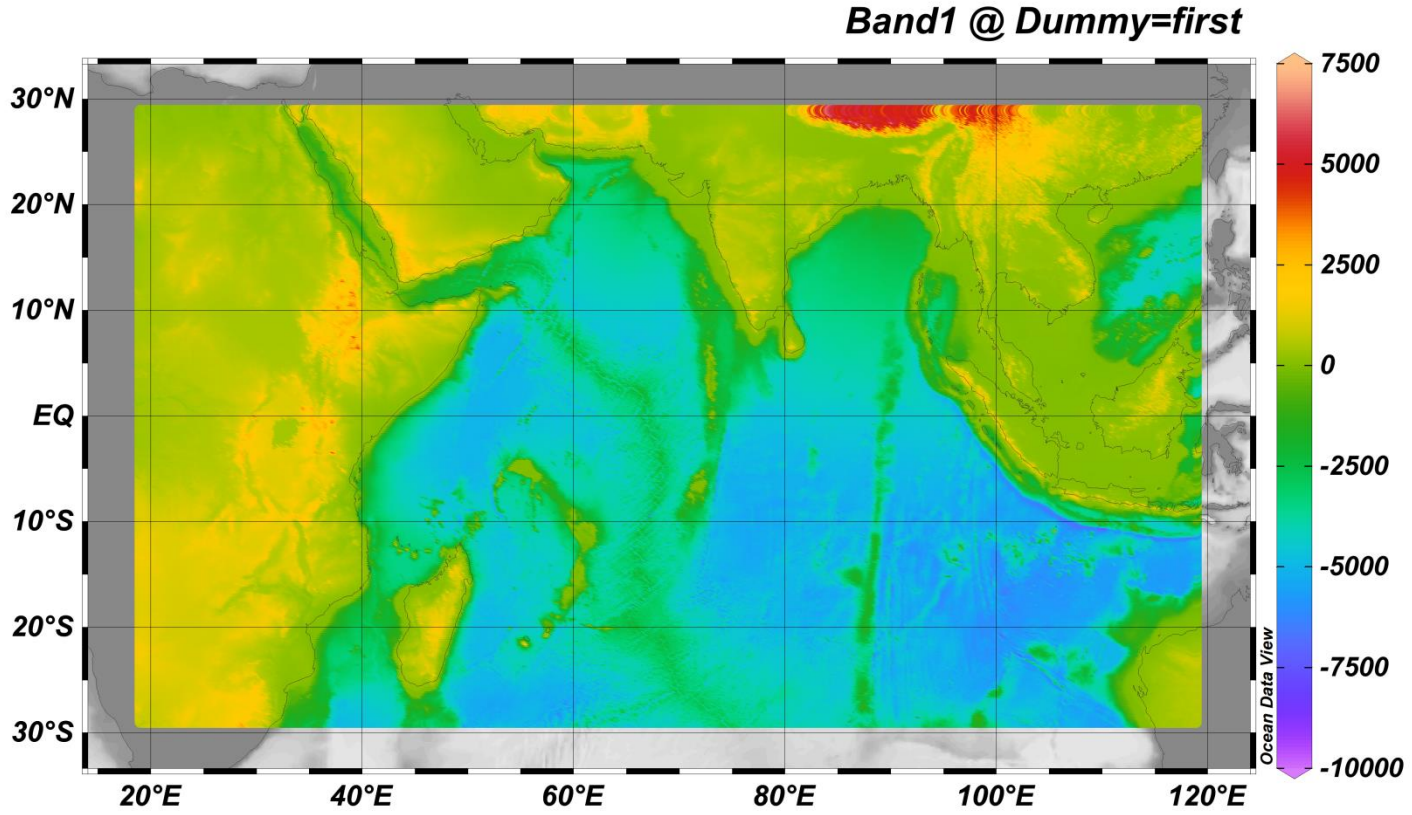
Examples

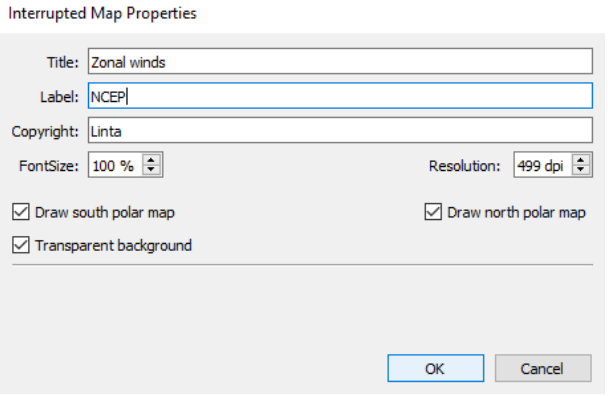
Etopo1 bathymetry

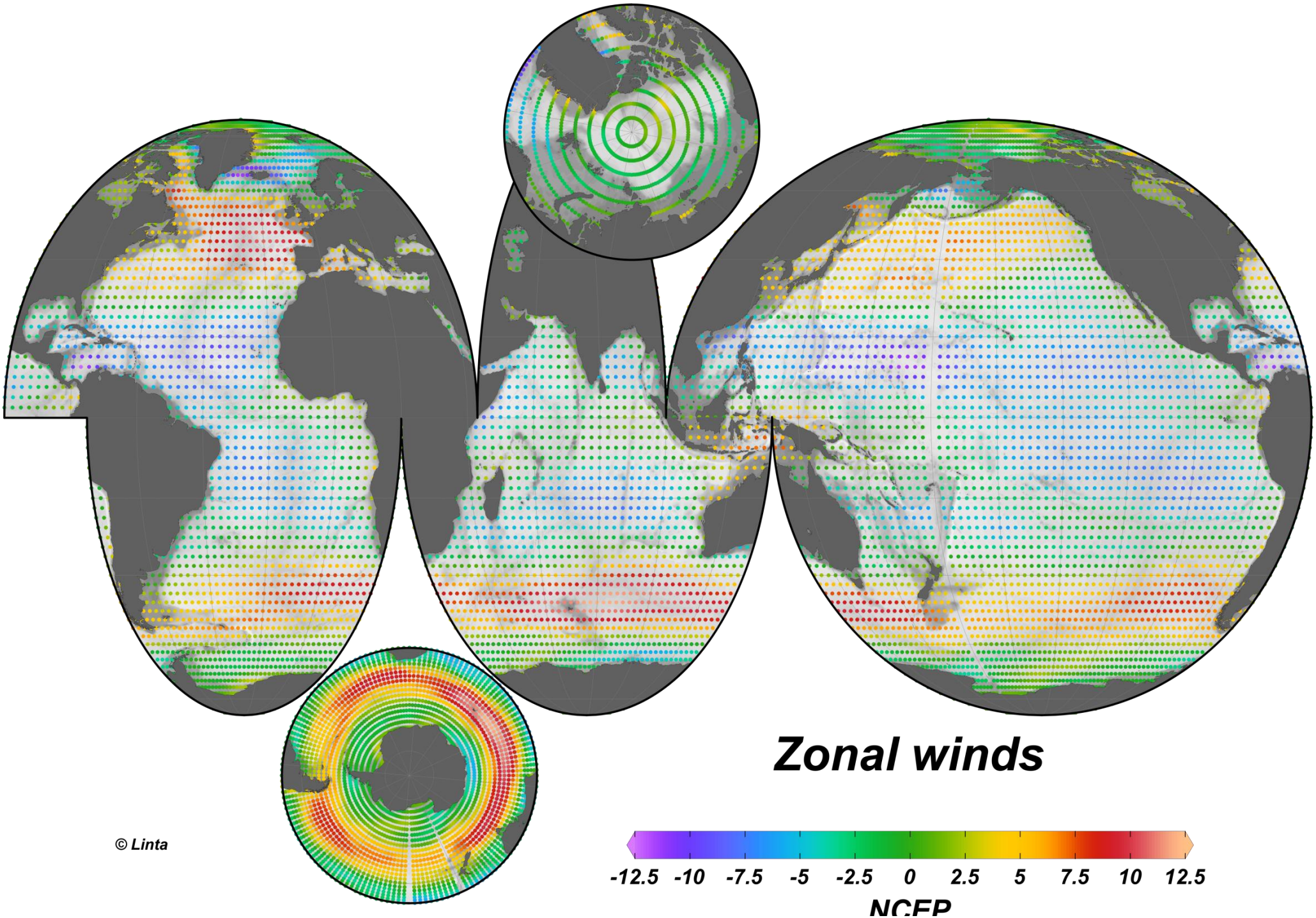
- Go to File > Open and select the nc file etopo1.nc
- Go through the 4 steps of netcdf setup and include the band1 (which is the bathymetry) to the meta variable list on RHS.
- Subset the dimensions in step 3 to Use All the increments of the data



U wind from NCEP

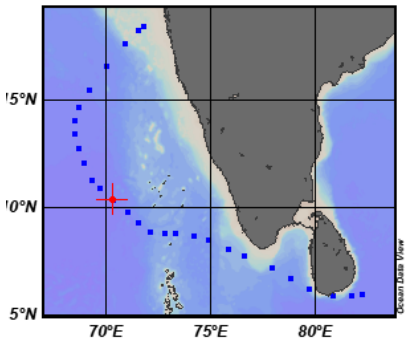
- Go to File > Open and select the nc file uwind_monthly_mean.nc
