



OceanSITES

Taking the pulse of the global ocean

May 2nd, 2006

cordo/dti-mut/03-034

OceanSITES User's Manual

Version 1.0

OceanSITES
User's Manual
Ref : cordo/dti-mut/03-034
Version : 1.0
Date : 02/05/2006
Authors :

- OceanSITES data management team

Table of contents

HISTORY	4
1. OVERVIEW	5
2. OCEANSITES DATA FORMAT	7
2.1. DATA FILE DIMENSIONS	7
2.2. GLOBAL ATTRIBUTES	8
2.3. GENERAL ATTRIBUTES, META-DATA INFORMATIONS	10
2.4. MEASUREMENTS	12
3. OCEANSITES META-DATA FORMAT	14
4. REFERENCE TABLES	15
4.1. REFERENCE TABLE 1 : DATA TYPE AND DATA CODE	15
4.1.1. DATA TYPE	15
4.1.2. DATA CODE	15
4.2. REFERENCE TABLE 2 : QUALITY CONTROL FLAGSCALE	15
4.2.1. REFERENCE TABLE 2.1: QUALITY CONTROL LEVEL INDICATOR	16
4.3. REFERENCE TABLE 3 : OCEANSITES PARAMETER DICTIONARY	17
4.4. REFERENCE TABLE 4: DATA ASSEMBLY CENTER CODES	19
5. FILE NAMING CONVENTION	20
5.1. DATA FILE NAMING CONVENTION	20
5.2. METADATA FILE NAMING CONVENTION	20

History

Version	Date	Comment
0.1	20/03/2003	TC : creation of the document
0.2	10/12/2003	TC : general update for Argo trajectory 2.1 compatibility
0.3	20/02/2004	TC : updates on locations, mooring name, data state indicator, parameters table, epic codes, history information
0.3.2	26/05/2004	N.G.: make more flexible, add dataset (metadata) file
0.4	01/06/2004	TC : separate data set description and data file
0.5	21/06/2004	TC : merge with Steve Hankins's strawman
0.6	28/06/2004	TC : updates from Nan Galbraith, Steve Hankins, Jonathan Gregory, Brian Eaton
0.7	09/02/2005	YI : updates on attributes
0.7	23/05/2005	Maureen Edwards : NOCS data centre, new GF3 parameters
0.7	24/05/2005	Roy Lowry : physical parameters from BODC Data Markup Vocabulary
0.8	11/10/2005	TC : remove latitude and longitude dimension. <PARAM> dimension is TIME instead of (TIME, LATITUDE, LONGITUDE)
0.8	01/02/2006	TC : update of reference table 3 parameter codes NG : reference table 2.1 parameter quality control indicator added TC : §5 file naming convention added
1.0	18/02/2006	TC : updates following OceanSITES data management meeting 2006, Hawai'i §2.1 : LEVEL dimension replaces DEPTH to accomadate depth or pressure §2.2 : QC_MANUAL field created §2.2 : CONVENTION field removed §2.2 : PLATFORM_CODE added §2.2 : SITE_CODE added §2.2 : WMO_PLATFORM_CODE added §2.3 : DEPTH renamed DEPH to comply to GF3 §2.3 : DATA_MODE set at measurement level §3 : metadata file description transfered to "OceanSITES meta-data proposal" until approval §5 : file naming convention updated
1.0	19/02/2006	NG : data codes in chapter 4.1.2
1.0	28/04/2006	PF & NG : data mode optional
1.0	28/04/2006	TC & JG : §2.2 global attributes

1. Overview

The objective is to define both a common format for data exchange within the project and to identify the minimal metadata content for data to be exchanged. The format is built on the community-supported Climate and Forecast standard NetCDF implementation which supplies a standard vocabulary and some metadata conventions that we adopt.

