15th Observation Coordination Group (OCG-15)

13-17 May 2024, Victoria, British Columbia, Canada

GOOS OceanSITES

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1. **Highlight the key network successes**

- Successful OceanSITES 2023 meeting (https://goosocean.org/event/3539). During the meeting, there were sessions dedicated to reporting from national networks and global programs, and interactive sessions for discussion and advancement in crucial aspects of current OceanSITES within the Global Ocean Observing System. About 50 people attended each of the three days of the meeting. Full details in Newsletter 9
- New capabilities: NDBC TPOS moorings recap underway to make met-oc moorings into flux mooring
- New site: Philippine Sea mooring, Japan
- New data sets: Neural network guided gridding of IMOS EAC moorings (blue print for the network)
- Synergies & Strategies: On-going relationship with SMART cables and METS
- New data curator hired (through NOASA but for international OceanSITES benefit)
- Dashboard for data visualization and discovery in progress
- Selected meeting presence & publications
    - Joint town hall on data (metadata, access, FAIR) of OceanSITES together with the GOOS emerging networks SMARTcables and METS
    - US CLIVAR Meeting Confronting Confronting Earth System Model Trends with Observations: The Good, the Bad, and the Ugly
    - Oceanography paper on Ocean Climate Stations as Reference Time Series and Research Aggregate Devices

2. **How has the network advanced across the OCG Network Attribute areas**[1]

- Mission: OceanSITES as the global network of long-term, high-frequency, high-quality multidisciplinary deep reference stations at fixed locations in the ocean aims to provide a full view of the temporal behavior of the ocean system being key for understanding and responding/mitigating the effects of climate change.
- Mission-motivated OceanSITES core targets & indicators: Long time series products to support climate indicator framework (e.g., GCOS; G7 FSOI; UN Decade); number of “EOV-Years”; shortness of gaps; representativeness for

[1] https://oceanexpert.org/downloadFile/45372

areas (e.g., AMOC - local observation but global indicator); quality control and best practices

- Spatial scale: Global. Sites in all ocean basins; design is NOT a homogeneous distribution but aligned with phenomena to observe (e.g. boundary current, abyssal plains, air/sea interface, straits) and national interest. From the atmosphere to the ocean bottom.
- EOV: all physics EOV/ECV, all biogeochemistry EOV/ECV, Biology: passive acoustics, backscatter target strength, camera systems, plankton sampler
- Sustainability: Sustained observations is a qualification criteria for registering sites in OceanSITES
- Best Practice and FAIR Data (incl. metadata): They are in the mission/target of OceanSITES. Examples of OceanSITES DMT & data format Standards/Best Practices are: Data reference manual endorsed by GOOS, recommendation for plankton measurements, Surface Radiation OASIS, …
- CD & technology transfer: A lot on nations level but less on network level (incl. we do not have means at place to aggregate the information at the network level), this also include the participation of Early Career Ocean Professionals (ECOPs).
- Environmental Stewardship: moored observations are autonomous and thus without much impact to the environment except batteries, antifouling. Some waste is from the ground weight (but recoveries are needed in some EEZ areas). Carbon footprint shared between different activities shared on an oceanographic-cruise. OceanSITES acting as research aggregators lowering carbon footprint

3. Future Plans[2] and Opportunities - at network and/or cross-network OCG level

- Improve OceanSITES service to community: Complete rehaul of oceansites.org, incl. serving data products and software, long time series for physics, biogeochemistry, biology
- US but expected international impact: Pilot on integrating NSF Ocean Observation Initiative data
- Deepening the dialogue with SMARTcable on site management and data/metadata services
- Global ocean data reference network (such as GSRN for GCOS atmospheric radiation)
- UN Ocean Decade Observing Air-Sea Interactions Strategy (OASIS) and National strategic planning to increase oceanic and atmospheric transition zone observations, including tech development for marine atmospheric boundary layer profiling from moored buoys.
- Technology development for subsurface real-time data delivery

[2] Future plans on implementation, instrumentation, data management, test, new sensors, plan for new EOV/ECV observations, capacity development, etc.

4. **Challenges and Concerns - at network and/or cross-network OCG level**

- Motivate PIs to update metadata
- Seamless integration with GOOS Regional Alliances (GRAs)
- Data & metadata access: Transform from a GDAC-centric to a truly “distributed data archive”

5. **Asks from OCG (Exec, networks, OceanOPS, and/or GOOS), perhaps related to the responses to parts 3 and 4 and how OCG can support your network**

- Strategy for the way to pilot a cross-platform global reference network?
- Provision of input to the service level agreement (SLA) to clarify what is needed from OceanOPS services

6. **Recent publications, articles, etc. (if you want to share)**

https://scholar.google.com/citations?user=ECLfsRkAAAAJ&hl=en&authuser=1