- Go thought the 4 steps of netcdf setup and include the uwind variable to the meta variable list on RHS.
- Use time as primary selected variable
- After plotting, right click and Save as Interrupted Map.

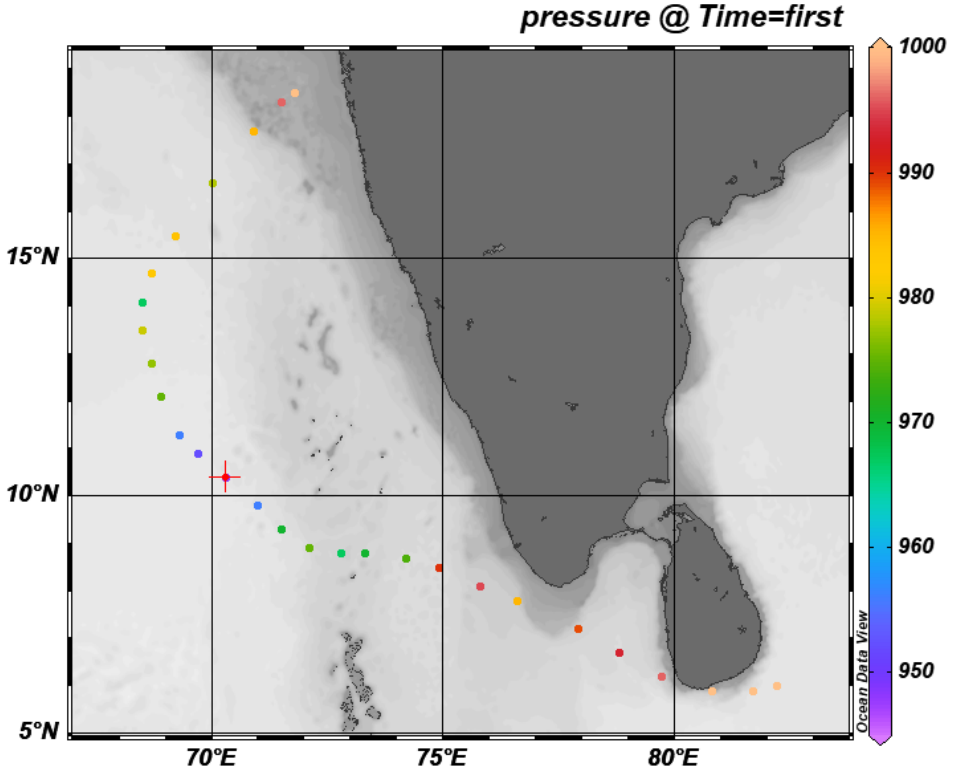



Zonal winds
-12.5 -10 -7.5 -5 -2.5 0 2.5 5 7.5 10 12.5
NCEP
© Linta
Ocean Data View

Cyclone track from JTWC

- Go to File > Open and select the csv file ockhi_cyclone_track.csv
- Associate the variable and assign data fields.
- Create isosurface variable of pressure at time equals first

