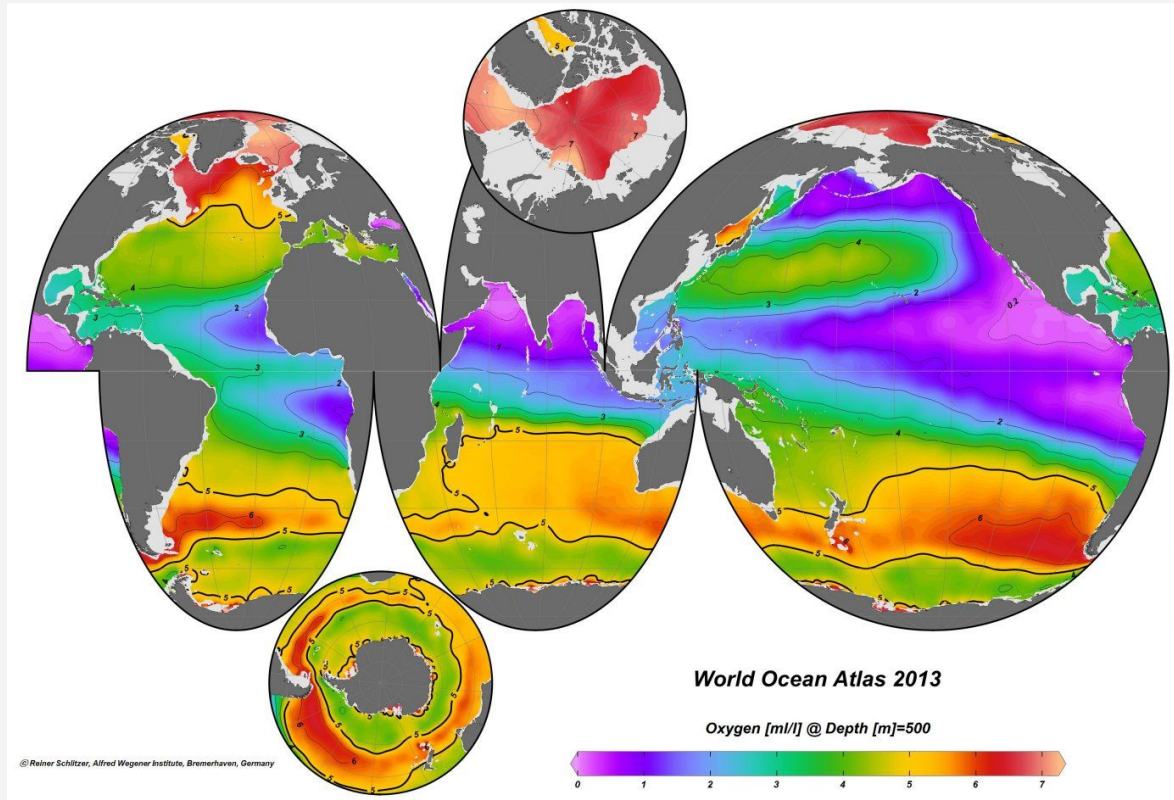
Section plots



Property plots on iso-surfaces



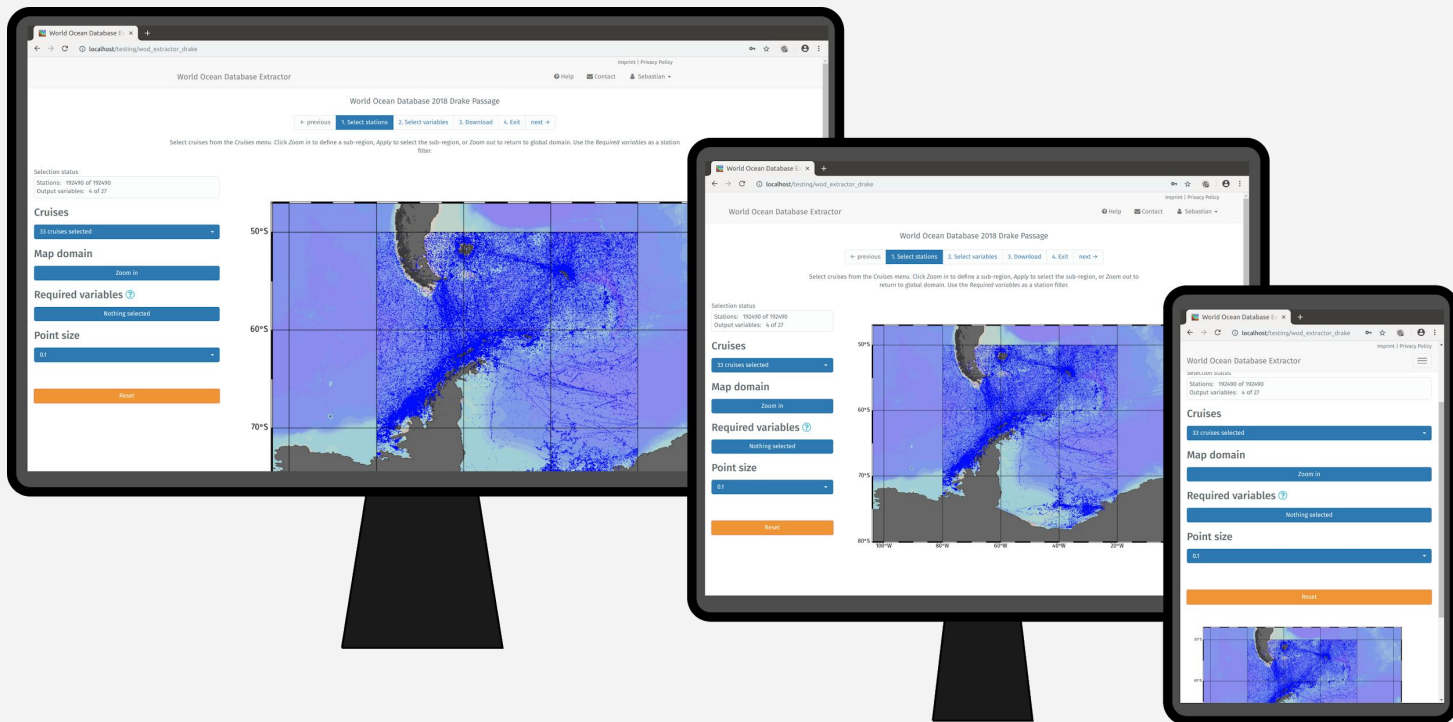
Interrupted maps



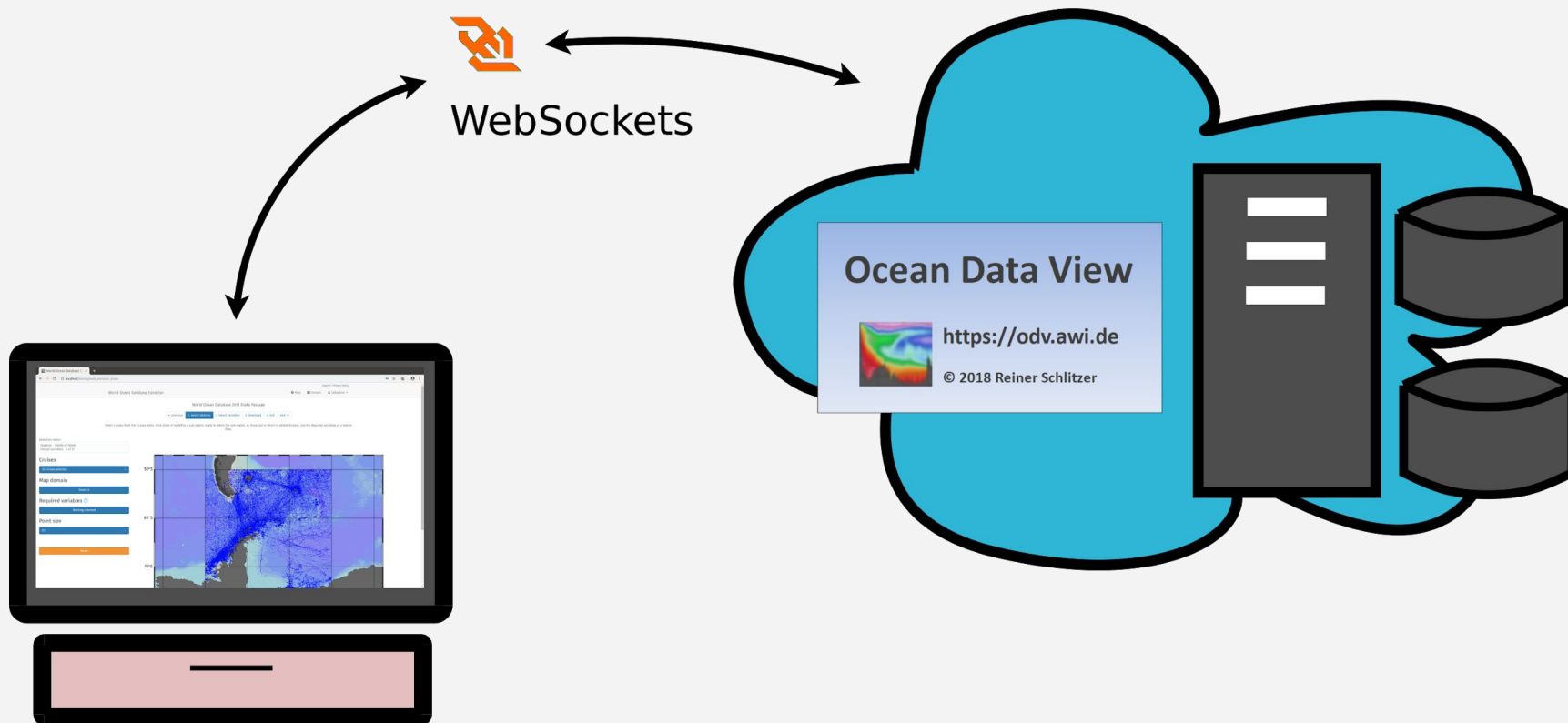