For each data set :

- A unique name for moorings comprising the dataset
- data center name
- contact person : person in charge of the dataset
- date of last update of the data set
- list of available parameters
- list of files comprising the dataset
- overall dates, overall location(s)

For each file:

- unique address for each mooring : WMO code or unique name
- data center name
- contact person : person in charge of the data in the file
- data centre : centre which processed the data file
- date of last update or creation of the data in this file
- list of parameters
- technical parameters
- overall dates, overall location(s)
- number of dimensions
- type of timebase (original, averaged, gridded)
- file containing source data, if appropriate

For each parameter :

- sampling method description
- data processing level
- list of instruments and sensors
- calibration equation if applicable
- parameter unit
- technical parameters

For each measurement :

- date and time (UTC)
- measured parameter
- historical parameters
- QC

2. OceanSITES data format

An OceanSITES data file contains measurements such as temperature, salinity, continuously performed at different levels on a platform (eg : mooring), as well as meteorological or other parameters recorded at the site, derived variables associated with the site, and complete location and time information.

The requirements are drawn almost exclusively from the netCDF Style Guide :

- Dimension names are not standardized so that optionally multiple variables with different coordinates can be combined in a single file ;
- Variable names are not standardized, so that multiple variables containing the same physical quantity can be contained in a single file ;
- Units are compliant with CF/COARDS/Udunits ;
- Time is encoded as recommended by Unidata and used by COARDS, CF and others.

For more information on CF and COARDS see <http://www.cgd.ucar.edu/cms/eaton/cf-metadata/CF-1.0.html> and http://www.ferret.noaa.gov/noaa_coop/coop_cdf_profile.html.

2.1. Data file dimensions

Name	Definition	Comment
TIME	TIME= unlimited;	Number of recorded measurements of the file.
LEVEL	LEVEL=<int value>;	Number of depth levels on the mooring. Example : For a mooring with measurements at 10, 50, 100, 150, 200 meters LEVEL = 5
STRING256 STRING64 STRING32 STRING14 STRING8 STRING4	STRING64 = 256; STRING64 = 64; STRING32 = 32; STRING14 = 14; STRING8 = 8; STRING4 = 4;	String dimensions.

If necessary, additional dimensions can be used in OceanSITES files, as defined in the CF standard. For instance, to indicate that different measured parameters are associated with different depth arrays, dimensions LEVEL and LEVEL_2 may be specified. Data from instruments at different locations may be combined in a single file using additional location dimensions, LATITUDE, LONGITUDE and LATITUDE_2, LONGITUDE_2.

2.2. Global attributes

The global attributes follows the recommendations of Unidata NetCDF Attribute Convention for Dataset Discovery :

http://www.unidata.ucar.edu/software/netcdf-java/formats/DataDiscoveryAttConvention.html#cdm_data_type_Attribute

