Ocean Data View

Getting Started

February 4, 2024

License Agreement

Before using ODV please read the [ODV license agreement](#).

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1 General Information

The ODV software is based on a new, object oriented source code allowing more flexible metadata and data models and overcoming many limitations of previous versions.

1.1 Installation

You must install ODV on your computer before you can use the software. The latest ODV installation files for Windows, macOS, Linux, and UNIX systems can be downloaded from https://odv.awi.de/en/software/download/. Note that you have to register and use your personal login data to get access to the download pages. Detailed installation instructions are provided in *INSTALL.txt* files. Please see the License Agreement for ODV usage rules.

SUPPORTED PLATFORMS: ODV runs on the following platforms: Windows (all versions); macOS 10.5 or higher; Linux distributions released since June 2006 running kernel version 2.6.15 or higher. ODV was tested under Debian 7.7, Ubuntu 14.0.4 and 16.0.4, and CentOS 7.

Windows platform note: The ODV installer associates the *.odv* and *.var* file extensions with the ODV executable, e.g., double-clicking on these files will start ODV. You can also open *.odv* or *.var* collections with ODV by dragging and dropping the *.odv* or *.var* file onto to the ODV desktop icon, or starting ODV and opening the *.odv* or *.var* file via *File>Open*.

1.2 Customization

After installing ODV please use option *View > Settings* (on macOS *odv > Preferences*) to customize ODV settings and optionally download and install high-resolution map resources and gridded bathymetry files. See section *2.12 Settings* in the User's Guide for more information.

1.3 ODV User Directory

During installation a sub-directory *ODV* is automatically created in the user's document directory. This is the ODV user directory and contains map resources as well as palette, macro, gazetteer, command or graphics objects files in varies sub-directories. Two example collections *MapView* and *SAVE* are provided in the *data* subdirectory. When maintaining your own ODV data collections please create separate sub-directories within the *data* directory.

Users may create custom palette, macro, gazetteer, command or graphics objects files in the respective ODV user directory. It is very important to save the customized files under new, user specified names, otherwise the user files would be overwritten and lost the next time a new ODV software version is installed. The full user directory path as well as other ODV installation settings can be retrieved via *Help > About ODV* or *odv > About odv* on macOS systems.

1.4 Data Model

ODV introduces a new data model and storage format, suitable for marine and other environmental profile, trajectory and time-series data. Individual stations in a data collection are described by a set of metadata. There is a minimum set of mandatory metadata,

including cruise and station names, longitude, latitude as well as date and time. In addition, users may specify an arbitrary number of optional string or numeric metadata. Except for longitude and latitude, all other metadata values may be missing. As for metadata variables, the number of data variables (e.g., the variables holding the actual data) in ODV collections is unlimited, and the value types may be numeric or string. ODV supports a variety of numeric metadata and data variable value types ranging between single-byte integers and 8-byte double-precision real numbers. Quality flag values of metadata and data variables can be encoded using one of the supported 16 popular quality flag schemes in the community.

ODV lets you subset and filter stations as well as samples, and provides separate sets of station and sample selection criteria. Every data window now uses its own sample filter, and filtering can be by quality flags and/or value ranges (numeric ranges or string wildcard expressions).

Newly created ODV collections use the new data model and file storage format. ODV data collections are platform independent, and may be transferred between all supported systems.

1.5   Data Import

ODV collections are extendable, and new data may be added at any time using one of the options from the *Import* menu. ODV supports a large variety of import data formats and data types, and the user invokes the import by choosing the menu option matching the particular format and data type. A file open dialog appears allowing selection of one or more data files to be imported. Alternatively, the user may also select a *.lst* list file containing the list of file names to be imported. The latter case allows import of files from more than one directory in a single import step.

ODV supports import of data from arbitrary spreadsheet files. Spreadsheet files satisfying the *ODV generic spreadsheet file* rules can be imported automatically by simply dragging and dropping the files onto ODV. The ODV generic spreadsheet format allows specification of extended metadata and data variable properties.

1.6   Backward Compatibility

ODV is backward compatible in the sense that existing collections and configuration files created under previous ODV versions are fully supported.