Future

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

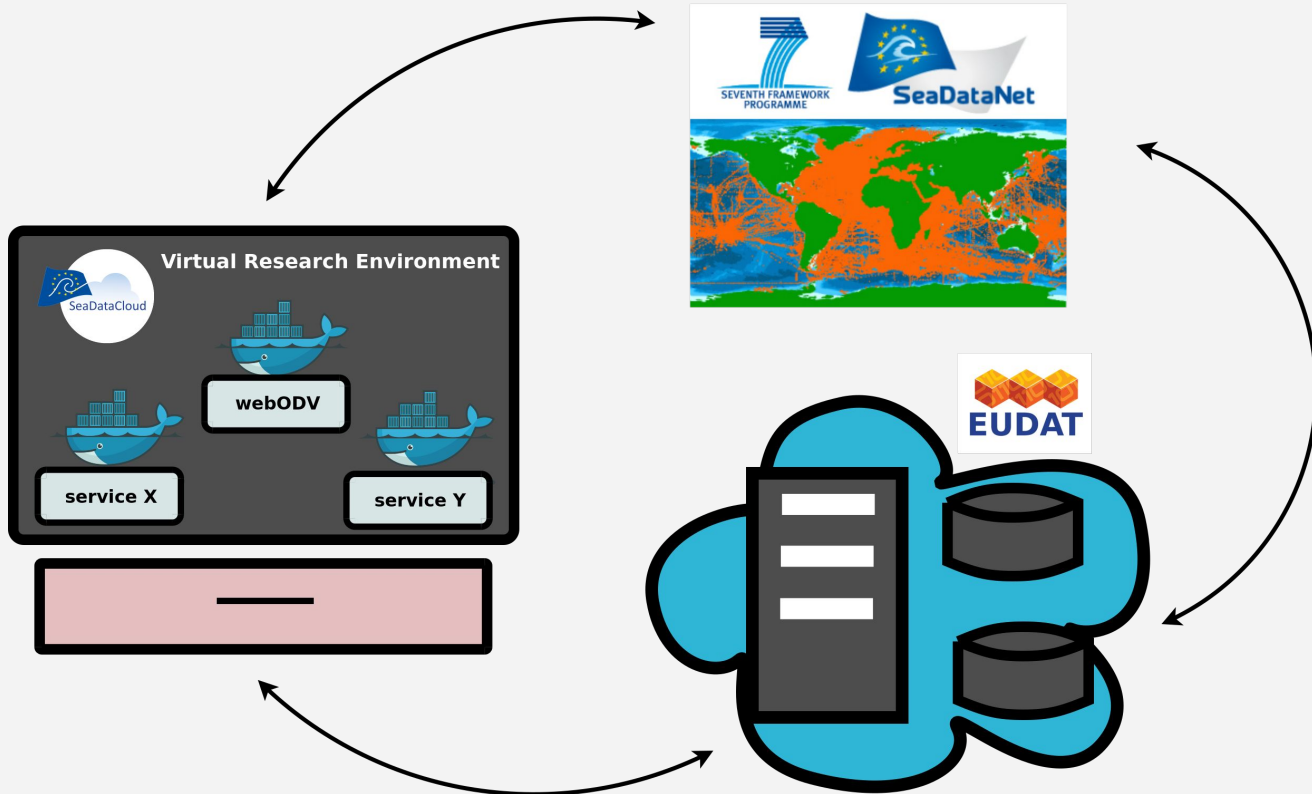
webODV - a tool for the online analysis of environmental data