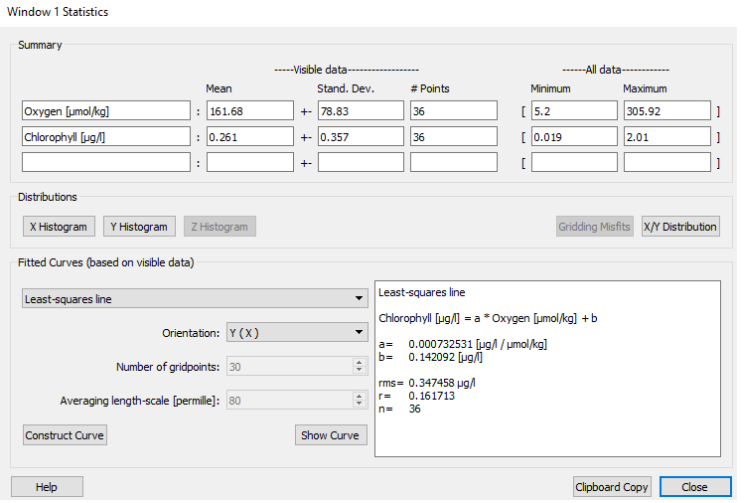


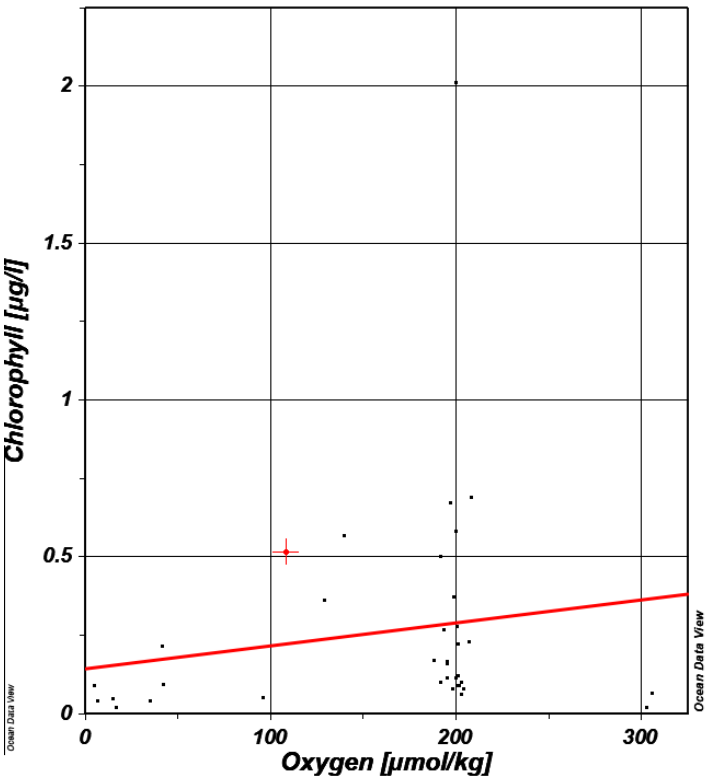


Additional options in ODV

Part 1:
Basic Statistics

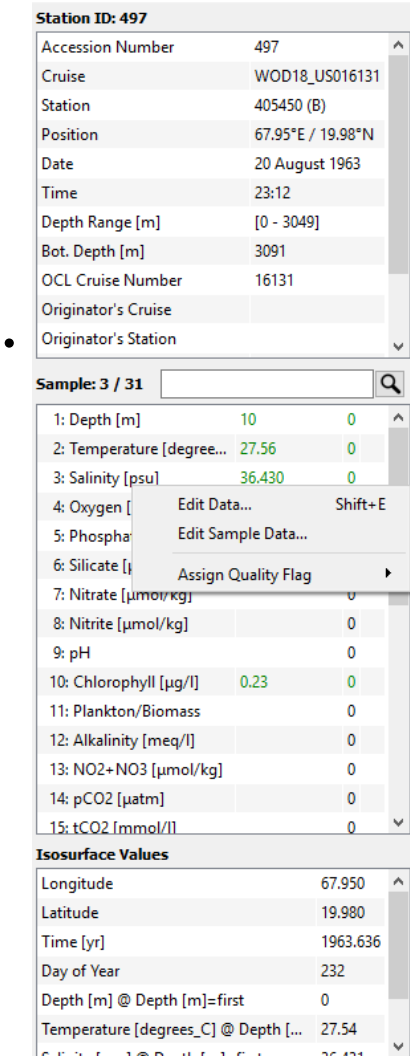
- Open previously created osd_wod_india.odv
- To view the basic statistics, make a scatter plot of Chlorophyll vs oxygen
- Right click on the figure, select Extras > Statistics
- Select Y Histogram to see the distribution of chlorophyll
- Select X/Y distribution to see the data distribution
- For curve fitting, select Linear Least Square fit , construct curve and show curve
- After closing the statistics toolbox, to remove the fitted line from the figure, right click on the line and select delete object

