National Data Buoy Center

Presentation
to
The Regional Marine Instrumentation Center (RMIC)

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OceanSITES is a worldwide system of long-term, deepwater reference stations measuring dozens of variables and monitoring the full depth of the ocean from air-sea interactions down to 5,000 meters.

Since 1999, the international OceanSITES science team has shared both data and costs in order to capitalize on the enormous potential of these moorings. The growing network now consists of about 30 surface and 30 subsurface arrays. Satellite telemetry enables near real-time access to OceanSITES data by scientists and the public.

The Data Management System developed a standard vocabulary to ensure there is an understandable access to data and information.
Current Architecture

- Maintains specific OceanSITES platforms,
- Determines what observations are released to GTS,
- Assures that the platform is available and provides reliable information,
- Provides the DAC with the observations in any format the DAC is willing to take, and the metadata necessary to serve as an OceanSITES platform, and
- QC post-recovery data according to OceanSITES agreed procedures.

- Sets up the OceanSITES server according to the approved specifications,
- Guarantees data availability from the PI,
- Translates the data to the OceanSITES format,
- Quality Controls real-time data according to the minimum OceanSITES agreed procedures,
- Provides the observations via the GTS (if requested by the PI),
- Provides the data on a FTP server for access by the GDACs

- Provides centralized access to the DAC data
- Ensures no data are excluded at the GDAC level, and full high-frequency data sets are available,
- Keeps only the best version of the data. Additional products like interpolated data are separate optional sets,
- Check all files daily using the “File Checker” software,
- Maintains the OceanSITES catalogue, and
- Synchronizes the catalogues with the second GDAC periodically (at least daily).

Observations in any format – may or may not be quality controlled

Format observations and provides QC

Provides access to data, checks formats

User Requests
Definitions and Vocabulary

**Site** - A defined geographic location where sustained/perennial oceanographic/meteorological or other types of observations are collected (Examples: CIS: an OceanSITES site in Central Irminger Sea, RAPID-MOCHA: site for transatlantic transport line).

(A site should be thought of as a point in space, i.e., a nominal position with a small area extent around it, such that successive observations from anywhere within this area reasonably represents conditions at the nominal position for the major scientific questions that the observations address)

**Platform** - An independently deployable package of instruments and sensors forming part of an observing system. It may be fixed to the ocean floor, may float or may be self-propelled (examples: CIS1: a mooring in Central Irminger Sea, THETYS II: a vessel that performs regular CTDs at DYFAMED site).

**Deployment** - An instrumented platform performing observations for a period of time. Changes to the instrumentation or to the spatial characteristics of the platform or its instruments constitute the end of the deployment (Examples: The CTD data for CIS-1 deployment performed in May 2009 (200905) and are distributed as OS_CIS-1_200905_R_CTD.nc file)

**Network** - A grouping of sites based on common shore-based logistics or infrastructure (Example: EuroSITES, although technically a single project, bundles multiple institutional efforts and connects otherwise remote sites to a degree that warrants calling it a network)

(It is valid for a single site to belong to none, one or multiple networks. Documenting the network is recommended only if it identifies structures beyond a single project or a single operating institution).

**Array** - A grouping of sites based on a common and identified scientific questions, or on a common geographic location (Examples: An IRMINGERSEA array would identify the sites CIS, LOC_IRMINGERSEA, and OOI-IRMINGERSEA as sharing a common scientific interest and/or geographic location)

(It is valid for a single site to belong to none, one or multiple arrays. Documenting the array is recommended only if it identifies commonalities beyond a single project or a single operating institution).

**Instrument** - A device that provides digital data output (CTD, ADCP, Met Package)

**Sensor** - A device that measures environmental parameter but does not digitize data for transmission, it needs to be connected to an instrument to produce a data stream that a computer can read. (Transmissiometer, Fluorometer, Oxygen sensor)
Importance of Vocabulary

Site
- North_Pacific
- Tropical_Pacific
- South_Pacific
- North_Atlantic
- Tropical_Atlantic
- South_Atlantic
- Tropical_Indian_Ocean
- South_Indian_Ocean
- Mediterranean

FTP Directory Structure:

/OceanSITES/Site/Platform/Deployment

Example: ./CIS/CIS-1/OS_CIS-1_200905_R_CTD.nc

TAO would appear as an OceanSITES site in Tropical Pacific
Example: ./0n170w/OS_0n170w_200910_R_TVM10m.nc

File Name will continue to be: OS XXX YYY T <PARTX>.nc

where

OS - OceanSITES
XXX - Platform code from the OceanSITES catalogue
YYY - Deployment code (unique code for deployment - date or number)
T - Data Mode (R: Real-Time, P: Provisional, D: Delayed Mode, M: Mixed)
<PARTX> - User defined field for identification of data
Thank You

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Questions