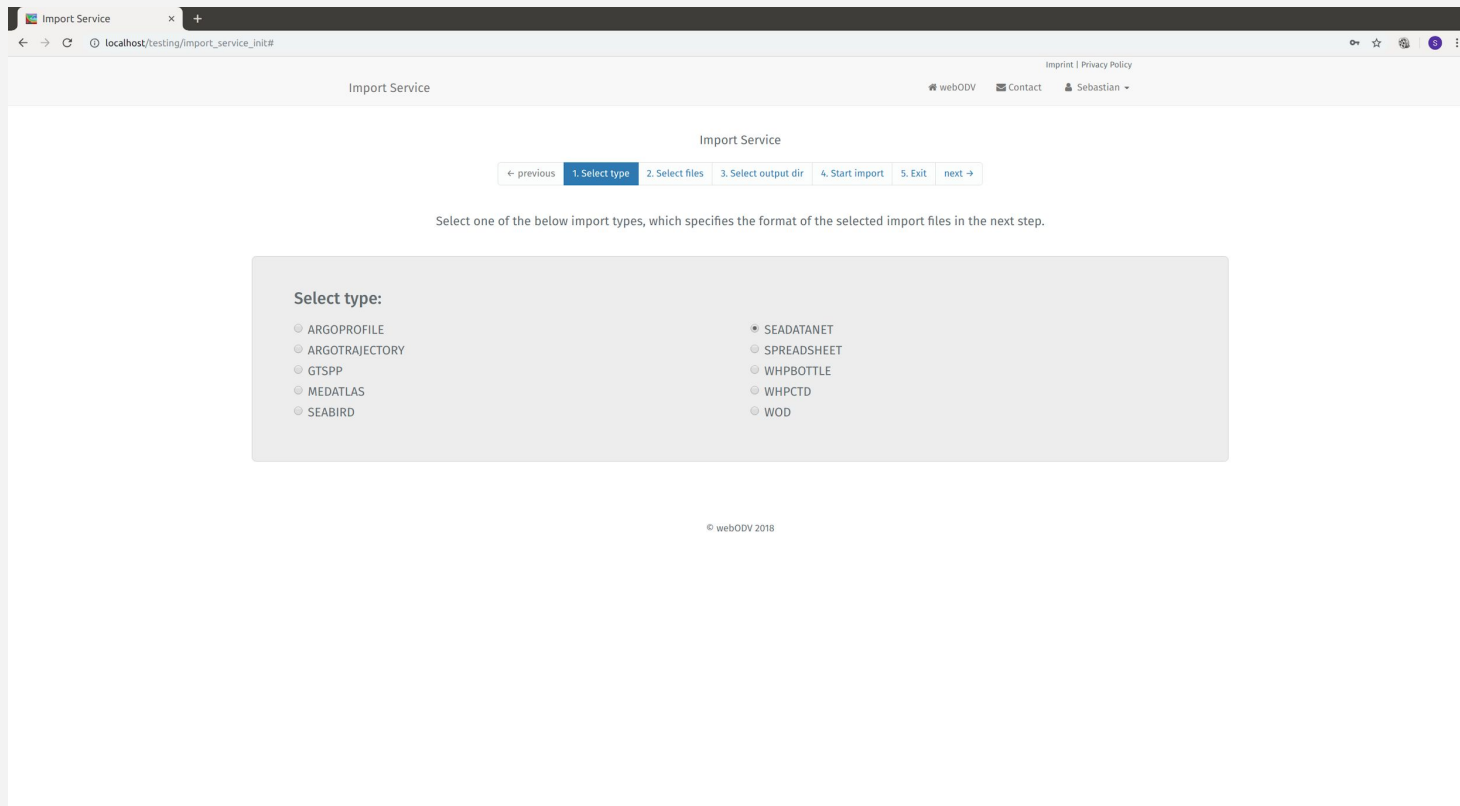
webODV concept



webODV in the SeaDataCloud Project



webODV services: Importer



The screenshot shows a web browser window with the title "Import Service". The address bar shows the URL "localhost/testing/import_service_init#". The page header includes "Import Service" on the left and navigation links "webODV", "Contact", and "Sebastian" on the right. The main content area is titled "Import Service" and features a progress bar with five steps: "1. Select type", "2. Select files", "3. Select output dir", "4. Start import", and "5. Exit". The "1. Select type" step is currently active. Below the progress bar, a message states: "Select one of the below import types, which