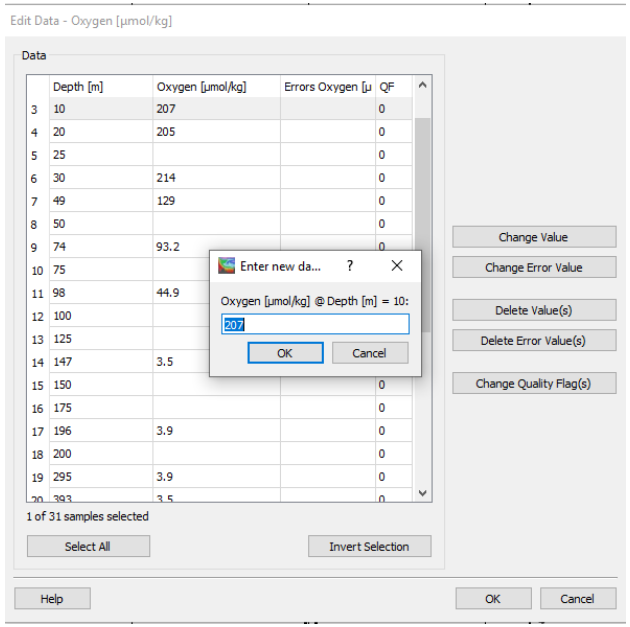


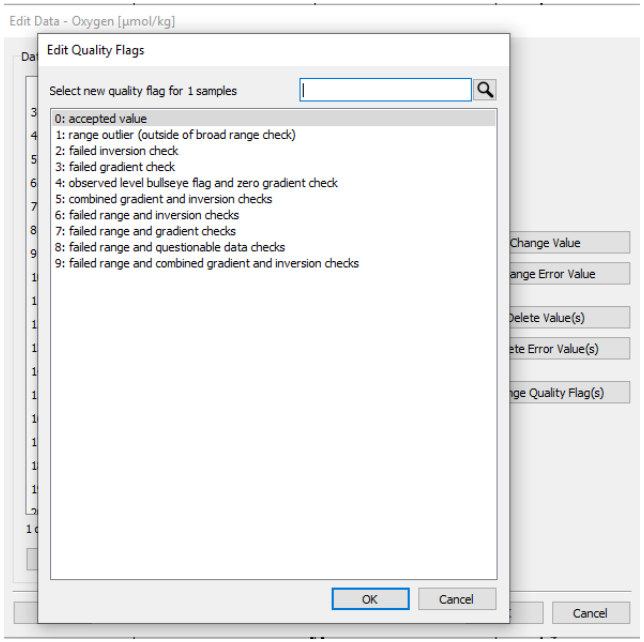


Part 2:
Quality control

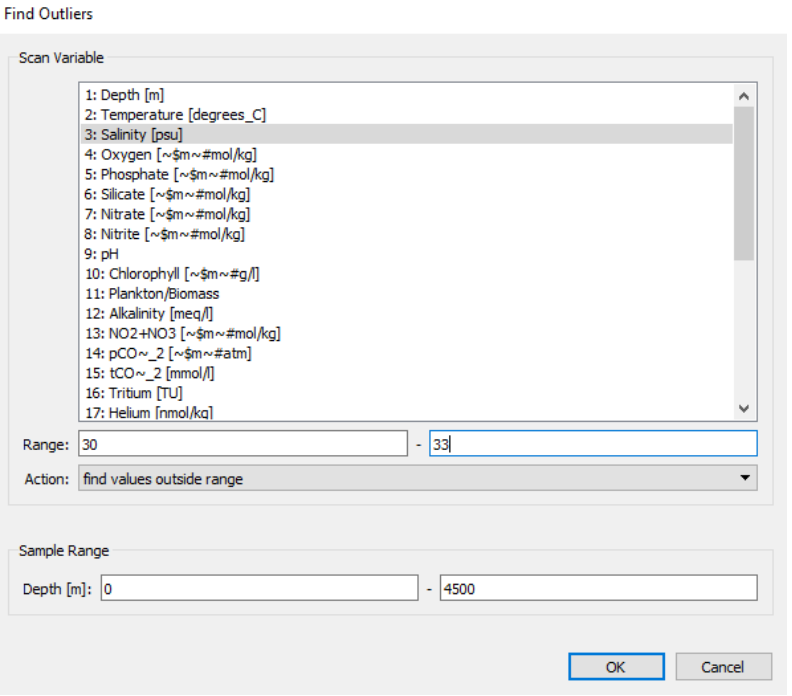
- To edit the data in a single profile, right click on the values in the Sample window on the right middle and select Edit Data.
- Change Value or change quality flag for the profile.
- Select Edit sample to modify all the variables for the specific location.
- We can also assign quality flags for the currents sample or all samples of the profile

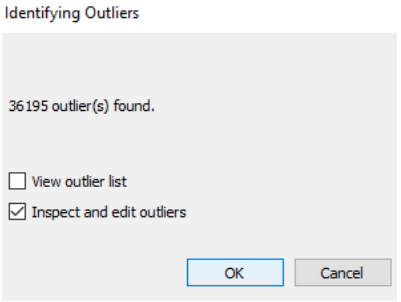


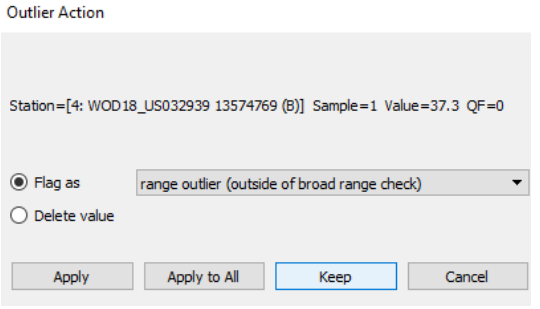




- To perform quality control first plot a depth vs salinty scatter plot
- Go to Tools > Find Outliers. Give a range 30 to 33 psu for salinity and select find values outside this range.
- An outlier list will be generated, which can be viewed later in notepad.
- Select View and Edit outliers and Flag them and Keep them, Apply to all. You can also delete them, which is not recommended.
- Inspect the profiles to see the flagged data points





