Ocean Data View goes Online

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Background

Ocean Data View (ODV, https://odv.awi.de) is a popular software for the interactive exploration, analysis and visualization of oceanographic and other environmental profile, time-series and trajectory data. In its traditional setup, both, software as well as data collections, reside on the user's computer. This provides autonomy and allows usage even when Internet is not available or slow, for instance, during ship expeditions or at remote locations. However, for large community datasets, a client-server approach with software and data on centrally maintained servers and users working in their web browser is better, as there is no longer a need to install software nor download the often very large datasets. In addition, datasets and software are maintained and updated more easily on centralized servers. Thus, users always have access to the latest versions of data and software.

ODV-online Setup and Technology

The data collections to be served as well as a special version of ODV equipped with a websocket server (*odvws*) reside on a dedicated server. The user works in a web browser and communicates with the server-side *odvws* using secure websocket messages. The websocket technology provides bi-directional information flow with low latency and fast response. Websocket messages are small (few kB) and bandwidth requirements are modest, allowing a true interactive user experience.

Client

User working in webbrowser

Server

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

Browser User Interface

The *ODV-online* interface mimics the user interface of the ODV software in the web browser. Look-and-feel of the browser interface match the ODV interface, and virtually all functionality as well as graphics types of ODV are supported. This makes it very easy for previous ODV users to get started with *ODV-online*. Data collections can be accessed in *ReadOnly* mode for analysis and visualization, or in *ReadWrite* mode that additionally supports data editing and quality control. An example browser window with explanations of the interface elements is shown below. Left mouse clicking on an element selects the element, right-clicking provides context menus for manipulating the element.
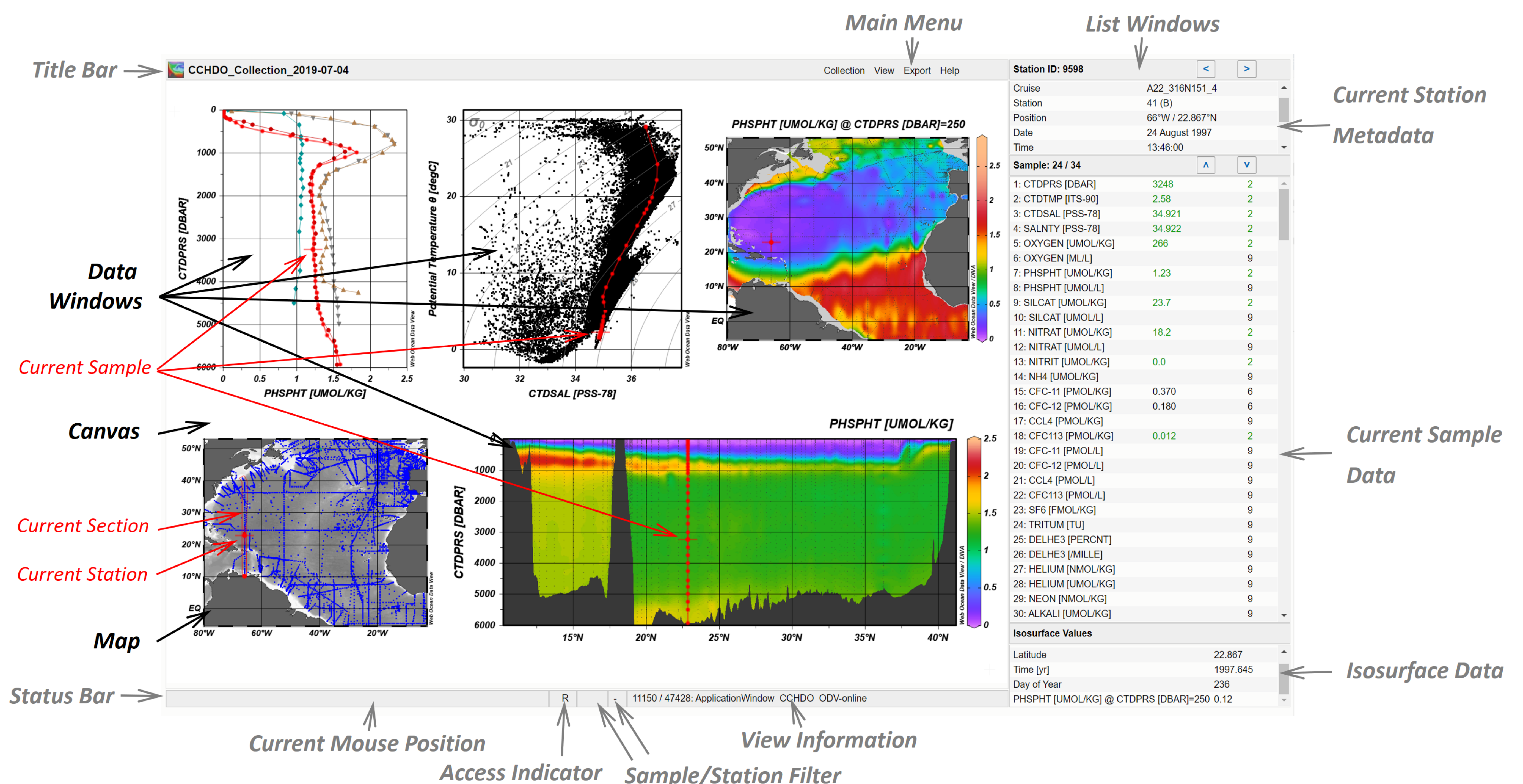
Implementations

ODV-online is operational and implemented at various websites: (1) SeaDataCloud Virtual Research Environment (https://vre.seadatanet.org/); (2) EMODnet Chemistry project (https://emodnet-chemistry.webodv.awi.de/); (3) GEOTRACES data services (https://geotraces.webodv.awi.de/); and (4) webODV Explore website (https://explore.webodv.awi.de/) that lets users explore many popular environmental datasets. Support for setting up a similar server at your site will be provided on request. For more information contact **Reiner.Schlitzer@awi.de**.