Nom	Valeur	Définition						
WHAT								
title	:title="OceanSITES CIS in-situ data";	The "title" attribute gives a brief description of the dataset. It should be human readable and reasonable to display in a list of such names. e.g. : "OceanSITES ESTOC in-situ data"						
conventions	:conventions="CF-1.0";	Name of the conventions followed by the dataset. e.g. : "CF-1.0"						
netcdf_version	:netcdf_version=3.5	Netcdf version used for the data set						
creation_date	:creation_date="2006-04-11 08:35:00 UT";	File creation date (UT) in the form "yyyy-mm-dd hh:mm:ss UT" (Year-Month-Day-Hour-Minute-second)						
references	:references= http://www.nocs.uk ;	References that describe the data or the methods used to produce it. Include here the names of configuration files that have been used as well as selected configuration parameters						
institution	:institution="National Oceanographic Centre";	Data provider name						
history	:history="20050411 08:35:00 data collected";	The "history" attribute provides an audit trail for modifications to the original data. It should contain a separate line for each modification with each line including a timestamp, user name, modification name, and modification arguments.						
summary	:summary="...";	The "summary" attribute gives a longer description of the dataset. Its use is highly recommended. In many discovery systems, the title and the summary will be displayed in the results list from a search. It should therefore capture the essence of the dataset it describes. For instance, we recommend this field include information on the type of data contained in the dataset, how the data was created (e.g., instrument X; or model X, run Y), the creator of the dataset, the project for which the data was created, the geospatial coverage of the data, and the temporal coverage of the data. This should just be a summary of this information, more detail should be provided in the recommended creator attributes, the recommended geospatial attributes, and the recommended temporal attributes.						
id naming_authority	:naming_authority="OceanSITES" :id=" OS_CIS-1_200502_TS »	The "id" and "naming_authority" attributes are intended to provide a globally unique identification for each dataset. The "id" value should attempt to uniquely identify the dataset. The naming authority allows a further refinement of the "id". The combination of the two should be globally unique for all time. We recommend using reverse-DNS naming for the naming authority. For example, naming_authority="edu.ucar.unidata" and id="NCEP/NAM_211_2005-05-24_12Z".						
keywords_vocabulary	: keywords_vocabulary="..."	The "keywords_vocabulary" attribute identifies the controlled list of keywords from which the values in the "keywords" attribute are taken. If you are following a guideline for the words/phrases in your "keywords" attribute, put the name of that guideline here. The use of this attribute is recommended and its value will be used by THREDDS to identify the vocabulary from which the keywords come. Common values for the "keywords_vocabulary" attribute include: <table border="1" data-bbox="715 1832 1452 1939"> <thead> <tr> <th>Vocabulary ID</th> <th>Reference URL</th> </tr> </thead> <tbody> <tr> <td>"AGU Index Terms"</td> <td>http://www.agu.org/pubs/indexterms/</td> </tr> <tr> <td>"GCMD Science Keywords"</td> <td>http://gcmd.gsfc.nasa.gov/Resources/valids/gcmd_parameters.html</td> </tr> </tbody> </table>	Vocabulary ID	Reference URL	"AGU Index Terms"	http://www.agu.org/pubs/indexterms/	"GCMD Science Keywords"	http://gcmd.gsfc.nasa.gov/Resources/valids/gcmd_parameters.html
Vocabulary ID	Reference URL							
"AGU Index Terms"	http://www.agu.org/pubs/indexterms/							
"GCMD Science Keywords"	http://gcmd.gsfc.nasa.gov/Resources/valids/gcmd_parameters.html							
cdm_data_type	: cdm_data_type="Time-series"	The "cdm_data_type" attribute gives the THREDDS data type appropriate for this dataset. E.g., "Grid", "Image", "Station", "Trajectory", "Radial".						
comment	:comment="..."	The "comment" attribute allows for miscellaneous information about the dataset. Use of this attribute is recommended as appropriate.						

data_mode	:data_mode='D'	Indicates if the file contains real time or delayed mode data. R : real time data D : delayed mode data M : mixed real-time and delayed mode data
WHERE		
area	:area="Western Europe";	Geographical coverage e.g.: Global Ocean, North Atlantic Ocean, North-West European shelves
southernmost_latitude	:southernmost_latitude="35";	Value between -90° and 90°
northernmost_latitude float	:northernmost_latitude="55";	Value between -90° and 90°
westernmost_longitude	:westernmost_longitude="-11°";	Value between -180° and 180°
easternmost_longitude	:easternmost_longitude="14°";	Value between -180° and 180°
minimum_depth	:minimum_depth="10.0";	Minimum depth for measurements
maximum_depth	:maximum_depth="2000.0";	Maximum depth for measurements
sensor_depth	:sensor_depth="0,20,50,75,100,500"	Nominal depth of each sensor or level
latitude	:latitude="0.0"	Nominal latitude of a site
longitude	:longitude="-10"	Nominal longitude of a site
WHEN		
start_date	:start_date="2006-03-01 00:00:00 UT";	Start date of the data in UT in the form "yyyy-mm-dd hh:mm:ss UT" (Year-Month-Day-Hour-Minute-second)
stop_date	:stop_date="2006-03-05 23:59:29";	Final date of the data in UT in the form "yyyy-mm-dd hh:mm:ss UT" (Year-Month-Day-Hour-Minute-second)
WHO		
institution	:institution="Southampton National Oceanographic Centre";	Data provider name
institution_references	:institution_references="http://www.nocs.uk";	References for data provider, the place to find all information upon the data set (Web-based)
contact	:contact="codac@nocs.uk";	User desk e-mail
HOW		
distribution_statement	:distribution_statement="Data restrictions: for registered users only";	Text like "Approved for public release. Distribution unlimited" or "Data restrictions: for registered users only" or better to link to the place where the rule is described
quality_index	:quality_index="A";	A code value valid for the whole dataset : O unknown quality A excellent (no known problems, regular quality checking) B probably good (occasional problems, validation phase) C extremely suspect, frequent problems

2.3. General attributes, meta-data informations

The general attributes are a subset of the meta-data file.

