Plenary Session 2. Studying Spatial and Temporal Variability in the Ocean with Shipboard and Autonomous Platforms

Chairs: Susanne Neuer (Arizona State Univ.), Michael Lomas (Bigelow Laboratory), Angelicque White (Oregon State Univ.)

8:15 Introduction: OCB Ocean Time-series Committee and activities (Susanne Neuer, Arizona State Univ.)
Congratulations!!

Meet the innovators whose ocean sensor technologies won and are securing the future for ocean health.

Twenty-four teams from around the world competed to develop affordable and accurate ocean pH sensor technology and help solve one of our planet’s greatest challenges. After months of testing from the lab, salt-water tanks in California to the deep blue seas off Hawaii, winners have surfaced and we are one step closer to solving this global challenge.
Ocean Time-series Committee (OTC)

- Formed 2007 as a sub-committee of the OCB SSC – OTSAC

  “to facilitate communication among U.S. time-series PIs, funding agencies, and the time-series user community “

- 2014, Revised charge – OTC

Specific roles

1. Focus still on ship-board TS as unique observing assets to the oceanographic community
2. Encourage synergistic and collaborative technology and methods development, including autonomous devices, and their possible integration into existing time-series observations
3. Improve communication and collaboration among U.S. and international scientists engaged in ocean time-series science
Ocean Time-series Committee (OTC)

Members

Susanne Neuer (Arizona State Univ.) – chair
Craig Carlson (Univ. California, Santa Barbara)
Michael DeGrandpre (Univ. Montana)
John Dunne (NOAA/Geophys. Fluid Dynamics Laboratory)
Richard Lampitt (National Oceanography Centre)
Ricardo Letelier (Oregon State Univ.) – ex officio
Mary Jane Perry (Univ. Maine)
Paul Quay (Univ. Washington)

http://www.us-oceb.org/about/subcommittees.html
OCB Ocean Time-Series Activities and Products

1. Sea Change: Charting the Course for Ecological and Biogeochemical Ocean Time-Series Research (Honolulu, Hawaii, Sept. 21-23, 2010)

Outcome: Deep-Sea Research Part II: Topical Studies in Oceanography 93, 2-15) (Lomas, Church, Muller-Karger, eds)

Church, Lomas, Muller-Karger 2013. Sea change: Charting the course for biogeochemical ocean time-series research in a new millennium. Deep-Sea Research Part II: Topical Studies in Oceanography 93, 2-15)
OCB Ocean Time-Series Activities and Products


Outcomes: Best practices guide and global compilation of time-series (Lorenzoni and Benway, eds. 2013)
Global Compilation of Shipboard Biogeochemical Time-Series

- Location (lat/long)
- PI and contact information
- Duration and frequency of measurements
- Parameters measured
- Method(s) used for each parameter
- Data access information

http://www.whoi.edu/website/TS-network
Other OCB Community Activities:

International Group for Marine Ecological Time-Series (IGMETS) - Scientist-driven effort led by IOC-UNESCO, IOCCP, and OCB to identify and integrate a suite of in-situ biogeochemical variables from time-series sites, together with satellite-derived information, to look at holistic changes within different ocean regions, explore plausible reasons and connections at a global level, and highlight any locations of especially large changes that may be of special importance. [http://igmets.net/](http://igmets.net/)
International Connections

1. S. Neuer contribution to the first FixO³ newsletter (Vol 1, Issue 1, summer 2014 on challenges facing global ocean observations) [www.fixO3.eu](http://www.fixO3.eu)

Today:

OCB Ocean Time-series Committee (OTC) presents…

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Plenary Session 2. Studying Spatial and Temporal Variability in the Ocean with Shipboard and Autonomous Platforms

Part 1. Overview Talks

8:30   Observing climate change trends in ocean biogeochemistry: When and where (Stephanie Henson, National Oceanography Centre)

9:05   How do autonomous assets expand the temporal and spatial footprint of a time-series station? (Matthew Church, Univ. Hawaii)

9:40   How do autonomous assets expand the temporal and spatial footprint of a shipboard process study? (Mary Jane Perry, Univ. Maine)
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10:45 Community discussion on integrated ocean observing strategies: Science questions and leveraging opportunities

(Moderated by Debbie Bronk, Virginia Inst. Marine Science)

*Support roles of OTC
*Town-Hall Ocean Sciences 2016
Plenary Session 2. Studying Spatial and Temporal Variability in the Ocean with Shipboard and Autonomous Platforms

Part 2. Scientific Highlights from Integrated Measurement Approaches

11:30-12:30 pm: OPEN OCEAN: BATS (Lomas, Bates); Line P (Hamme); Cape Verde Ocean Observatory (Fiedler)

2-2:40 pm: Coastal: CARIACO (Lorenzoni); CalCOFI/CCE-LTER (Ohman), GNATS (Balch)

3-4 pm: High-Latitude: SOCCOM (Sarmiento), MIZP (Lee), Palmer-LTER (Schofield)
Plenary Session 2. Studying Spatial and Temporal Variability in the Ocean with Shipboard and Autonomous Platforms

4:20-5pm
Part 3. Comparative Efforts and Policy Applications

IGMETS (Wiebe); Floats and Boats (Juranek); Observations to Policy (Valdes)

5:20pm Poster Session
Invited Posters:

New technology:

**Howe, B. M.**, Enabling water column science at Station ALOHA: A profiling mooring system

**Ruhl, H. A. et al.**, Porthole: Evolving biological carbon pump research

- Optical backscatter & chl-a fluorescence
- Holographic particle sensing
- Pelagic stereo & seafloor cameras

Long range AUVs
Invited Posters:

Coordination and networks:

Lampitt, R., Luisa Cristini: Fixed point Open Ocean Observatory network (FixO3): Multidisciplinary observations from the air-sea interface to the deep seafloor

Santamaría del Angel, E. et al., Climate change evaluated at marine time-series stations: The Antares Network, an effort of the Americas in long term studies

Lorenzoni, L., H. Benway, An integrated observation system of biogeochemical time-series
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