

Ocean Data View - Online Services



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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.

ODV – Usage in SeaDataCloud

- **Aggregation of data files**
- **Aggregation and unit harmonization of parameters**
- **Data quality control**

Resulting in large, quality controlled data collections.

Future

- Continue ODV standalone development
- In addition create **wsODV** (ODV + WebSocket Server) for Webservice applications and integration in the **SeaDataCloud VRE**.
- Service types: (a) **interactive** via webbrowser, and (b) **automatic** machine-to-machine interaction

ODV – As Online Tool

Client



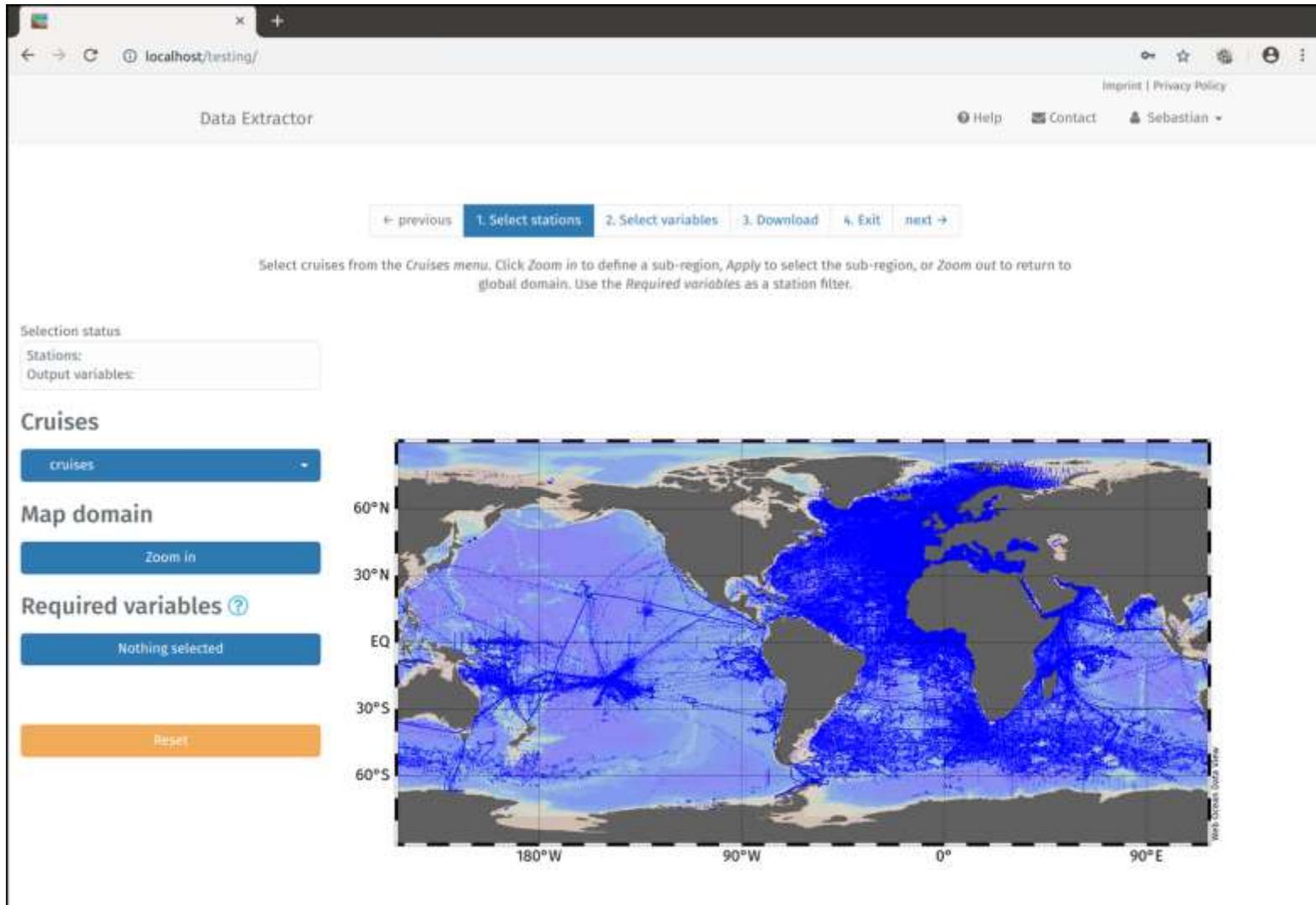
**User
working
in web-
browser**

Server / VRE

- **User authentication system**
- **ODV server software (wsODV)**
- **Data collections to be served**

→
Secure
https +
websocket
communication
←

Data Extraction Service (operational)



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

Below the header, there is a navigation bar with five buttons: "previous", "1. Select stations" (highlighted in blue), "2. Select variables", "3. Download", "4. Exit", and "next".

