Add different formats of data into ODV

Part 1: ARGO netCDF Data

1. Create a new collection

Open the PFL collection previously created.

OR

- Select File > New to create a new profile float based collection named pfl_all_india_wod.odv in the folder **Documents****ODV****Collections**
- Select World Ocean Database under Definition of collection variables window.



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New

Open... Open Remote...

Close

Recent Files

2. Download data from Coriolis

- The Coriolis data centre (<u>http://www.coriolis.eu.org/Data-</u> <u>Products</u>) provides quality-controlled in-situ data in real-time and delayed modes
- From the Coriolis data products site select Data Delivery > Make your own Data selection.
- Enter the coordinates and the start and end dates as shown.

Top (latitude): 10 degrees Bottom (latitude): 5 degrees Left (longitude): 65 degrees Right (longitude): 75 degrees

Start Date: 01/01/2017 End Date: 01/01/2018

- Select Vertical Profiles > Argo Profiles, Uncheck Timeseries
- Check Any parameters and Good data only. The select Refresh to display the results.

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Download data from Coriolis

- To download all the selected data choose Download > NetCDF Argo. Enter your email and wait for the notification that the data is ready.
- Then right-click on the link in the email and save to the folder Documents\ODV\Data
- Unzip the compressed the file to a folder named pfl_india_argo_coriolis_delayed_good. There will be a series of NetCDF (.nc) files in this folder.

Data Selection Export

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3. Import Data

- To import the new Argo data, select Import > Argo Formats
 > Float Profiles
- Select All Files from File type.
- Navigate to the folder Documents\ODV\Data pfl_india_argo_coriolis_delayed _good.

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Import options

- The Import Options dialog is used to associate variables in the import files with ODV target variables. In most cases the they will differ, so it will be necessary to associate the two sets of variables.
- ODV automatically associates variables with matching labels (name and units) and marks the associated variables with an asterisk *.



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4. Data Inventory

- To view the cruise inventory of the collection, select Collection > Browse Inventory.
- By default this file will be saved Products > Products > ODV > pfl_all_liberia_wod13.Data >CruiseInventory.txt.
- You can open the file in Excel/Notepad



Part 2: Import ascii data into ODV

1. Import data

- ODV requires mandatory metadata, such as the geographic location of a station, the date of observation, and the names of the station and cruise
- Select File > Open then navigate to the training_dataset_oxygen.txt file in the Documents\ODV\Data folder and open it. The Spreadsheet File Properties dialogue shows the data that will be imported. Select OK.
- Remove ID from data variable list and select oxygen as primary variable

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2. Associate variables

- The next step is to match-up between the incoming data (in the spreadsheet) and the fields in the ODV collection structure. Already associated variables are marked by asterisks (*).
- Associate ID with cruise
- Select OK.

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4. Generic ODV spreadsheet format

- If you plan to use ODV to regularly import spreadsheet data, it is recommended to use a standard ODV template.
- The Column Header Row contains a label for each column of the file.
- The csv file should contain columns of Longitude, Latitude and atleast any one variable, along with their headers.
- The leftmost columns are the metadata columns, followed by the data column pairs (which can include a qualifying flag column).

Generic ODV spreadsheet format

- The column Type is used to designate the instrument used to collect the data, e.g. bottle, CTD, etc.
- The following metadata column header labels are mandatory and should be included EXACTLY as written:

Cruise, Station, Type, yyyy-mm-ddThh:mm:ss.sss, Longitude [degrees_east, Latitude [degrees_north], Bot. Depth [m]

- The metadata is followed by the data variables.
- Each column for a data variable can have an optional quality flag QF. Depth [m], QF, Temperature [°C], QF, Salinity [PSU], QF, etc

5. To import a generic spreadsheet data

- Open ODV. To load in the data, you may either access the File menu and click Open and select your file or simply drag your text file into the window itself.
- ODV will then indicate how many stations have been imported and from what directory. Click OK to proceed.
- Depending on the size of the data file, you may have to perform Sort and Condense if the data was poorly sorted. Click Yes if you are prompted to do so.

Part 3: Import NETCDF data

Open netcdf data

- Goto File > Open and select the NC file sst_mon_mean
- Netcdf setup wizard shows up showing the input variables, click NEXT after the the select dimension.
- Under Associate meta-variables, Add SST to the right hand side list by clicking on >>
- Select time as days since 1981 as primary variable as primary variable and in the last step select the option to subset the time dimension.

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Subset the lat and lon dimensions to use all the values in the gridded data and the time dimension to include values upto 150 monthly timesteps

• To plot in surface mode, go to View > Layout Templates and select



Change plot label

- Go to properties and untick the Automatic Label option
- To change the figure title click outside the canvas near the current title and Add Graphic Objects > Annotation
- Then add the text Monthly Mean SST during January 1901

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Animations

Right click on the figure,
 Go to Extras >
 Animation > Isosurface



- To plot sst during the months May 1891, January 1892 and January 1901, go to View > Isosurface
 variables and add SST @ time = 120, 365 and 3652 respectively
- Go to Layout Templates > 3 Surface









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- Go to File > Save canvas as to get the above layout in jpeg format
- By clicking on any data point in any window, the corresponding time will be shown in the left top window labelled STATION ID

Other options

Go to Collections > Browse info file to see the properties of the netcdf file

Task

• Plot a section in Arabian Sea with section distance on x-axis, time on y axis and sst on z axis with DIVA gridding. This is similar to a hovmoller diagram. Notice the warming along equatorial region.

Part 4: Timeseries data

- Select File > Open then navigate to the timeseries_trial.csv file in the Documents\ODV\Data folder and open it.
- Match the meta variables and data variables, and click OK.
- Select timeseries as datatype and as primary variable

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File Collection View Import Export Tools Help

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Part 5: Vector dataset

Open data

- Select File > Open then navigate to the training_dataset_vector.csv file in the Documents\ODV\Data folder and open it.
- Match the meta variables and data variables, and click OK.
- Select general as datatype and WS as primary variable



Data Type: GeneralType	
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mary Variable: WS [Kin/hr]	



Plot vector

- Create isosurface variables of u and v at depth = first (surface)
- Right click on the figure, go to
 Properties > Display Style >
- Select Arrows and assign U an V
 velocities as X and Y respectively.
 Change scale to 20, or according
 to the desired arrow length.

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Part 6: Model data

Import data

- Select File > Open then navigate to the model_data_timeseries.csv file in the Documents\ODV\Data folder and open it.
- Match the meta variables and data variables, and click OK.
- Select general as datatype and depth as primary variable





Create isosurface variable as sea level at time equals 2.