specifies the format of the selected import files in the next step." A large light gray box contains the "Select type:" section with two columns of radio button options. The first column lists ARGOPROFILE, ARGOTRAJECTORY, GTSPP, MEDATLAS, and SEABIRD. The second column lists SEADATANET (which is selected), SPREADSHEET, WHPBOTTLE, WHPCTD, and WOD. At the bottom of the page, a copyright notice "© webODV 2018" is visible.

Import Service

webODV Contact Sebastian

Import Service

← previous 1. Select type 2. Select files 3. Select output dir 4. Start import 5. Exit next →

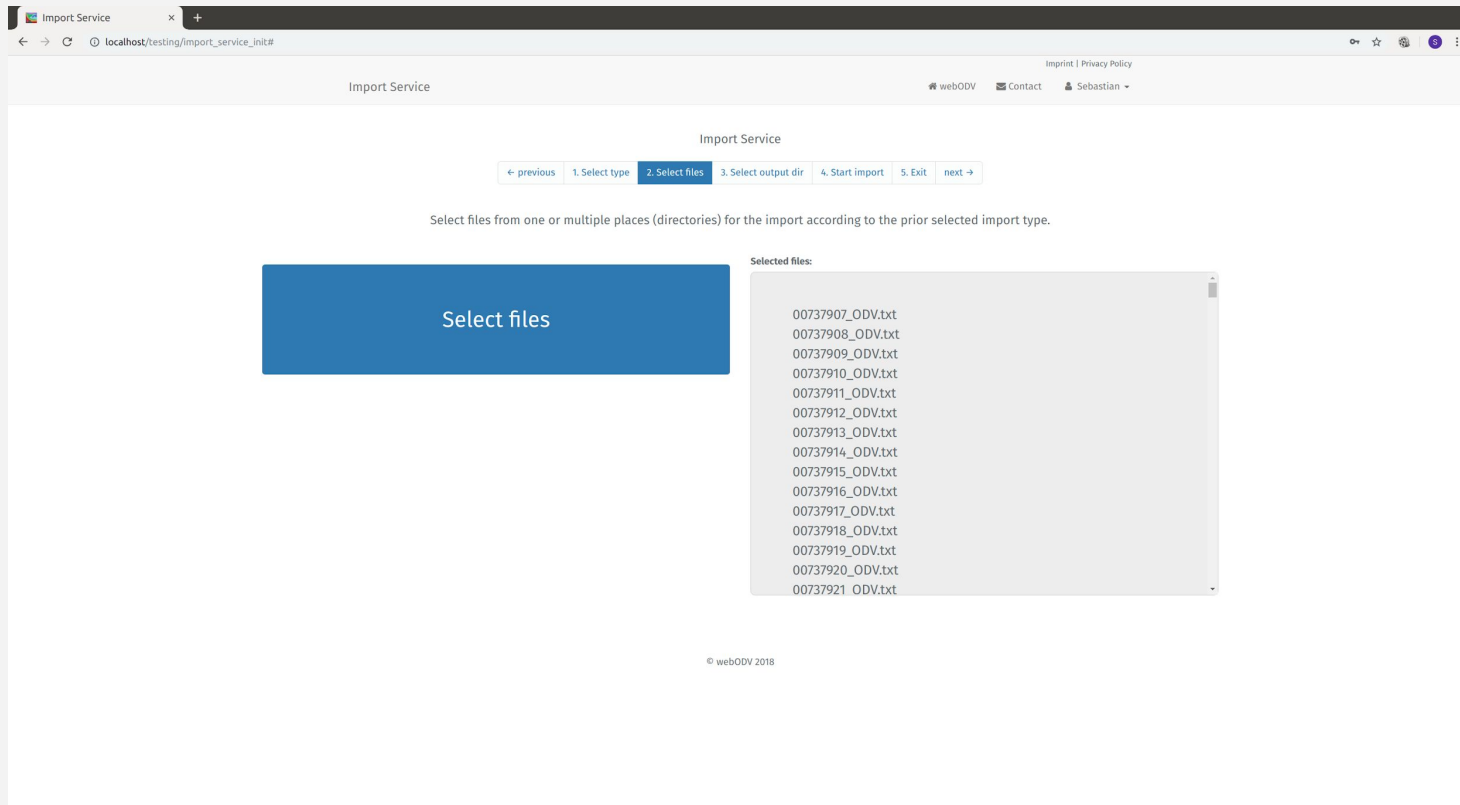
Select one of the below import types, which specifies the format of the selected import files in the next step.