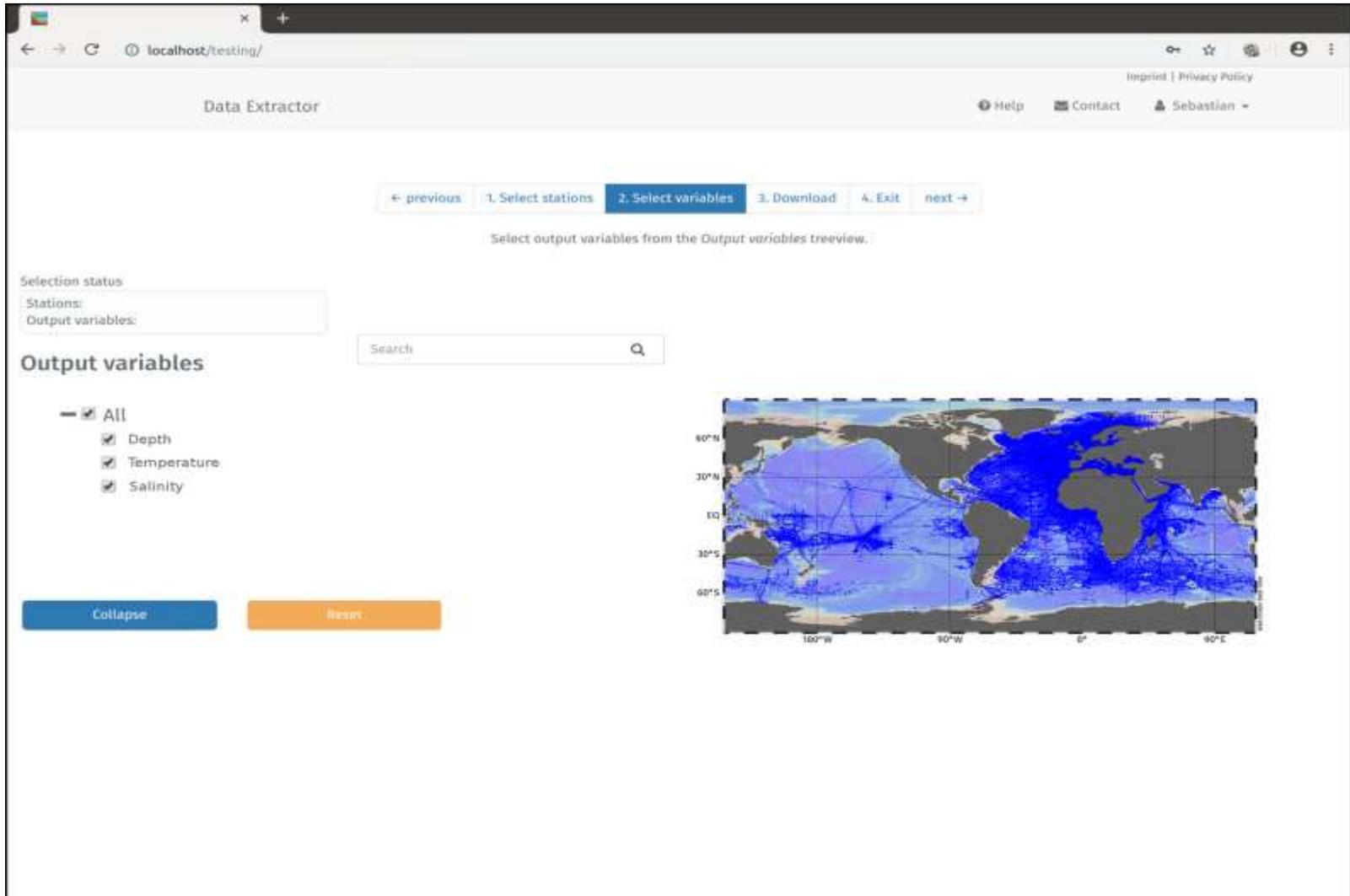
Below the navigation bar, there is a text instruction: "Select cruises from the Cruises menu. Click Zoom in to define a sub-region, Apply to select the sub-region, or Zoom out to return to global domain. Use the Required variables as a station filter."

