How to participate in OceanSITES

Overview

This document is written to provide information on how to become a member of OceanSITES and to have an ocean time series site recognized as an OceanSITE. It is aimed at those believing that a site they now maintain or plan to establish may qualify as an OceanSITE, and who are interested to take advantage of the benefits of OceanSITES while committing to the requirements of membership.

A more complete explanation of the OceanSITES network ("what is OceanSITES", mission, objectives), of the benefits of membership, and of the governance is available in a set of concise documents that can be found on the OceanSITES website. As a summary, the key characteristics of an OceanSITE are:

- operated at a fixed location in the open ocean or relevant to open-ocean processes
- located at a site with important oceanographic processes or characteristic of a larger region
- long-term (typical 5 years or more), planned to be sustained by national funds
- sampling at high frequency, resolving episodic events and aiming at least for diurnal/tidal signals where feasible (where building on historical ship-occupied stations, a goal should be a co-located autonomous observing platform)
- deploying multidisciplinary sensors whenever possible
- making all data openly available, both real-time and delayed mode, via the OceanSITES Global Data Assembly Centers.

The OceanSITES community

OceanSITES consists of the group of oceanographers or agencies maintaining sites with the above characteristics, and who are willing to contribute to the network and share the data. OceanSITES is a part of the Global Ocean Observing System (GOOS) and a program of the WMO-IOC Joint Technical Commission on Oceanography and Marine Meteorology (JCOMM). OceanSITES participants share a common scientific vision for global fixed-point time series observations and share advocacy, technology, expertise, platforms, ship time wherever possible. The long list of benefits is detailed in a separate document.

OceanSITES members and partners are volunteers and assist an Executive Committee to raise funds for project office support situated at JCOMMOPS/Brest (see also the separate governance document). Each member carries the burden of funding their site(s) and meeting travel, and belongs to the OceanSITES scientific Steering Committee. OceanSITES has an effective Data Management Team that works with two Global Data Assembly Centers (GDACS), one at the NOAA National Data Buoy Center and one at Coriolis at IFREMER, ensuring data from the sites flows in a common format and is made publically available. OceanSITES participants are expected to provide a point of contact for the Data Management Team which meets monthly by teleconferencing. The scientific Steering

Committee meets in-person every one or two years, back to back with the Data Management Team.

Requirements

Some requirements need to be fulfilled by the operators to build a coordinated observing system network and to be able to bring about the benefits (see benefits document) of otherwise separate operators and research efforts:

a) All OceanSITES are described in short 1-2 page site descriptions following the below attached template. From these, the site catalogue is constructed, maps are generated, information presented in interactive tools, and the descriptions are made available on the OceanSITES web page. OceanSITES participants are required provide the content for these documents and to provide updates as required.

b) The OceanSITES support diverse scientific interests but are operated under agreed upon procedures. Central to being an OceanSITE is the commitment to sustained observing, done following methodology that delivers documented, high quality data. The instrumentation must be calibrated, metadata submitted, the accuracy of instrument clocks and thus time bases verified, and whenever possible pre-deployment, in-situ, and post-deployment calibration procedures should be employed to document any drift or other changes in sensor performance. In short, the observations should be done to the present standards of the ocean sciences. Members of the Science Team must recognize and accept the responsibility to document 'best practices', to document the data qualities and uncertainties, and to work together to build capacity across the members. Thus, one requirement for being part of OceanSITES is that of active engagement in the group and commitment to supporting open access to quality data where that quality is well documented.

c) In order to properly manage and share data successfully via the Global Data Assembly Centres (one in USA and one in France), each site needs to have a metadata form filled by the operator or his data manager, which is utilised by the GDACs to make data sets available (on the web and in real-time for the meteorological and oceanographic communities) and is vital for users of OceanSITES data. This form can be found on the OceanSITES website.

Data Management

All OceanSITES members agree to make their data openly available to the community as soon as available and quality controlled (for real-time and for recovered data this will usually be minimal, automated, or no QC). Separate OceanSTIES documents (available on the OceanSITES website) explain how to submit data, how to retrieve data, and what the detailed agreements and conventions for the data format are.

OceanSITES operators will work with a regional Data Assembly Center (DAC) or act as their own DAC, in order to connect with one of the GDACs to:

1. make the data flow, both in real-time and in post-recovery mode via the agreed channels

2. make their data available in the approved OceanSITES NetCDF format. The OceanSITES data management team has developed an implementation of NetCDF for the data sets; please consult the Data Management Reference Manual on the OceanSITES website for details (tools are available for conversion of data into this format)

3. follow the procedures agreed in the Data Management Team; sample data sets are available as well as tools to verify the formats

4. apply appropriate data quality control

5. manage and share metadata

The OceanSITES Project Office and the GDACs are able to provide assistance and/or training with data management, and can share many of the required routines to make reading and creating the NetCDF data easy.

Joining the OceanSITES community

Site operators who are not currently involved in OceanSITES, but think they could participate, should contact OceanSITES, which is open to considering their contribution. To that end expressions of interest are invited to be sent to projectoffice@oceansites.org, giving details about the proposed site according to Appendix 1, and how the operators would like to be involved. The Executive Committee will review the material; make a recommendation to the Scientific Steering Team, which then decides about inclusion in the OceanSITES network. A clear statement about committing to the OceanSITES requirements is expected.

Appendix 1: Site description information required for each site
The following details need to be provided and kept up-to-date for each site and platform. The OceanSITES project office maintains this information on behalf of the Steering Committee and the Data Managment Team.

Information needed for each site:
1. **Site and platform name (there may be several platforms at one site):**
2. **Project name:**
3. **Network name (for the case that the site is part of a larger network, which could be the same as the project):**
4. **Position (coordinates):**
5. **Categories (one or several of the following - physical, air-sea flux, biogeochemical, ecosystem, transport section, geophysical):**
6. **Safety distance for ship operations:**
7. **Short description:**
8. **Platforms in use (research vessel, surface mooring, subsurface mooring, bottom-station, etc):**
9. **Variables measured and depths of the measurements :**
10. **Start date of the timeseries:**
11. **Service interval (if mooring), sampling interval (if ship-based):**
12. **Scientific rationale (including up to two diagrams if needed):**
13. **P.I.s, labs, country, funding source:**
14. **Status:** e.g. operating, planned, interrupted, being serviced...
15. **Technology:** mooring (surface/subsurface), glider, cable, ship-based, data telemetry method
16. **Data policy:** which data are available in real-time, which post-recovery data are immediately available publicly, which data need longer QC, which data are not wanted on the GTS, etc
17. **Data management:**
   - Data Assembly Center (DAC) chosen or suggested/desired
   - Real Time data available ? If yes, what data management and quality control
   - Delayed-mode data management and quality control
18. **Societal value / Users / customers:** in case some users/customers are already clearly identified or even routinely using the data
19. **Contact Persons:**
   - for enquiry about addition of instruments or sensors to the site or for possible ancillary measurements during cruises to the site:
   - for information about the site:
   - for information about the data:
20. **Project-owned Links / Web-sites:**
   - for Project information:
   - for data access :
21. **Updated by:** Name (Month Year)
22. **Figures:** 1-3 figures showing geography or geometry of site, design of platform and placement of sensors, and science driver/example application