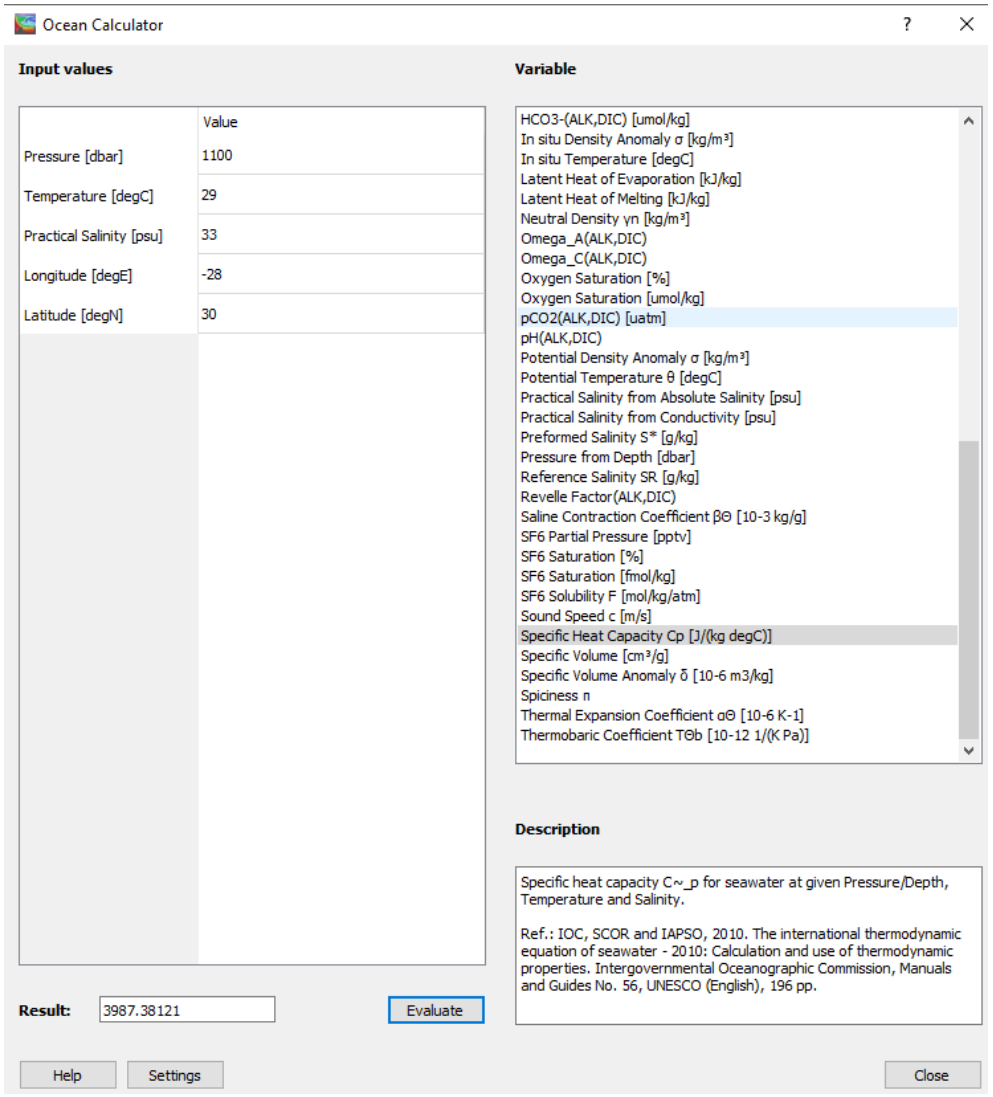


Part 3:
Export data

- Export the data using Export > Station Data > ODV Spreadsheet file
- Export the QC modified data in the scatter window using Export > XYZ Window data, into a text document
- Make a gridded surface plot of salinity at 300 m and save this isosurface data into a text file using Export > Isosurface data

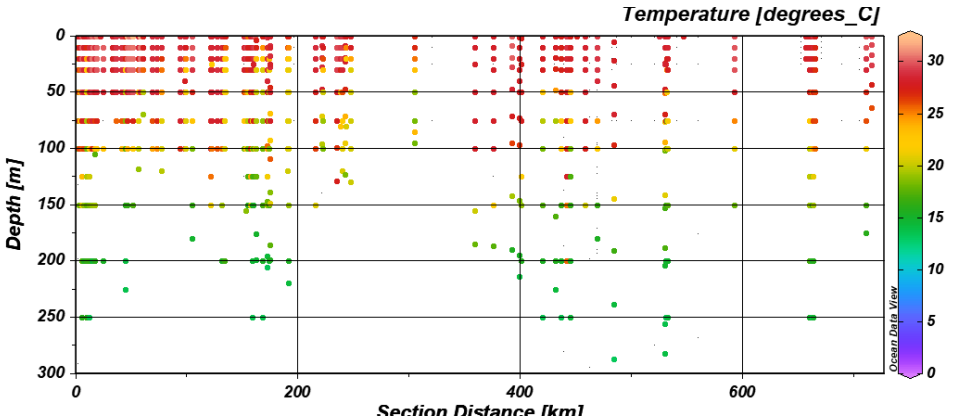
Part 4:
Ocean Data Calculator

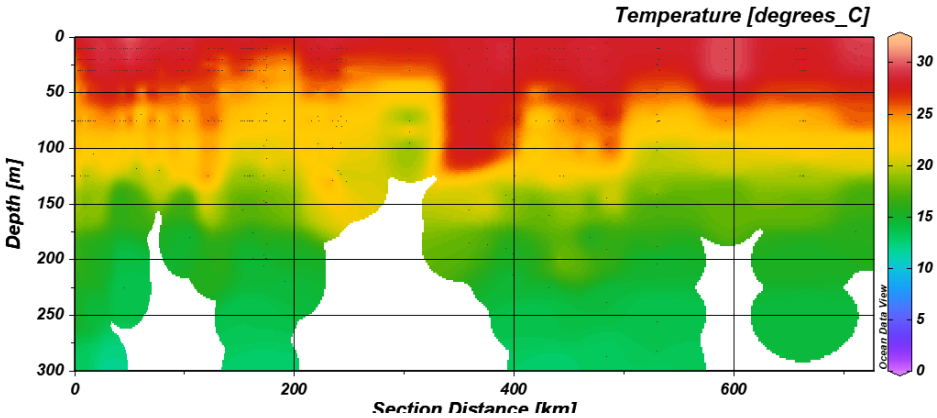
- Go to File > Tools and select Ocean Calculator
- Select variables form the RHS and provide input variable values on LHS to get the specified derived variables at specific locations.
- You can type any values under the Input values tab.



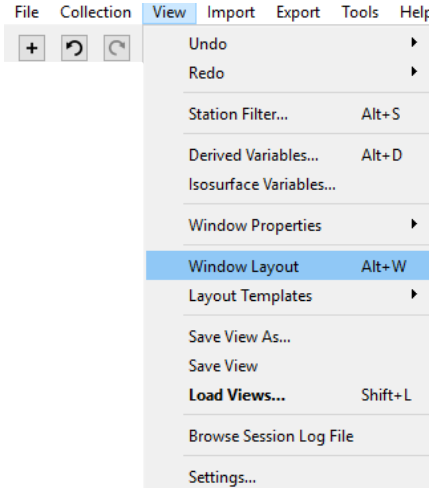
Part 5:
Overlay plots

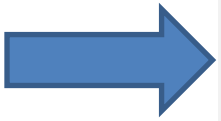
- Open the osd_wod collection previously created.
- Define a new section along a thickly data populated region. A section can be a curve or any zigzagged feature.
- Plot temperature as Z variable and interpolate data using weighted average gridding.

