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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

JOINT WMO / IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)

SHIP OBSERVATIONS TEAM

FIFTH SESSION

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ITEM I-3.1.1

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REPORT BY THE OCEAN OBSERVING PANEL FOR CLIMATE (OOPC)

(Submitted by Ed Harrison, OOPC Chairperson, and A. Fischer, OOPC Tech. Secretariat)

Summary and purpose of the document

This document provides information on requirements and advice for ship-based observations from the GCOS-GOOS-WCRP Ocean Observations Panel for Climate (OOPC).

ACTION PROPOSED

The Team will review the information contained in this report, and comment and make decisions or recommendations as appropriate, during the course of other agenda items.

Appendix: None

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

I-3.1.1.1 Albert Fischer provided a report on behalf of the Ocean Observation Panel for Climate (OOPC). The Ocean Observations Panel for Climate (OOPC) is a scientific expert advisory group, charged with making recommendations for a sustained global ocean observing system for climate in support of the goals of its sponsors: the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS), and the World Climate Research Programme (WCRP). It also reports to JCOMM on requirements; JCOMM groups including the Ship Observations Team (SOT) coordinate a number of the in situ networks of the global module of GOOS, also the ocean component of GCOS. The OOPC thanked the members of the SOT and those contributing to SOT networks as implementers. The global ocean observing system, though incomplete in important respects, is providing essential information to users.

I-3.1.1.2 The OOPC stressed several points with operators of VOS systems:

- Making widely available recommendations for ship-borne sensors and best practices for their installation, maintenance and use, would over time, increase the homogeneity and accuracy of VOS based observations.
- Outreach to the global shipping community in all available forums, to argue the importance of their observations to the historical climate record and explaining why this is so important in a changing environment, may be a way to generate renewed commercial participation.
- Continued engagement with the Meta-T real time metadata project is important for a successful outcome of that project.
- Continued efforts to seek cost reductions for data transmission and to see solutions implemented are desirable.

I-3.1.1.3 The OOPC stressed several points with operators of SOOP XBT lines:

- Continued collaboration with the Argo and Surface Drifter programs to facilitate deployments where needed is important.
- Getting all XBT profile data transmitted in near real time should remain a goal, and actions to achieve this identified.
- Coordination with the global repeat hydrographic survey program, to ensure availability of ongoing information about XBT fall-rate (and other uncertainty sources) is critical for the climate utility of the XBT program.
- Development of some data products by the XBT program would raise its visibility. The OOPC state-of-the-ocean website (ioc3.unesco.org/oopc/) is one place that could display them.
- The CLIVAR/GOOS Indian Ocean Panel is developing an effort to maintain a bibliography of papers published with XBT line data in the Indian Ocean. Working with this group, and extending this effort to the other basins would likewise raise the visibility of the program.
- Getting a task group together to develop a plan for a much wider capability for underway measurements from the SOOP ships would be very desirable. This group would address issues of sensors, standards, best practices and water and power and space needs within the ship's laboratory space for pCO2, salinity, and each of the ecosystem and biogeochemical variables for which sensors is developed.

I-3.1.1.4 The Team took note of the points from the OOPC above, and addressed them with specific recommendations and actions during the agenda items focused on each panel. The Team decided to take the following action (panel chairs, by 20 June 2009), to review the appropriate sections of the *Progress Report on the Implementation of the Global Observing System for Climate in Support of the UNFCCC 2004-2008* (GCOS-available at gcos.wmo.int) for technical errors related to their panels.

- B - BACKGROUND INFORMATION

1. The OOPC aids in the development of strategies for evaluation and evolution of the system and of its recommendations, and supports global ocean observing activities by interested parties through liaison and advocacy. Relations with the WCRP Climate Variability and Predictability project (CLIVAR) remain strong, and CLIVAR ocean basin panel representatives are the key to the functioning of the OOPC, providing regional expertise for evaluation and recommendations. The sustained global ocean observing system for climate is designed to provide data and information products for climate monitoring and forecasting, climate assessment, and climate research. It is the foundation for global operational oceanography, including global weather prediction and marine forecasting, and global and coastal ocean prediction.

2. The basic recommendations for the global module of GOOS, also the ocean module of GCOS, are written into the ocean chapters of two reports to the UN Framework Convention on Climate Change (UNFCCC), published in 2003 and in late 2004. The ocean chapter of the GCOS Implementation Plan (GCOS-92, the second of the reports referenced above) was adopted by JCOMM-II as the basis for the work plan for the Observations Programme Area, and remains at the core of OPA recommendations for JCOMM-III. The SOT contribution to this global observing system comes from VOS including the VOSClim program and from the SOOP network of XBT lines.

3. At the request of the UNFCCC, GCOS in cooperation with its partners GOOS and JCOMM prepared a report on progress in implementation of the global observing systems for climate, including reporting on progress in the VOS and SOOP XBT line implementation. This report has been submitted in draft form to the UNFCCC in April 2009, and is under review through 20 June 2009. The OOPC requests that the panel chairs review this draft for any errors related to the VOS or XBT.

Requirements of SOT

VOS and VOSClim

4. While emphasizing the importance of VOS data as a part of the global module of GOOS and ocean module of GCOS, the OOPC and GCOS-92 do not set a specific target for the VOS network, other than calling for the largest number practicable. GCOS-92 calls for “Improve[d] meta-data acquisition and management for a selected, expanding subset of VOS (VOSClim) together with improved measurement systems.” The VOSClim project called for an initial recruitment of 200 ships, already exceeded, with the idea that the enhancements would eventually be applied to as much of the VOS fleet as possible.

SOOP

5. Systematic sampling of the global ocean is needed to fully characterize oceanic climate variability. GCOS-92 calls for the implementation of 41 SOOP XBT/ XCTD trans-oceanic sections, and the SOT Technical coordinator reports against these sections. A discussion of future global requirements for SOOP takes place in Doc. V-4.1.

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Appendix: None