Name	Definition	Comment
DATA_TYPE	char DATA_TYPE (STRING32); DATA_TYPE:comment = "Data type"; DATA_TYPE:_FillValue = " ";	This field contains the type of data contained in the file. The list of acceptable data types is in the reference table 1. Example : "OceanSITES data"
FORMAT_VERSION	char FORMAT_VERSION (STRING4); FORMAT_VERSION:comment = "File format version"; FORMAT_VERSION:_FillValue = " ";	File format version Example : «1.0»
QC_MANUAL	Char QC_MANUAL (STRING64); QC_MANUAL:comment = "Quality control manual reference"; QC_MANUAL:_FillValue = " ";	This field contains the name of the manual that describes the quality control procedure. Exemple : "OceanSITES quality control manual V1.0"
DATE_CREATION	Char DATE_CREATION (DATE_TIME); DATE_CREATION:comment = "Date of file creation"; DATE_CREATION:conventions = "YYYYMMDDHHMISS"; DATE_CREATION:_FillValue = " ";	Date and time (UTC) of creation of this file. Format : YYYYMMDDHHMISS Example : 20011229161700 : December 29 th 2001 16:17:00
DATE_UPDATE	Char DATE_UPDATE (DATE_TIME); DATE_UPDATE:long_name = "Date of update of this file"; DATE_UPDATE:conventions = "YYYYMMDDHHMISS"; DATE_UPDATE:_FillValue = " ";	Date and time (UTC) of update of this file. Format : YYYYMMDDHHMISS Example : 20031230161700 : December 30 th 2001 16:17:00
DATE_SOURCE	Char DATE_SOURCE (DATE_TIME); DATE_SOURCE:long_name = "Date of source of this file"; DATE_SOURCE:conventions = "YYYYMMDDHHMISS"; DATE_SOURCE:_FillValue = " ";	Date and time (UTC) of source of this file. Format : YYYYMMDDHHMISS This is the date of the original file that may come from an other project (eg : Woce) Example : 19850529161700 : May 5 th 1985 16:17:00
DATA_RESTRICTIONS	Char DATA_RESTRICTIONS (STRING64); DATA_RESTRICTIONS:comment = "Restriction on use for these data"; DATA_RESTRICTIONS:_FillValue = " ";	Restriction on use for these data. Example : "NONE"
CITATION	Char CITATION (STRING256); CITATION:comment = "Restriction on use for these data"; CITATION:_FillValue = " ";	The citation should be used for publications. Example : "These data were collected and made freely available by the International OceanSITES Project and the national programmes that contribute to it."
PLATFORM_CODE	Char PLATFORM_CODE (STRING32); PLATFORM_CODE:long_name = "Platform unique identifier"; PLATFORM_CODE:conventions = "OceanSITES naming convention"; PLATFORM_CODE:_FillValue = " ";	Platform unique code within OceanSITES project. Examples : CIS-1 mooring on CIS site (Central Irminger Sea). PIRATA-LAMBADA for Lambada buoy from PIRATA project.
SITE_CODE	Char SITE_CODE (STRING32); SITE_CODE:long_name = "Site unique identifier"; SITE_CODE:conventions = "OceanSITES naming convention"; SITE_CODE:_FillValue = " ";	Name of the site within OceanSITES project. Example : CIS for Central Irminger Sea. LAMBADA for Pirata Lambada site.
WMO_PLATFORM_CODE	Char WMO_PLATFORM_CODE (STRING5); WMO_PLATFORM_CODE:long_name = "Float WMO code"; WMO_PLATFORM_CODE:conventions = "WMO naming convention : A8411"; WMO_PLATFORM_CODE:_FillValue = " ";	WMO identifier for a mooring. WMO is the World Meteorological Organization. This platform number is unique within OceanSITES project. Example : 13009 for PIRATA-LAMBADA buoy.

