

Distributed Oceanographic Match-up Service (DOMS) Translation Specification: Satellite Data

Nga Quach, Frank Greguska, and Thomas Huang

Jet Propulsion Laboratory/California Institute of Technology, Pasadena, CA

Contact: Thomas.Huang@jpl.nasa.gov

Introduction

To make the DOMS matchup output meaningful and easy to use the collaborating partners must standardize their data within the DOMS prototype. This document defines the translation of the satellite datasets from their native format at JPL into the NEXUS software used in the DOMS prototype.

Date and time:

The following table lists the dataset and variable used for date and time.

MUR-JPL-L4-GLOB-v4.1	time
JPL_SMAP-SSS_L2_EVAL-V2	row_time <i>Note: row_time is relative to the global attribute REV_START_TIME. Absolute time is derived by combining both values.</i>
ASCATB-L2-Coastal	time

Time is converted to ISO 8601 format: YYYY-MM-DDThh:mm:ssZ

CF name = time

Latitude:

Copy lat in decimal degrees with +North and -South

CF name = latitude

Longitude:

Decimal degrees in -180 West to +180 East

Convert lon 0.00 to 359.99 to -179.99 to 180.00 East

Note there will be no 180.00 West.

CF name = longitude

Platform:

Static value for all satellite datasets

DOMS Index	DOMS Description

Code	
9	orbiting satellite

Device:

Static value for all satellite datasets

DOMS Index Code	DOMS Description
5	scatterometers

Mission:

Not recorded

Sea_water_temperature:

Set as value from analysed_sst variable

Units: degrees_C

CF name = sea_water_temperature

Sea_water_temperature_depth:

Not recorded. Assume to be 0 (at the surface).

CF name = depth

Sea_water_temperature_quality:

Not recorded

CF name = N/A

Sea_water_salinity:

Set as value from smap_sss variable

Units: psu

CF name = sea_water_salinity

Sea_water_salinity_depth:

Not recorded. Assume to be 0 (at the surface).

CF name = depth

Sea_water_salinity_quality:

Not recorded

CF name = N/A

Wind_speed:

Set as value from wind_speed variable

Units: m/s

CF Name = wind_speed

Eastward_wind and Northward_wind:

Use wind_speed and wind_dir to derive

Convert degrees to radians

```
wind_dir_rad = numpy.radians(dataset[wind_dir_var])
```

U component

```
dataset['eastward_wind'][:] = numpy.multiply(dataset[wind_speed_var],  
numpy.sin(wind_dir_rad))
```

V component

```
dataset['northward_wind'][:] = numpy.multiply(dataset[wind_speed_var],  
numpy.cos(wind_dir_rad))
```

CF names = eastward_wind and northward_wind

Wind_depth:

Not recorded. Assume to be 0 (at the surface).

CF Name = depth

Wind_quality:

Not recorded

CF name = N/A

Meta:

Not recorded

CF name = meta