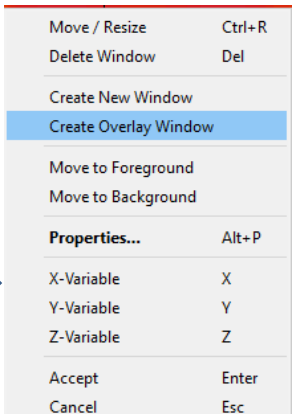


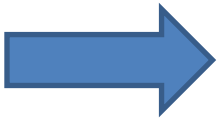


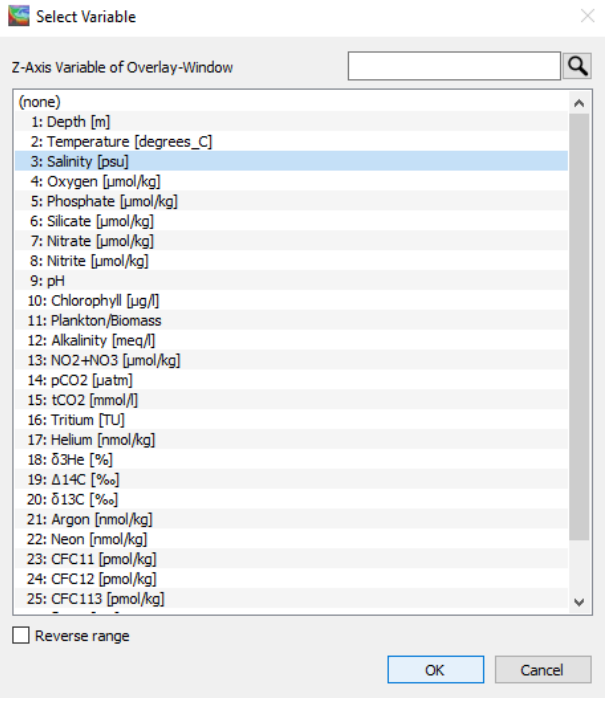
- To overplot salinity contours on temperature, go to File > View > Window Layout
- Or alternatively, click on the # icon on the menu bar.
- Now right click on the image, select Create overlay window.
- Go back to figure, again right click, select properties, make sure the data tab shows the new variable – salinity
- Go to contours, select do contours and add a range of contours, with increments
- Go back to the figure, right click and select Accept

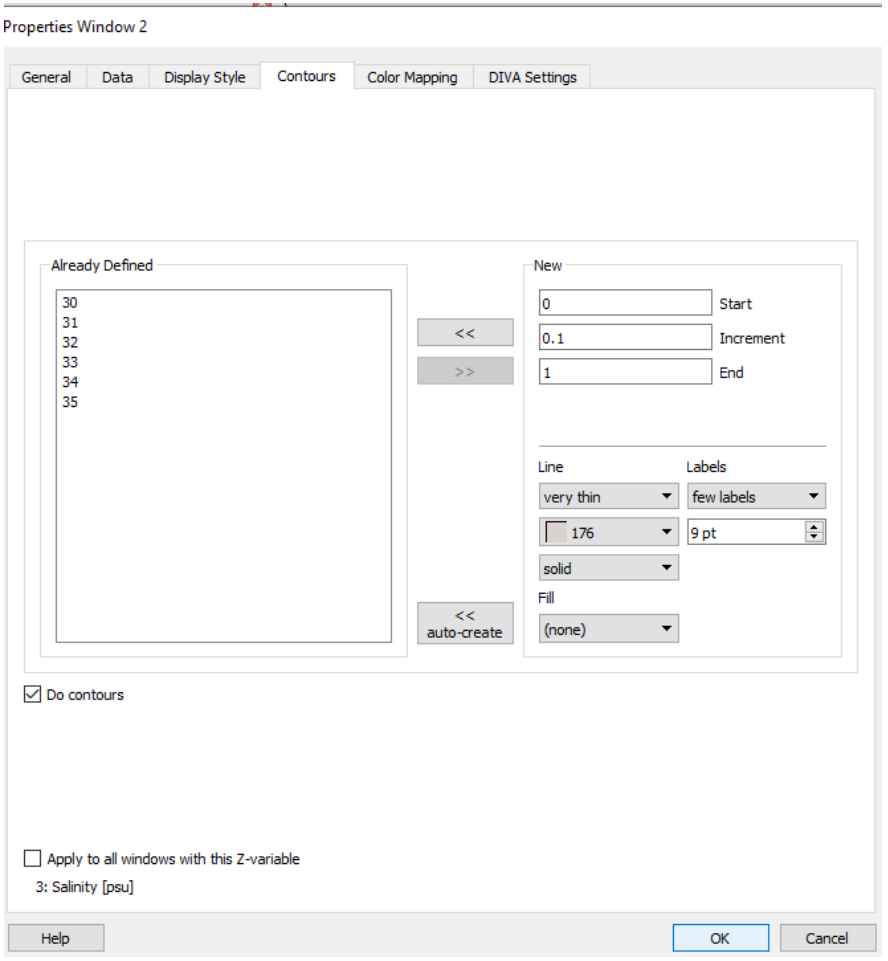

File
Collection
View
Import
Export
Tools
Help
Undo
Redo
Station Filter... Alt+S
Derived Variables... Alt+D
Isosurface Variables...
Window Properties
Window Layout Alt+W
Layout Templates
Save View As...
Save View
Load Views... Shift+L
Browse Session Log File
Settings...