Select type:

- ☐ ARGOPROFILE
- ☐ ARGOTRAJECTORY
- ☐ GTSPP
- ☐ MEDATLAS
- ☐ SEABIRD
- ☒ SEADATANET
- ☐ SPREADSHEET
- ☐ WHPBOTTLE
- ☐ WHPCTD
- ☐ WOD

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webODV services: Importer



The screenshot shows a web browser window with the URL `localhost/testing/import_service_init#`. The page title is "Import Service". In the top right corner, there are links for "Imprint | Privacy Policy", "webODV", "Contact", and a user profile "Sebastian".

The main content area is titled "Import Service" and features a progress bar with five steps: "previous", "1. Select type", "2. Select files" (which is the active step), "3. Select output dir", "4. Start import", "5. Exit", and "next".

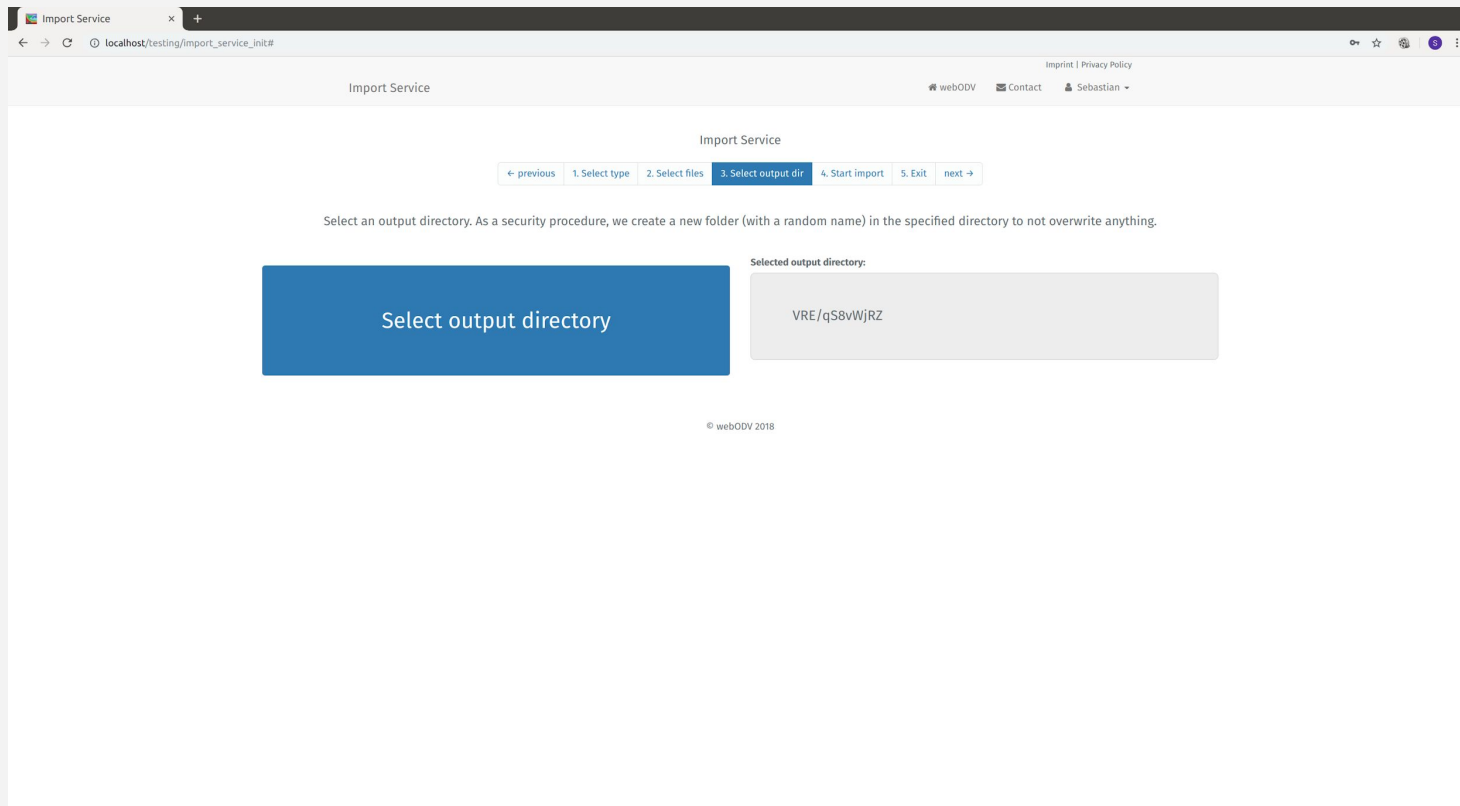
Below the progress bar, a text instruction reads: "Select files from one or multiple places (directories) for the import according to the prior selected import type."