PROJECT_NAME	PROJECT_NAME(String64); PROJECT_NAME:long_name = "Name of the project"; PROJECT_NAME:_FillValue = " ";	Name of the project which operates the mooring. Example : PIRATA
PI_NAME	char PI_NAME (String64); PI_NAME:comment = "Name of the principal investigator"; PI_NAME:_FillValue = " ";	Name of the principal investigator in charge of the mooring. Example : Jacques SERVAIN
DATA_CENTRE	char DATA_CENTRE(String2); DATA_CENTRE:long_name = "Data centre in charge of float data processing"; DATA_CENTRE:conventions = "Argo reference table 4"; DATA_CENTRE:_FillValue = " ";	Code for the data centre in charge of the mooring data management. The data centre codes are described in the reference table 4. Example : ME for MEDS

2.4. Measurements

This section contains measurements performed on a platform (eg : mooring).

The “axis” attribute provides an unambiguous mechanism to orient a coordinate variable in 4-space.

Name	Definition	Comment
TIME	Double TIME(TIME); TIME:long_name = " days since 1950-01-01 00:00:00 UTC"; TIME:standard_name = "time"; TIME:units = "days since 1950-01-01 00:00:00 UTC"; TIME:conventions = "Relative julian days with decimal part (as parts of the day)"; TIME:axis = "T"; TIME:_FillValue = 999999.; TIME:epic_code = 601.;	Julian day of the measurement. The integer part represents the day, the decimal part represents the time of the measurement. Date and time are in universal time coordinate. Example : 18833.8013889885 : July 25 2001 19:14:00
LATITUDE <i>optional</i>	Float LATITUDE(TIME); LATITUDE:long_name = "Latitude of each location"; LATITUDE:standard_name = "latitude"; LATITUDE:units = "degree_north"; LATITUDE:_FillValue = 99999.f; LATITUDE:valid_min = -90.f; LATITUDE:valid_max = 90.f; LATITUDE:epic_code = 500; LATITUDE:axis='Y';	Latitude of the mooring. This variable is optional; the nominal latitude is included in the global attributes section. Unit : degree north Example : 44.4991 for 44° 29' 56.76" N
LONGITUDE <i>optional</i>	Float LONGITUDE(TIME); LONGITUDE:long_name = "Longitude of each location"; LONGITUDE:standard_name = "longitude"; LONGITUDE:units = "degree_east"; LONGITUDE:_FillValue = 99999.f; LONGITUDE:valid_min = -180.f; LONGITUDE:valid_max = 180.f; LONGITUDE:epic_code = 501; LONGITUDE:axis='X';	Longitude of the mooring. This variable is optional; the nominal longitude is included in the global attributes section. Unit : degree east Example : 16.7222 for 16° 43' 19.92" E
DEPH	Float DEPH (LEVEL); DEPH:long_name = "Depth of each measurement"; DEPH:standard_name = "depth"; DEPH:units = "meter"; DEPH:positive = "down"; DEPH:axis="z"; DEPH:_FillValue = -99999.f; DEPH:valid_min = 0.f; DEPH:valid_max = 12000.f; DEPH:epic_code =;	Depth of each measurement. Unit : meter In case of pressure use PRES Unit : decibar Example : 513 meters Z axes may be positive="UP" (atmospheric) or positive="DOWN" (ocean)
<PARAM>	Float <PARAM>(TIME, LEVEL); <PARAM>:long_name = "<Y>"; <PARAM>:standard_name = "<X>"; <PARAM>:units = "<Y>"; <PARAM>:_FillValue = <Y>; <PARAM>:QC_indicator = <Z>; <PARAM>:valid_min = <Y>; <PARAM>:valid_max = <Y>; <PARAM>:comment = "<Y>"; <PARAM>:ancillary_variables = "<Y>"; <PARAM>:resolution = <Y>; <PARAM>:epic_code = <Y>;	<PARAM> contains the values of a parameter The name of the parameter starts with a parameter code listed in reference table 3. Example of <PARAM> names : TEMP, TEMP_DOXY <X> : the standard name of the parameter is specified in the reference table 3. <Y> : this fields are platform dependant. <Z> : the quality control indicator is specified in table 2.1
<PARAM>_QC	Byte <PARAM>_QC(TIME, LEVEL); <PARAM>_QC:long_name = "quality flag"; <PARAM>_QC:conventions = "OceanSITES reference table 2"; <PARAM>_QC:_FillValue = 0;	Quality flag applied on each <PARAM> values. The flag scale is specified in table 2.
<PARAM>_DATA_MODE <i>optional</i>	Char <PARAM>_DATA_MODE(TIME, LEVEL); <PARAM>_DATA_MODE:long_name = "Delayed mode or real time data"; <PARAM>_DATA_MODE:conventions = "R : real time; D : delayed mode"; <PARAM>_DATA_MODE:_FillValue = " ";	This variable is optional. It is included when the dataset mixes real-time data and delayed mode data. Otherwise, it is located at the global attributes level. Indicates if the file contains real time or delayed mode data.