On the left side, there is a "Selection status" section with two input fields: "Stations:" and "Output variables:". Below this is a "Cruises" section with a dropdown menu currently showing "cruises".

Below the "Cruises" section is a "Map domain" section with a "Zoom In" button. Below that is a "Required variables" section with a question mark icon and a button that says "Nothing selected". At the bottom of the left sidebar is a large orange "Reset" button.

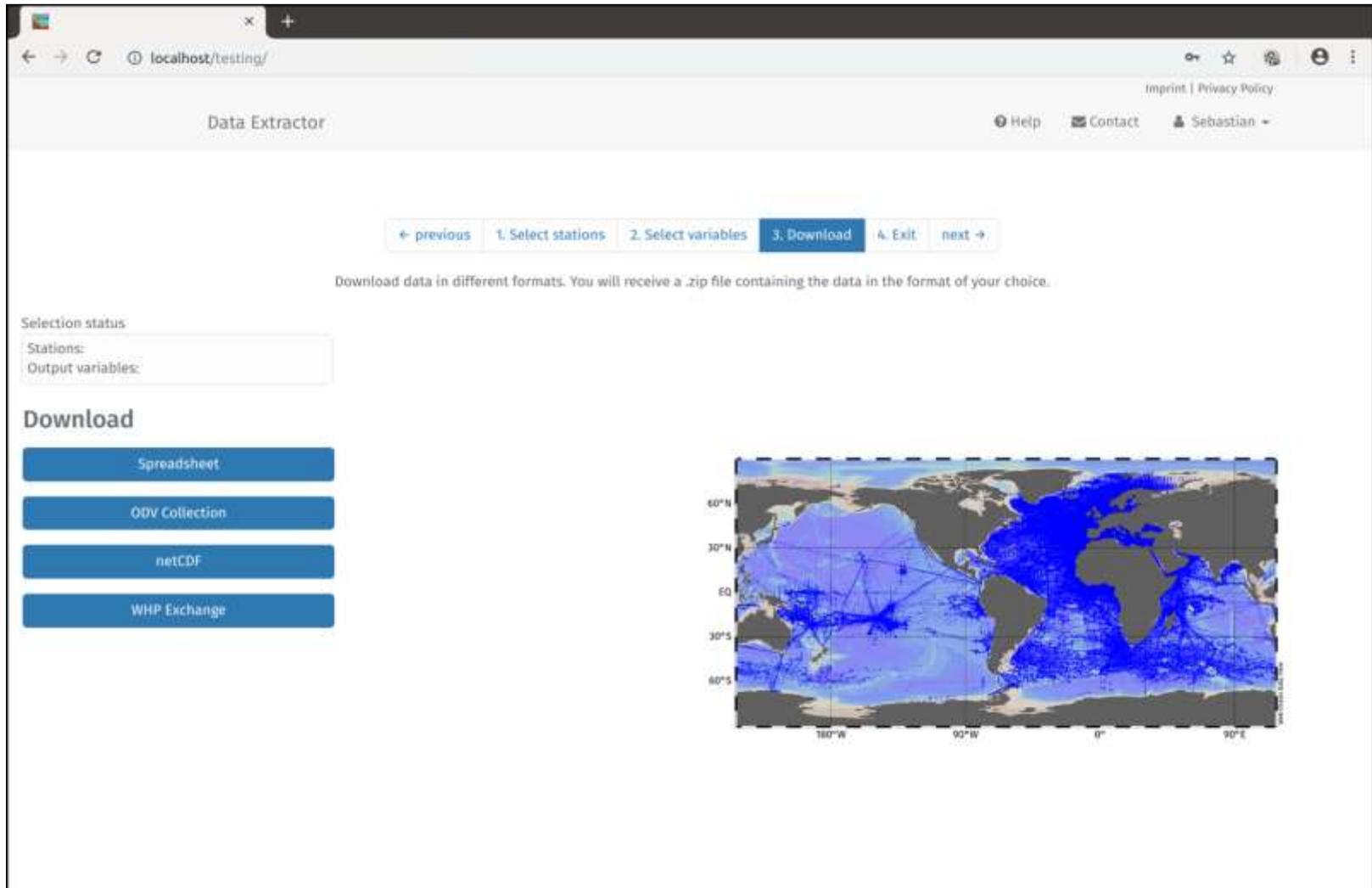
The main content area features a world map with a grid. The map shows a dense network of blue lines representing cruise tracks. The map's vertical axis is labeled with latitudes: 60°N, 30°N, EQ (Equator), 30°S, and 60°S. The horizontal axis is labeled with longitudes: 180°W, 90°W, 0°, and 90°E.