There are two main interactive elements:

- A large blue button labeled "Select files" on the left.
- A "Selected files:" panel on the right, which contains a scrollable list of 18 files, all named with a unique ID followed by "_ODV.txt":
 - 00737907_ODV.txt
 - 00737908_ODV.txt
 - 00737909_ODV.txt
 - 00737910_ODV.txt
 - 00737911_ODV.txt
 - 00737912_ODV.txt
 - 00737913_ODV.txt
 - 00737914_ODV.txt
 - 00737915_ODV.txt
 - 00737916_ODV.txt
 - 00737917_ODV.txt
 - 00737918_ODV.txt
 - 00737919_ODV.txt
 - 00737920_ODV.txt
 - 00737921_ODV.txt

At the bottom center of the page, the copyright notice "© webODV 2018" is displayed.

webODV services: Importer



The screenshot shows a web browser window with the title "Import Service". The address bar shows the URL "localhost/testing/import_service_init#". The page header includes "Import Service" and navigation links for "webODV", "Contact", and a user profile "Sebastian".

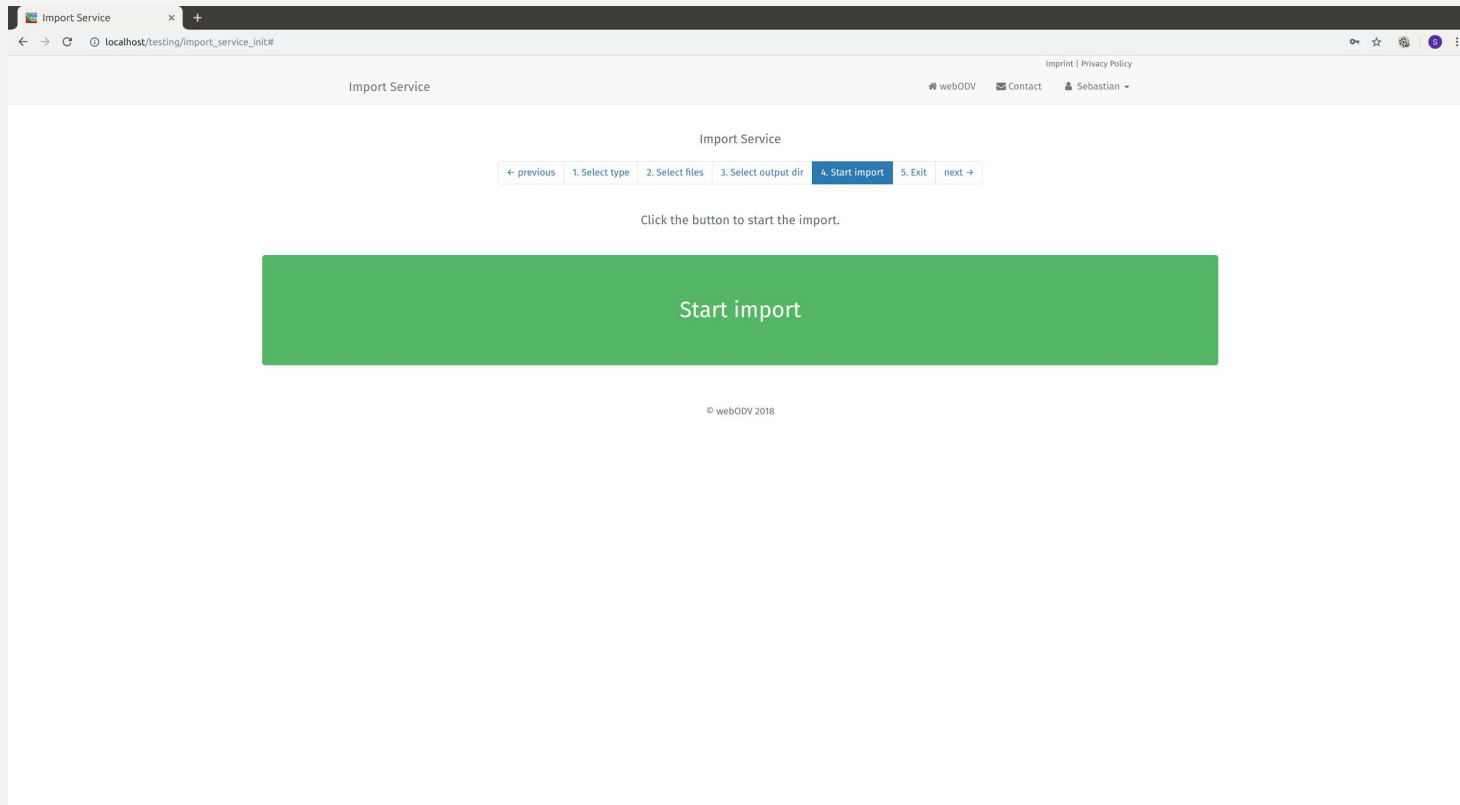
The main content area is titled "Import Service" and features a progress bar with five steps: "previous", "1. Select type", "2. Select files", "3. Select output dir.", "4. Start import", "5. Exit", and "next". The third step, "3. Select output dir.", is currently active.