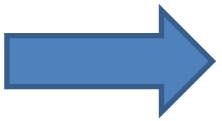


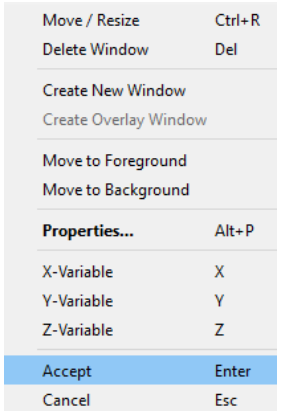

Move / Resize Ctrl+R
Delete Window Del
Create New Window
Create Overlay Window
Move to Foreground
Move to Background
Properties... Alt+P
X-Variable X
Y-Variable Y
Z-Variable Z
Accept Enter
Cancel Esc




Select Variable
Z-Axis Variable of Overlay-Window
(none)
1: Depth [m]
2: Temperature [degrees_C]
3: Salinity [psu]
4: Oxygen [µmol/kg]
5: Phosphate [µmol/kg]
6: Silicate [µmol/kg]
7: Nitrate [µmol/kg]
8: Nitrite [µmol/kg]
9: pH
10: Chlorophyll [µg/l]
11: Plankton/Biomass
12: Alkalinity [meq/l]
13: NO2+NO3 [µmol/kg]
14: pCO2 [µatm]
15: tCO2 [mmol/l]
16: Tritium [TU]
17: Helium [nmol/kg]
18: δ3He [%]
19: Δ14C [‰]
20: δ13C [‰]
21: Argon [nmol/kg]
22: Neon [nmol/kg]
23: CFC11 [pmol/kg]
24: CFC12 [pmol/kg]
25: CFC113 [pmol/kg]
Reverse range
OK
Cancel


Properties Window 2
General
Data
Display Style
Contours
Color Mapping
DIVA Settings
Already Defined
30
31
32
33
34
35
<<
>>
<< auto-create
New
0
Start
0.1
Increment
1
End
Line
Labels
very thin
few labels
176
9 pt
solid
Fill
(none)
Do contours
Apply to all windows with this Z-variable
3: Salinity [psu]
Help
OK
Cancel

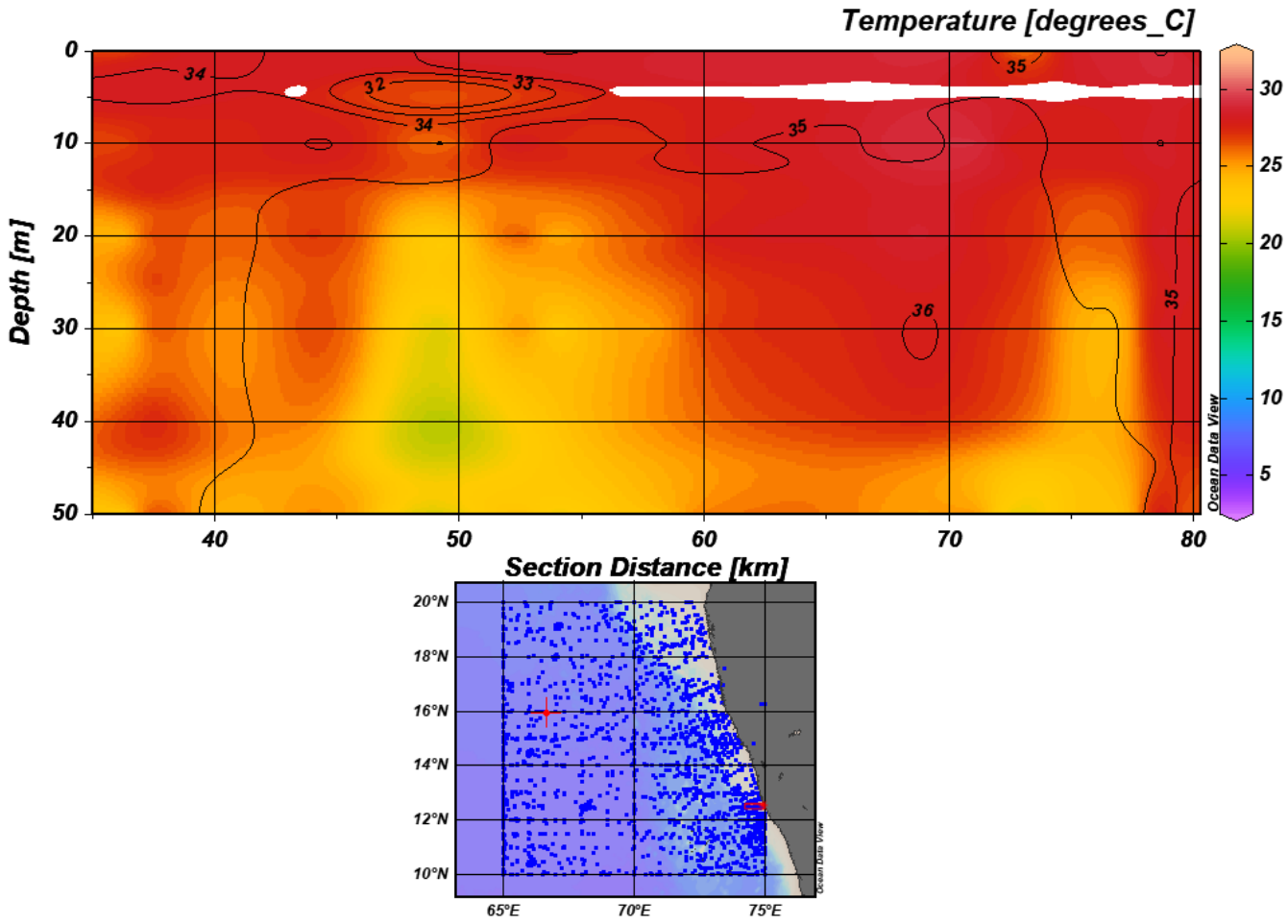



Move / Resize Ctrl+R
Delete Window Del
Create New Window
Create Overlay Window
Move to Foreground
Move to Background
Properties... Alt+P
X-Variable X
Y-Variable Y
Z-Variable Z
Accept Enter
Cancel Esc

Ocean Data View - C:\Users\user\Documents\ODV\data\ODV_COLLECTION_(2019-08-08T14-58-52)

File Collection View Import Export Tools Help

Default



Station ID: 1

Accession Nu...	1
Cruise	WOD18_GB012994
Station	15665472 (B)
Position	66.65°E / 15.93°N
Date	01 June 1800
Time	
Depth Range [...	[0 - 0]
Bot. Depth [m]	
OCL Cruise N...	12994
Originator's C...	
Originator's St...	