Data Extraction Service (operational)



The screenshot shows a web browser window displaying the 'Data Extractor' interface. The browser address bar shows 'localhost/testing/'. The page title is 'Data Extractor' and it includes navigation links for 'Help', 'Contact', and 'Sebastian'. A progress bar at the top indicates the current step is '2. Select variables', with other steps being '1. Select stations', '3. Download', and '4. Exit'. Below the progress bar, a prompt reads 'Select output variables from the Output variables treeview.' The interface includes a 'Selection status' section with 'Stations:' and 'Output variables:' labels. A search box is present for the 'Output variables' section. Under 'Output variables', there is a list of variables with checkboxes: 'All' (checked), 'Depth' (checked), 'Temperature' (checked), and 'Salinity' (checked). At the bottom left, there are 'Collapse' and 'Reset' buttons. On the right side, there is a world map showing a grid of blue data points, primarily concentrated in the North Atlantic and North Pacific oceans.

Data Extraction Service (operational)

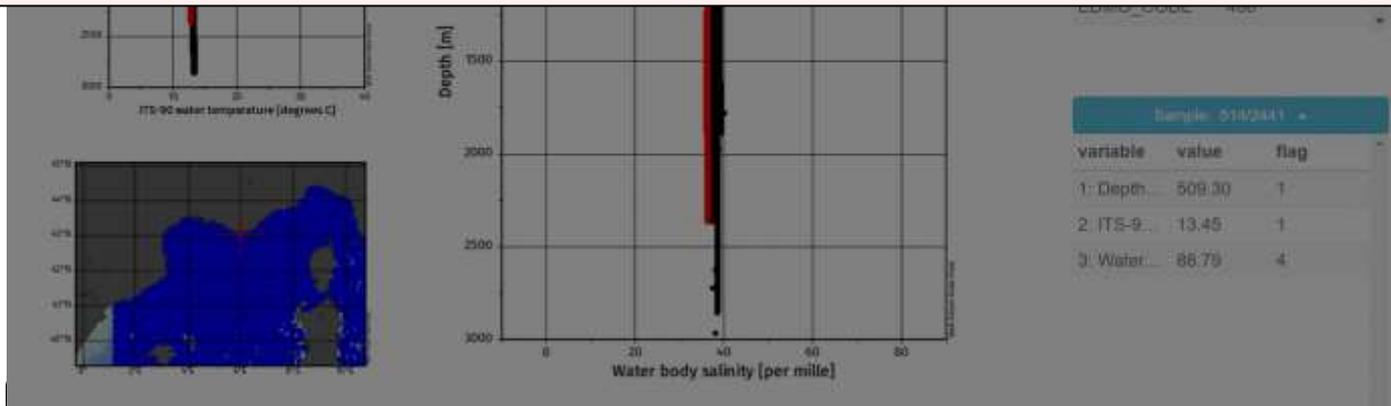


The screenshot shows a web browser window at localhost/testing/ displaying the 'Data Extractor' interface. The page has a navigation bar with 'Data Extractor' on the left and 'Help', 'Contact', and 'Sebastian' on the right. A progress bar at the top indicates the current step is '3. Download', with previous steps being '1. Select stations' and '2. Select variables', and the next step being '4. Exit'. Below the progress bar, a message states: 'Download data in different formats. You will receive a .zip file containing the data in the format of your choice.' On the left side, there is a 'Selection status' section with 'Stations:' and 'Output variables:' labels. Below this is a 'Download' section with four blue buttons: 'Spreadsheet', 'ODV Collection', 'netCDF', and 'WHP Exchange'. On the right side, there is a world map showing a grid of blue lines representing data collection stations, with latitude markers from 60°N to 60°S and longitude markers from 180°W to 90°E.