Below the progress bar, a message states: "Select an output directory. As a security procedure, we create a new folder (with a random name) in the specified directory to not overwrite anything."

The interface contains a large blue button labeled "Select output directory". To the right of this button, under the heading "Selected output directory:", a text box displays the randomly generated path "VRE/q\$8vWjRZ".

At the bottom of the page, the copyright notice "© webODV 2018" is visible.

webODV services: Importer



webODV services: Extractor

SeaDataCloud Extractor

SeaDataCloud Mediterranean Extractor 2018

[← 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: 1178847 of 1178895
 Output variables: 3 of 3

Map domain

Zoom in

Select date ?

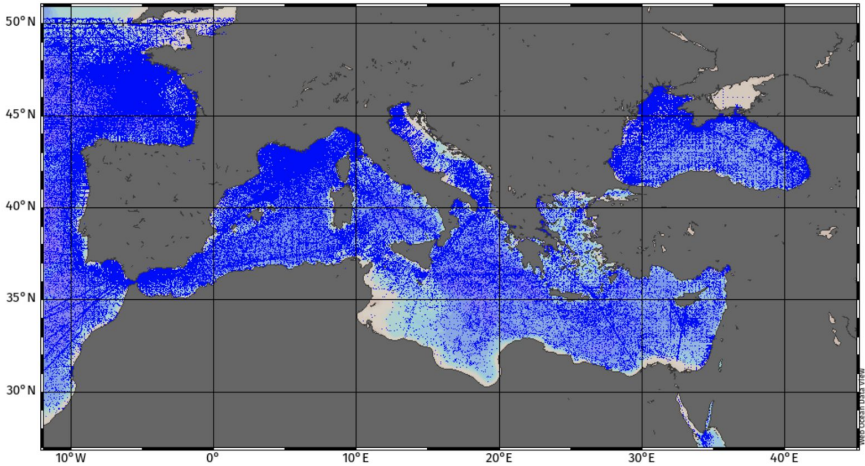
From: **January 1, 1860**

To: **December 31, 2017**

Required variables ?

Nothing selected

Reset



webODV services: Extractor

SeaDataCloud Extractor

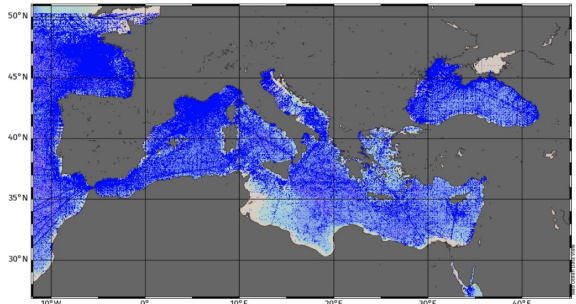
← previous 1. Select stations 2. Select variables 3. Download 4. Exit next →

Select output variables from the Output variables treeview. Variables with suffix CONC include all available sampling variants, i.e. CONC_BOTTLE, CONC_FISH, CONC_PUMP, and CONC_UWAY.

Selection status
Stations: 1178847 of 1178895
Output variables: 3 of 3

Output variables

- ☒ All
- ☒ Depth
- ☒ ITS-90 water temperature
- ☒ Water body salinity



[Collapse](#) [Reset](#)

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webODV services: Extractor

SeaDataCloud Extractor

← → ↻ localhost/testing/sdc_extractor_med#

Imprint | Privacy Policy

Help Contact Sebastian ▾

SeaDataCloud Mediterranean Extractor 2018

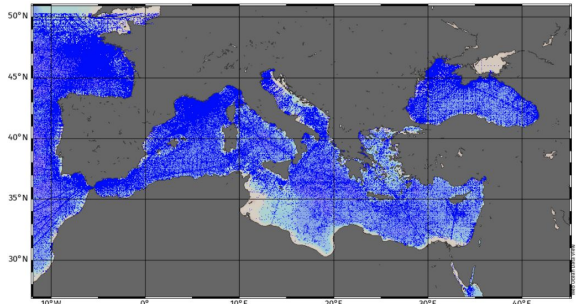
← previous 1. Select stations 2. Select variables 3. Download 4. Exit next →

Download data in different formats. You will receive a .zip file containing the data in the format of your choice.