1.7   Getting Help

For more help, use *Help > Getting Started* or *Help > User's Guide*. Context-sensitive help is available on many ODV dialogs by pressing the *Help* button. PDF versions of the help documents can be downloaded from the ODV website https://odv.awi.de/en/documentation/.
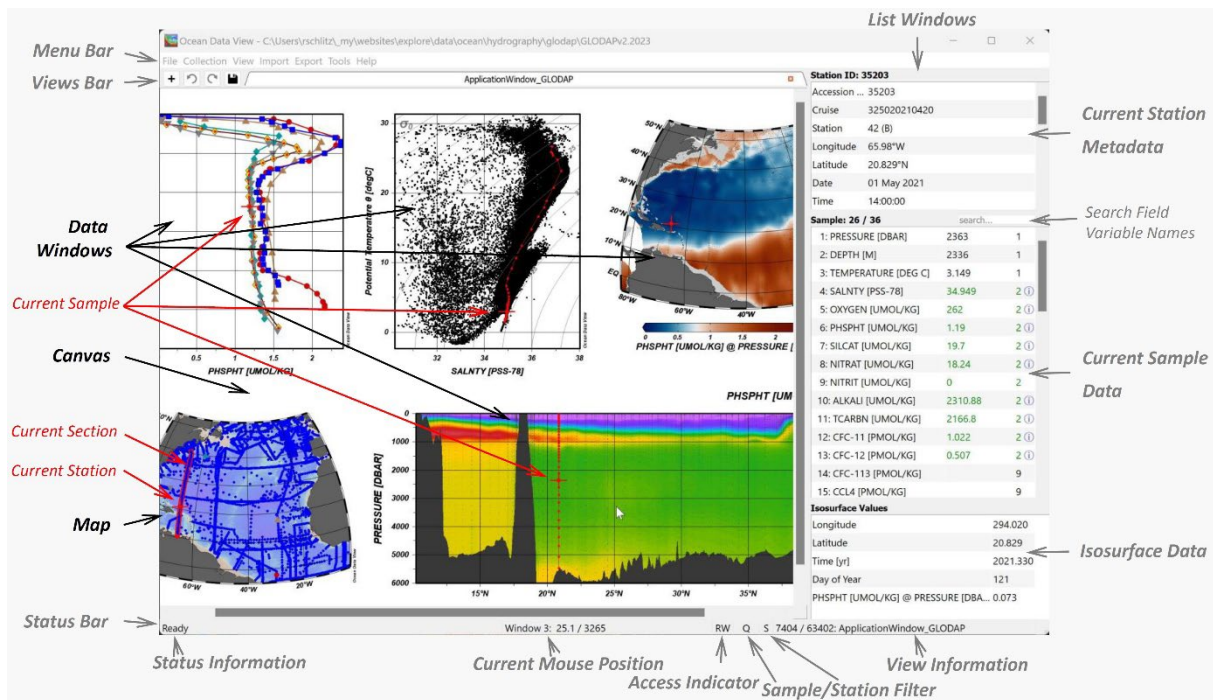
2 Application Window Elements

Figure 1: Elements of the ODV application window.

The ODV application window consists of the following elements.

Menu Bar: The menu bar provides access to the main menus.

Views Bar: The views bar contains clickable tabs for each open view as well as a set of buttons for (1) opening more views (plus button), (2) undoing view modifications (undo button), (3) redoing view modifications (redo button), (4) switching to/from layout mode (layout button), and (5) saving modified views (save button).

Canvas: The graphics canvas contains a map (always present) and an unlimited number of data windows. The canvas, the map, and the data windows may contain an unlimited number of graphics objects, such as text annotations, symbols or user-defined shapes.

Status Bar: Separate status bar panes provide (1) status information, (2) coordinates at current mouse position or a progress bar, and (3) the number of currently selected stations, the total number of stations in the collection, and the name of the current view. An asterisk (*) in the *View Information* pane indicates that there are unsaved view changes.

Current Station Window: Metadata values of the current station (marked in the map with a red cross).

Current Sample Window: Data values and quality flags of the current sample (marked in data windows with a red cross). Only data satisfying the current *sample selection criteria* are shown.

Isosurface Data Window: Isosurface values of the current station.

Left-clicking on station or data marks in the map or a data window selects the respective station or sample. Right-clicking on most window elements brings up context menus with different, element-specific options. Resting the mouse over data listing items brings up popup windows with detailed data information.

The map displays the subset of stations in the collection that satisfy the current *station selection criteria* (valid stations). It maintains a *pick station list* and may have a *section*. Data windows can have one of the following *scopes*:

- STATION, showing X/Y data of the picked stations. Picked stations are marked in the map using the same mark style as in the data windows.

- SCATTER, showing X/Y/Z data of all selected stations shown in the map.

- SECTION, showing X/Y/Z data of all stations inside the section band.

- SURFACE, showing isosurface X/Y/Z data of all selected stations shown in the map.

The current window layout and parameter settings are collectively called a *view*. *Views* are stored in files for later re-use. You can have more than one view open at any given time. Clicking on a particular view tab switches to this view.

The canvas always shows the station map and an unlimited number of data windows. Geometry and position of the map and the data windows may be modified at any time. Data windows may be deleted, but the map will always be present.

The properties of the map and data windows can be modified by right-clicking on the window and choosing *Properties* from the respective popup menu. The object's properties dialog will appear, letting you change the parameters and display options of the object. As a quick way of bringing up the same *Properties* dialog you can press the *Alt-P* shortcut key while the mouse is over the map or data window.

2.1 *Mouse Actions and Shortcut Keys*

For a summary of mouse actions and shortcut keys see this shortcut keys summary document, also available under *Help > Shortcut Key Summary*.