Sample: 1 / 1

1: Depth [m]	0	0
2: Temperature [degr...	82.00	1
3: Salinity [psu]		0
4: Oxygen [µmol/kg]		0
5: Phosphate [µmol/k...		0
6: Silicate [µmol/kg]		0
7: Nitrate [µmol/kg]		0
8: Nitrite [µmol/kg]		0
9: pH		0
10: Chlorophyll [µg/l]		0
11: Plankton/Biomass		0
12: Alkalinity [meq/l]		0
13: NO2+NO3 [µmol/...		0
14: pCO2 [µatm]		0
15: tCO2 [mmol/l]		0

Isosurface Values

Longitude	66.650
Latitude	15.930
Time [yr]	1800.414
Day of Year	152
Depth [m] @ Depth [m]=first	0
Temperature [degrees_C] @ Dept...	82.00

Ready | Window 2 on 1: 48.136 / 5 | RW | -|- | - | 3050 / 3050: Default *

Type here to search

ENG 15:07 08-08-2019

- Overlay window will be active only after data interpolation.
- To go back to the filled plot of temperature contours to change its properties, now it can only be accessed through File > View > Window properties > Window 1.
- For the window 2 (salinity contours) remove the colorbar from Properties > Data > colorbar settings > Position > No colorbar.

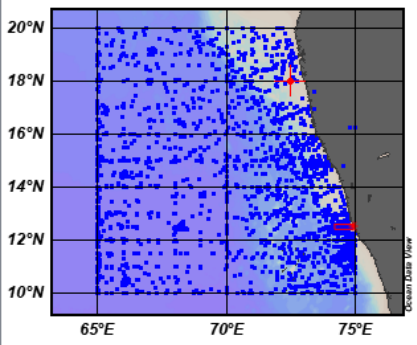
Task:

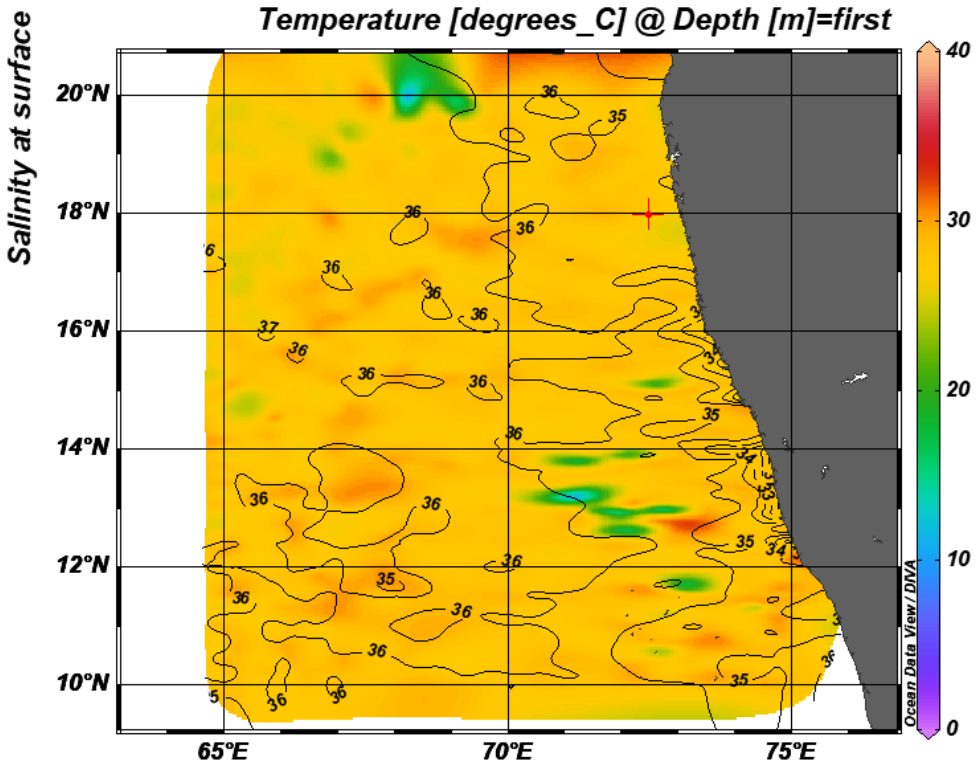
- Repeat the same for a surface plot, Reject the outliers.

Ocean Data View - C:\Users\user\Documents\ODV\data\ODV_COLLECTION_(2019-08-08T14-58-52)

File Collection View Import Export Tools Help

Default





Station ID: 574

Accession Number	574
Cruise	WOD18_IN000416
Station	444565 (B)
Position	72.483°E / 17.965°N
Date	22 March 1965
Time	15:54
Depth Range [m]	[1 - 40]
Bot. Depth [m]	42
OCL Cruise Number	416
Originator's Cruise	25
Originator's Station	

Sample: 1 / 5

1: Depth [m]	1	0
2: Temperature [degre...	26.73	0
3: Salinity [psu]	35.628	0
4: Oxygen [µmol/kg]	171.0	0
5: Phosphate [µmol/kg]		0
6: Silicate [µmol/kg]		0
7: Nitrate [µmol/kg]		0
8: Nitrite [µmol/kg]		0
9: pH		0
10: Chlorophyll [µg/l]		0
11: Plankton/Biomass		0
12: Alkalinity [meq/l]		0
13: NO2+NO3 [µmol/kg]		0
14: pCO2 [µatm]		0
15: tCO2 [mmol/l]		0

Isosurface Values

Longitude	72.483
Latitude	17.965
Time [yr]	1965.221
Day of Year	81
Depth [m] @ Depth [m]=first	1
Temperature [degrees_C] @ Depth ...	26.73

Ready | Window 2 on 1: 65.35°E / 20.68°N | RW | Q|- | - | 3050 / 3050: Default *

Type here to search

ENG 15:18 08-08-2019

Hovmoller Diagram

- Try a surface temperature plot with gridding.
- Change the y variable to time in years and zoom into the figure to get the desired filled region.
- This is similar to a Hovmoller (time-longitude) diagram, but without area averaging.