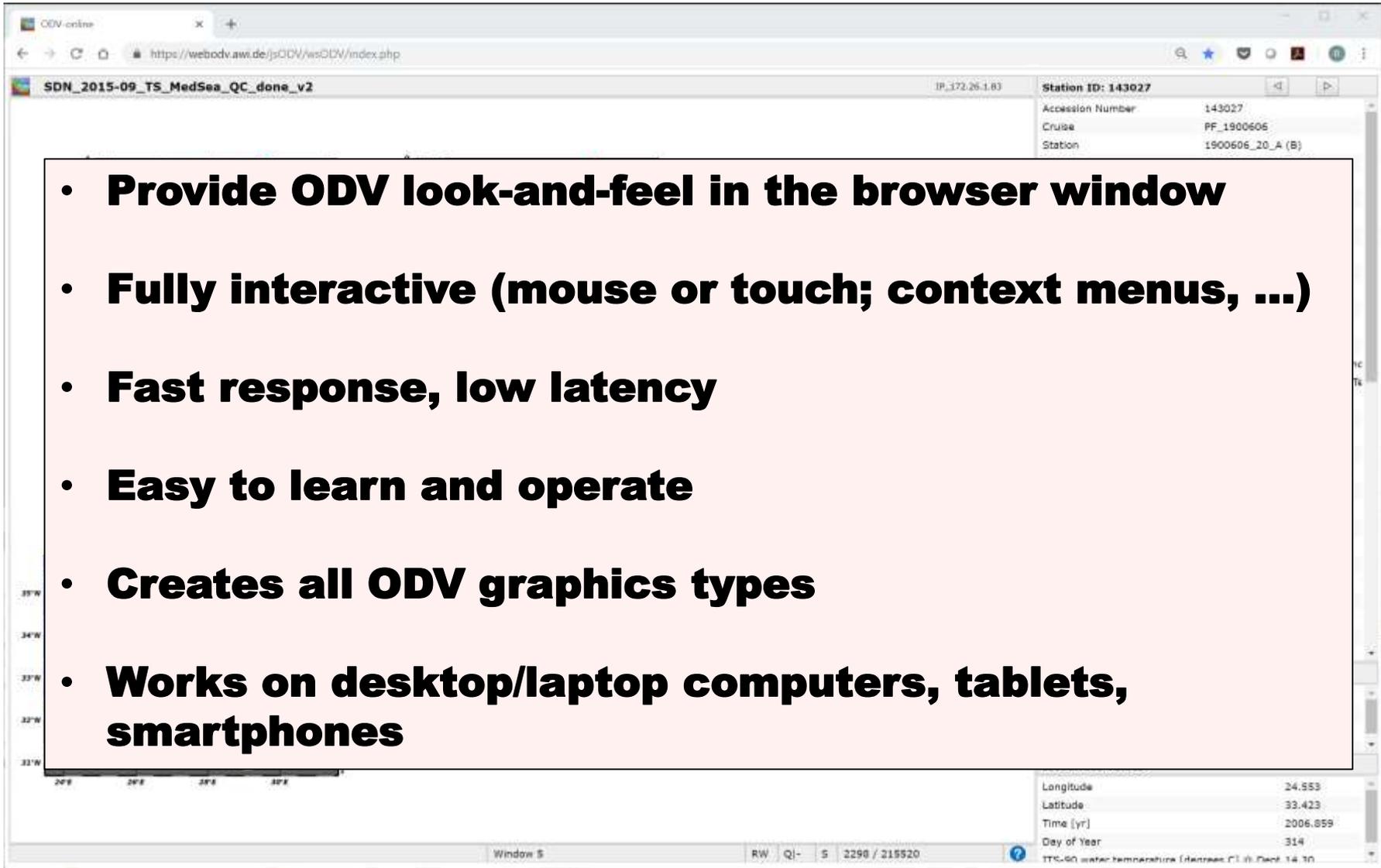
Quality Control Service (beta)



- **All modifications are logged**
- **Log records are send to parent data center**
- **Automatic outlier detection algorithms under development**



Visualization Service (beta)



- **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**
- **Works on desktop/laptop computers, tablets, smartphones**

Summary

- **Development driven by users / SDC partners**
- **Websocket technology allows truly interactive user experience**
- **Integration into SDC VRE underway**