Selection status
Stations: 1178847 of 1178895
Output variables: 3 of 3

Download

- Spreadsheet
- ODV Collection
- netCDF
- WHP Exchange



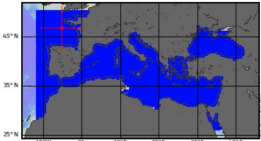
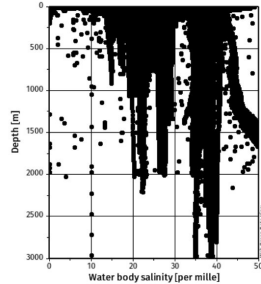
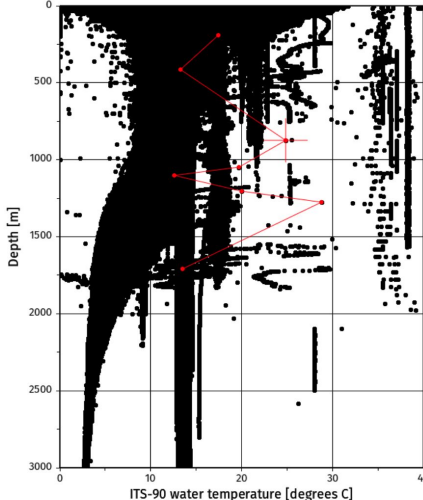
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webODV services: Quality Control

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 on top of the tables (right) to navigate from sample to sample or from station to station. Use double-clicking for larger steps.

Status: ▾

Data set: data_from_SDN-2017-1...

Mouse: Canvas

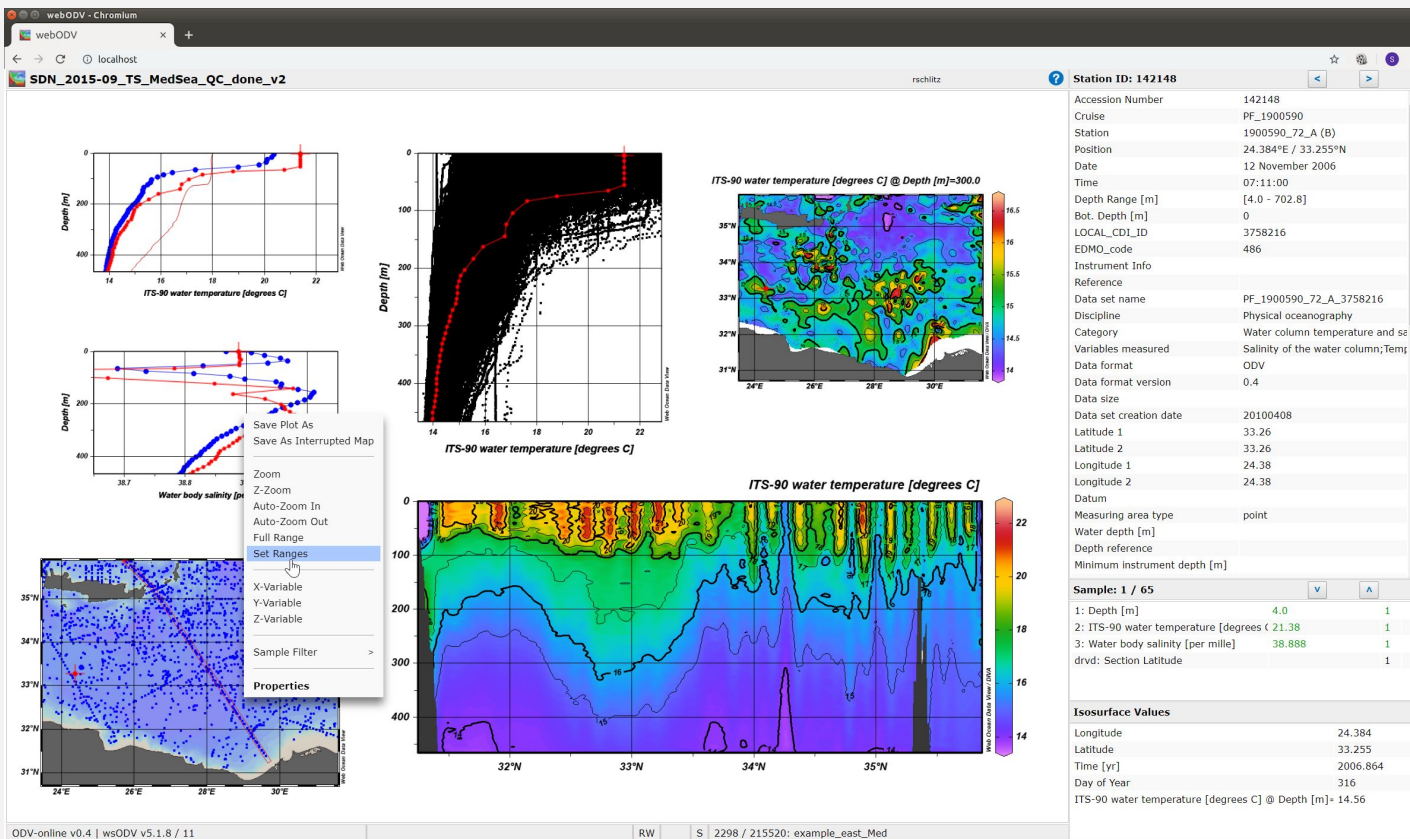
Station ID: 96791 ▾

Accession Number	967791
Cruise	PF_6900459
Station	6900459_15_A (B)
Position	5.328°W / 46.762°N
Date	27 August 2007
Time	14:09:05
Depth Range [m]	[191.41 - 1707.72]
LOCAL_CDI_ID	4789816
EDMO_CODE	486

Sample: 3/8 ▴ ▾

variable	value	flag
1: Depth [m]	875.02	1
2: ITS-90 wate...	24.83	4
3: Water body...	99999.00	4

webODV services: ODV-online



Thank you for your attention.