		R : real time data D : delayed mode data
--	--	---

3. OceanSITES meta-data format

The Ocean sites meta-data format is under construction.

The data management team is investigating an XML SENSORML description.

When approved, this document will be inserted in chapter 3 “OceanSITES meta-data format” of the User’s Manual.

Note that the OceanSITES format already contains a subset of meta-data.

An OceanSITES meta-data file contains information about an OceanSITES platform configuration.

For each deployment of a mooring, a meta-data file is created. For each change in a mooring characteristics, a meta-data file is created.

4. Reference tables

4.1. Reference table 1 : data type and data code

4.1.1. Data Type

The following table contains the list of acceptable contents for DATA_TYPE field.

Data type
OceanSITES data
OceanSITES meta-data

4.1.2. Data code

Data codes are used for file naming convention in chapter 5.1.

- T : temperature
- S : salinity
- C : conductivity
- : oxygen
- M : meteorological parameters
- V : velocity

4.2. Reference table 2 : quality control flag scale

This table describes quality control flags assigned to measurements after quality control.

Code	Meaning	Real-time comment	Delayed mode comment
0	No QC was performed	-	-
1	Good data	All real-time QC tests passed.	-
2	Probably good data	-	-
3	Bad data that are potentially correctable	These data are not to be used without scientific correction.	-
4	Bad data	Data have failed one or more of the tests.	-
5	Value changed	Data may be recovered after transmission error.	-
6	Not used	-	-
7	Not used	-	-
8	Interpolated value	Missing data may be interpolated from neighbouring data in space or time.	-

9	Missing value	-	-

4.2.1. Reference table 2.1: quality control level indicator

This table describes the quality procedures applied to all the measurement of a parameter.

Code	Meaning
0	No QC performed
1	Ranges applied, bad data flagged
2	Data interpolated
3	Sensor malfunctioning (data possibly useful)
4	data missing (which is different from sensors malfunctioning)
5	data manually reviewed
6	data verified against model or other contextual information
7	other QC process applied

4.3. Reference table 3 : OceanSITES parameter dictionary

Convention for parameter names, standard names and units

- Parameter names
They are not strictly standardized, so that multiple variables containing the same physical quantity can be contained in a single file.
However, the parameter names are based in part on the group codes of the GF3 dictionary (4 characters).
When necessary, a parameter name have a suffix that designates secondary parameters¹. The suffix starts with the character “_”.
- The NetCDF “standard_name” attribute contains the standardized parameter name, based in part on CF conventions.
- The NetCDF “units” attribute are compliant with CF/COARDS/Udunits.

Example

On a mooring, sea temperature measured by a series of Microcat CTD is reported as TEMP, with a standard name of SEA_WATER_TEMPERATURE.

