

# Student Guide to Ocean Data View

Emmanuel Boss, UMaine, May, 2011

ODV is a freely available software designed to visualize oceanographic data. This guide is intended to teach you the basics of how to load CTD collected data into ODV to plot property-property plots and sections (see <http://odv.awi.de/> for examples). Please refer to ODV's online help within the software for more details.

## ***Downloading ODV***

To download ODV you will need to register at: <http://odv.awi.de/en/software/download/>. Software is available for both Mac, Window and Linux based PCs. Download version 4.2.1 (if, for whatever reason you cannot work with it, an earlier version will probably work too).

## ***Preparing CTD data for ODV***

I have found that it is easiest for me to first load the data into excel. I then arrange it as a single array, where the first line has the name of the variables (including station number, longitude, latitude and bottom depth). The 2<sup>nd</sup> line has the units. All lines below have the values for these variable. If you want to plot a 2-D section of data combining several profiles, append the next station data below the previous one changing the appropriate variable values (e.g. the number of the station, its positions etc'). Save the file as a text file (.txt).

## ***Loading the data into ODV***

In the *File* menu go to open (Ctrl+O). Find your data file in the appropriate directory (for .txt files make sure you allow for the appropriate extension).

Once you load the file into ODV, ODV needs to know how the data is delimited (Tab in my version of excel text file), where the labels of the data are (first line) and where the data starts (3<sup>rd</sup> line). In the Meta-Data-Association menu, you need to associate variables with those ODV already knows (station #, latitude and longitude). Association is done by clicking the variable in the left menu (your data), right menu (ODV data) and clicking on the 'associate' button. Use 'OK' to go through the types of 'meta' and 'collection' variables.

In the 'Collection Properties' menu choose 'Ocean' for 'Data Field', 'Profiles' for 'Data Type' and 'Depth' for 'Primary Variable'.

## ***Viewing the data in ODV***

Now you can start viewing data. You should have on the desktop (called a 'canvas') a grey map with the stations marked on it. If you are in a 'Station' window (from the 'View -> Layout Templates' menu), you should be able to plot property-property plots. By pressing 'Enter' at the location of the plot you will see a graph. Right-clicking on it will

allow you to change x and y variables and plot properties. Clicking on different stations on the map will overlay their data to allow you to compare between stations. To view a whole section of data: choose '1 SECTION window' from the 'View -> Layout Templates' menu. Right click the map, open 'manage section' -> 'Define Section'. Click on the positions of your stations. A line will be drawn between them. When done click enter. Right click on the section graph to choose 'station distance' for x-variable, 'Depth' for y-variable and your variable of choice for 'z-variable'. Right click on the section graph and choose properties to change properties on the graph. For example, use the display style to 'see' gridded field (that is, filling data where you did not sample based on your stations). Experiment with changing the x- and y-scale-lengths to smooth your plot. Using the 'Contours' menu, add contours to your plot.

### ***Saving your figures***

You can save your canvases as you go using 'View->save'. You can also print them to printers or PDF files using 'File->print'. Using 'File -> Save canvas as', you can save your canvases to JPG or GIF to put directly into your favorite word-processor file (e.g. for homework).

If you did all of the above, you are now ready to explore on your own!