ODV download instructions:

- **Go to http://odv.awi.de/en/home/**
- **Click on 'Software' tab**
- **Click on the 'register now' link**
- **Fill in all the required details for usage (this is for non-commercial use) and click on 'yes' when it asks you whether you agree with the license terms**
- **The website will then send you a username and password to the e-mail address you submitted**
- **Go back to the website and log in**
- **Should now get a screen that looks like this:**

- **Click on the blue Ocean Data View link**
- **Click on software=>latest version=>version 4.3=> (pick the right version for your operating system)**
- **Download the zip folder**
- **Unzip it and follow the installation instructions!**

Data download instructions:

- **Go to the 'Data' tab**
- **Click on Ocean=>Glodap bottle data=>AWI server (this will start the download process)**
- **This should download the 'Glodap-v1.1_bottle.zip' folder**
- **When it's done downloading open it up - you should have a gazillion files that can be opened in the program.**
- **Open up the Glodap data set in ODV (the one you want has the same icon as the program). A data visualization appears, but probably not the one you want. Proceed to the next section.**

ODV Lab Instructions and Prep for ODV Problem Set.

- **Download the the two Configuration files (.cfg) from the class website and place them in the path path odv\data\GLODAPv1.1\bottle\cfgs**

- **Under the 'View' menu use the 'Load View' command (older versions 'Load Configuration'. Make sure the path is the same as in #1. Open 'P16S_ChemOce'. (For the problem set, you will use the other configuration file.) You should see a data section for the south central Pacific and 6 property-property plots. NOTE the 'canvas' I prepared may not fit horizontally on you screen. Please check by scrolling right and left.**
  6. Change the z-variable for the section plot to visualize the distribution of the different nutrient species, nTDIC, nTALK, CFC11 age, 14C age, etc. Return to a section plot of salinity and create a overlay plot of sigma-theta (see ODV guide).
  7. Click on different parts of the section in regions of distinct water mass type, identify on the T-S plot, and examine the effect on the distributions of points in the other property-property plots.
  8) To examine specific density layers, go to the 'Configuration' menu and use the 'Selection Criteria' command. Under the 'Sample Selection' tab, choose sigma-

theta with a range from 27.7 to 29. Which water masses is the visualization restricted to? What are the remineralization ratios of Dic:O2:NO3-:PO4-3 and how do they compare to the Redfield ratios. Is there evidence for 'preformed nutrients' and what does this term mean? Does CaCO3 dissolution contribute to the changes in nTDIC and why? If so, attempt to make a quick estimate of its contribution to the apparent nTDIC:PO4-3 relationship. What is the apparent PO4-3 remineralization rate? Should CFC age or radiocarbon age be used to make this calculation. Note: linear regression of property-property plots can be made by right-clicking on the plot, selecting the 'Extras' menu, and then the 'Statistics' command.

9) Do the same for the sigma-theta ranges of 27 to 27.5 and 25 to 26.5