WORLD METEOROLOGICAL ORGANIZATION

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (OF UNESCO)

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

FOURTH SESSION

GENEVA, SWITZERLAND, 16 TO 21 APRIL 2007

SOT-IV/Doc. V-4.1
(15.II.2007)

ITEM V-4.1

Original: ENGLISH

FUTURE GLOBAL REQUIREMENTS FOR SOOPIP

(Submitted by D. E. Harrison, OOPC chair, and A. Fischer, OOPC Tech. Secretariat)

Summary and purpose of document

This document provides information on upcoming activities which will revisit the global requirements for the SOOPIP, and invites the input of the panel.

ACTION PROPOSED

The Ship of Opportunity Programme Implementation Panel is invited to review the information contained in this report and comment as necessary.

DISCUSSION

The recommendations for subsurface ocean observations of temperature including SOOP-coordinated XBT lines were set by the August 1999 OOPC-CLIVAR-SOOP Upper Ocean Thermal Review, an event associated with the OceanObs99 conference in San Rafael.

Since that time there has been a substantial build-up in upper ocean profiles from the Argo profiling float observing network. Argo will achieve close to its design goal of uniform global coverage with 3° resolution this year. The development of the Argo network was behind the recommendation that SOOP focus on repeat lines, moving away from "broadcast mode."

The OOPC has been asked in the past few years to consider updating requirements for SOOP repeat lines through a new Upper Ocean Thermal Review. However, at its May 2006 meeting (OOPC-11) it decided, in accordance with the GCOS Climate Monitoring Principles, "that the right time frame would be in about 2008, to allow for a period of overlap between systems. Such a review should evaluate all volunteer measurements (not just temperature), and account for the value in having a ship-board observer for the breadth of observations that made possible. It should also involve the use of Observing System Experiments (OSE) and Observing System Simulation Experiments (OSSE), although taking into account their limitations in answering only the question asked, while composite networks were designed to answer multiple questions and observing requirements."[1] A first step in this process will come at the November 2007 GODAE-OOPC meeting on OSE and OSSEs (more detail in Doc. I-3.1.1).

The OOPC has considered, and has been encouraged by the GCOS Steering Committee and the GOOS Scientific Steering Committee, to plan with other interested groups a new conference focused on global ocean observations, in about 2009, ten years after San Rafael (also noted in Doc. I-3.1.1). The goals of this conference would be to take stock in progress and in major advances in scientific knowledge from the observing system, and to focus on challenges and opportunities, including new technologies, and new opportunities for global measurements of biogeochemical and ecosystem variables. This meeting would also address some of the evolutions necessary in the recommendations for the global module of GOOS focused on the physics of the ocean, including plans for deep ocean observations (sub-Argo), improved monitoring of critical transports, and sustained polar ocean observations.

On important activity associated with such a conference would be a new Upper Ocean Review. This would focus on: a) the major scientific questions in climate variability and change on both short and long time scales requiring observations of the upper ocean, b) the achievements and status of current observing networks in the upper ocean, c) new observing technologies and trends, and d) making recommendations on a rationalized upper ocean observing system relying on both ongoing observing networks and new observing networks. For example, as glider observing technology develops and is increasingly used in research programs, it may in the future be complementary to or potentially replace some XBT lines. Because of the importance of maintaining continuity and quality in climate observations, such a transition would have to be carefully managed.

The OOPC will invite SOOP members to provide input for the Upper Ocean Review, which will take place either as a preparatory event or as part of the proposed 2009 ocean observations conference, and would welcome any input from the Panel on its proposed focus and during planning stages.

_____

[1] GOOS report No. 154, available at http://ioc.unesco.org/oopc/oopc-11/