# High Spatial-Density Wind Vectors from OSCAT Level-2A&2B Data

Ocean surface vector winds (Level-2B Product) at 50 km grid (wind vector cell) are operationally being generated using 50 km grid radar backscatter (Level-2A) data from Oceansat-2 scatterometer (OSCAT) based on ISRO-algorithms. The Level-2B products are being disseminated through NRSC website (www.nrsc.gov.in).

Higher spatial-density (~15 km) vector winds are being generated using the operational Level-2A and Level-2B data by exploiting the high density backscatter data available within Level-2A and the OSCAT specific Geophysical Model Functions (GMF).

The approach used for the purpose is that firstly the wind directions at finer spatial spacing are obtained through vector interpolation of 50 km (L2B) considering the central and the neighboring grids then the associated wind speeds are obtained using GMF and the interpolated wind directions. This approach yields wind vector at every composite-slice location for each grid of Level-2A data which is highly spatially dense as compared to Level-2B 50 km grid product.

This is a value-added product undergoing validation and posted on trial basis. However, such data is useful for several studies and applications requiring higher resolution data. The product is available in HDF format with conventions and units same as that of Level-2B data. Sample data for Dec 28, 2011, is shown here. The processing software for this wind product is developed within the ISRO under OSCAT utilization project. The data are available at MOSDAC (http://www.mosdac.gov.in/) and can be freely distributed (Contact persons: bsgohil@sac.isro.gov.in and srajesh@sac.isro.gov.in).
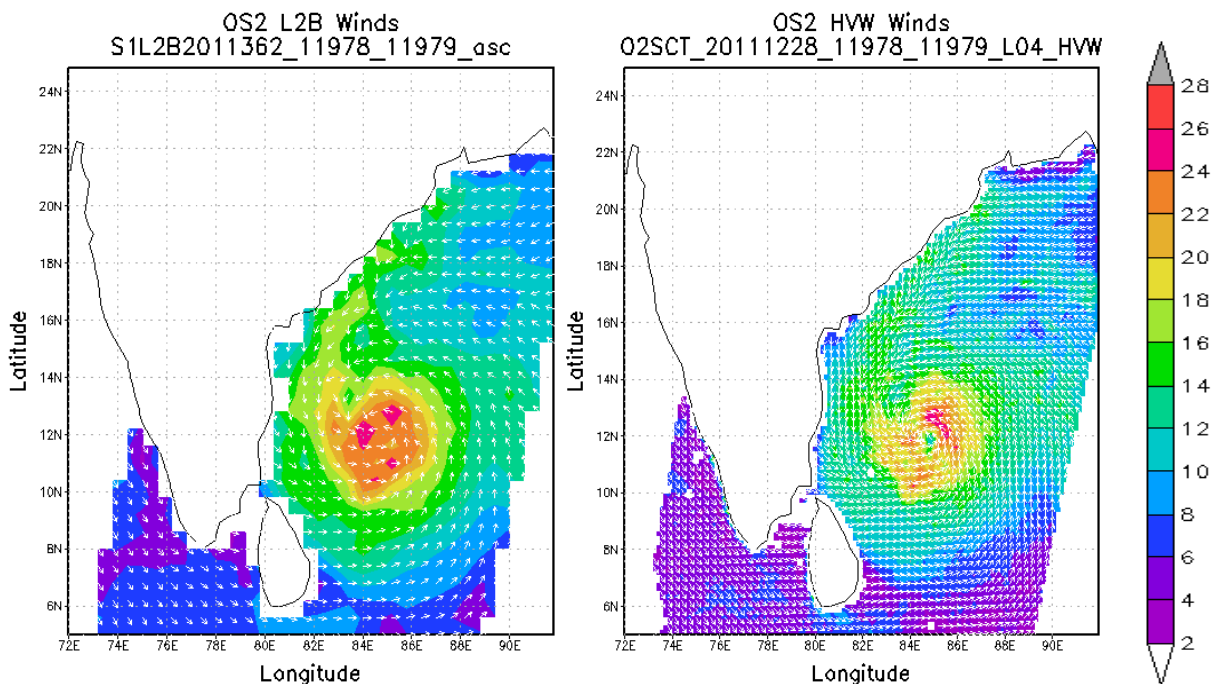
Example:-

File Name: O2SCT_20120302_12920_12921_L04_HVW.h5

Parameters:
       HDF5 "O2SCT_20120302_12920_12921_L04_HVW.h5" {
FILE_CONTENTS {
 group   **/**
 group   **/science_data**
 dataset   **/science_data/Cell_Index**
 dataset   **/science_data/Latitude**
 dataset   **/science_data/Longitude**
 dataset   **/science_data/Quality**
 dataset   **/science_data/Row_index**
 dataset   **/science_data/WVC_row_time**
 dataset   **/science_data/Wind_Direction**
 dataset   **/science_data/Wind_Speed**

Quality: It is given in a 16 bit integer format each bit having a specific meaning as given in the L2B Quality Flag table.

Acknowledgement:

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