Secondary temperature measurements¹ performed by an oxygen sensor is reported as TEMP_DOXY with a standard name of SEA_WATER_TEMPERATURE.

For both measurement, the unit attribute is “degree_Celsius”.

References

The OceanSITES parameter names are based partly on GF3 group codes available at :

- <ftp://ftp.pol.ac.uk/pub/bodc/jgofs/datadict/new/parameter.csv>

Associated to each parameter name, the standard_name is based partly on CF conventions available at :

- <http://www.cgd.ucar.edu/mailman/listinfo/cf-metadata>
- <http://www.cgd.ucar.edu/cms/eaton/cf-metadata/CF-1.0.html>

The units are compliant with CF/COARDS/Udunits definition available at :

- <http://www.oceansites.org/data/units>

¹ A secondary parameter is an additional measurement performed by a sensor not specifically dedicated to this parameter (eg : a temperature from an oxygen sensor, a temperature from a thermosalinograph).

Valid parameter names and standard names

PARAM	Standard Name
CNDC	SEA_WATER_ELECTRICAL_CONDUCTIVITY
PRES	SEA_WATER_PRESSURE
DEPH	DEPTH
PSAL	SEA_WATER_SALINITY
TEMP	SEA_WATER_TEMPERATURE
RELH	RELATIVE_HUMIDITY
ATMP	AIR_TEMPERATURE ATMOSPHERIC PRESSURE
EWSB	WIND_SPEED
CAPH	AIR_PRESSURE
SWR	SURFACE_DOWNWELLING_SHORTWAVE_FLUX_IN_AIR
LWR	SURFACE_DOWNWELLING_LONGWAVE_FLUX_IN_AIR
RFVL	SEA_WATER_SPEED
DOXY	DISSOLVED_OXYGEN
FLU2	FLUORESCENCE
OPBS	OPTICAL_BACKSCATTERING_COEFFICIENT
PCO2	CARBON_DIOXIDE

Parameters awaiting definition

PARAM	Standard Name
????	DIRECTION_OF_SEA_WATER_VELOCITY
????	THICKNESS_OF_RAINFALL_AMOUNT
????	RAINFALL_RATE
????	WIND_SPEED
????	WIND_TO_DIRECTION
????	EASTWARD_WIND
????	NORTHWARD_WIND
????	PHOTOSYNTHETICALLY_ACTIVE_RADIATION
????	IRRADIANCE_AT_MULTIPLE_WAVELENGTHS
????	RADIANCE_AT_MULTIPLE_WAVELENGTHS
????	BEAM_ATTENUATION
????	ABSORPTION_AND_ATTENUATION_COEFFICIENT_AT_MULTIPLE_WAVELENGTHS
????	NITRATE_ABSORBANCE

4.4. Reference table 4: Data Assembly Center Codes

Data centres and institutions	
BO	BODC, United Kingdom
IF	Ifremer, France
JA	Jamstec, Japan
JM	JMA, Japan
ME	MEDS, Canada
NO	National Oceanography Centre, Southampton
PM	PMEL, USA
SI	SIO, Scripps, USA
WH	Woods Hole Oceanographic Institution, USA
GT	GTS : used for data coming from WMO GTS network

5. File naming convention

The OceanSITES files comply with the following naming conventions :

5.1. Data file naming convention

OS_XXX_YYY_ZZZ.nc

- OS : OceanSITES prefix
- XXX : platform code
- YYY : configuration code
- ZZZ : data type code from reference table 1

The data type code is the addition of the primary (main) parameters measured in a file. The data type code will not list secondary parameters.

Example :

- OS_CIS-1_200502_TS.nc

This file contains the CTD data from CIS mooring, from Animate project, for the deployment performed in February 2005.

Note that the data start in February until the next re-deployment.

5.2. Metadata file naming convention

OS_XXX_YYY_META.xml

- OS : OceanSITES prefix
- XXX : platform code
- YYY : configuration code

Example :

- OS_CIS-1_200502_META.nc

This file contains the meta-data of CIS mooring, from Animate project, for the deployment performed in February 2005.

These meta-data are valid from February 2005 until the next re-deployment.