

REPORT OF THE TECHNICAL COMMITTEE ON MONITORING

The Technical Committee on Monitoring (hereafter MONITOR) met from 16:00–20:00 hours on October 29, 2008, under the chairmanship of Dr. Hiroya Sugisaki. Nine Committee members were present, and a total of 14 scientists from 6 PICES member countries were in attendance (*MONITOR Endnote 1*). The meeting agenda (*MONITOR Endnote 2*) was very full and certain items were resequenced to ensure business was conducted efficiently.

AGENDA ITEM 2

Best Presentation awards

MONITOR was assigned responsibility to assess the MONITOR/ESSAS Workshop (W3) on “*Status of marine ecosystems in the sub-Arctic and Arctic seas – preliminary results of IPY field monitoring in 2007 and 2008*” (W3) by Science Board Chairman, Dr. John Stein. Dr. Sugisaki thanked the volunteers in advance for their service.

The MONITOR Best Presentation Award was given to Kohei Mizobata (Tokyo University of Marine Science and Technology, Japan) for his paper (co-authored by Koji Shimada, Sei-ichi Saitoh, Toru Hirawake and Masahiro Hori) on “*Japanese IPY activities in the western Arctic Ocean and the Bering Sea*”. Hongli Fu (Ocean University of China, China) won the MONITOR Best Poster Award for his poster (co-authored by Jinping Zhao and Jie Su) on “*Study of polynya processes in the Bering Sea using a high resolution dynamic-thermodynamic sea ice model*”.

AGENDA ITEM 3

Status of FUTURE

Dr. Sugisaki briefed the Committee on the status of the new PICES scientific program, FUTURE (Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems). Included in the presentation were the final steps in editing the implementation plan. How MONITOR will fit in with the new scientific program was discussed. Committee members agreed that monitoring activities are very important for the early stage of the FUTURE program and that MONITOR can summarize existing observing systems, identify gaps in observations, and identify monitoring programs that are important and at risk of being lost. MONITOR members were encouraged to send suggestions whenever new drafts were released for comment. Comments from MONITOR on a draft of the Science Plan can be found in *MONITOR Endnote 3*.

AGENDA ITEM 4

North Pacific Ecosystem Status Report

Dr. Sugisaki informed the Committee about editing situation for the second version of the North Pacific Ecosystem Status Report (NPESR II). Science Board designated Dr. Skip McKinnell as the chief editor of the status report. Dr. McKinnell informed MONITOR about the editing process and timeline for NPESR II. He noted that this version will be on incremental improvements, especially for material that may be compared among regions.

The role of MONITOR for NPESR editing was discussed. It will be to review the outline, draft regional chapters, and draft synthesis. Because the role of MONITOR has been changed for NPESR II, a term of reference for MONITOR would need to be revised (see term of reference 3 proposed for revision (*MONITOR Endnote 4*)).

MONITOR-2008

AGENDA ITEM 5

Progress report of the Advisory Panel on *Continuous Plankton Recorder Survey in the North Pacific (CPR-AP)* and recommendations

Dr. Sonia D. Batten presented a report of the scientific accomplishments and present status of the North Pacific Continuous Plankton Recorder (CPR) project. The project continues to produce original research as well as important monitoring results. Since its inception in 1997, seven articles from the CPR data have been published in refereed journals and 3 articles on the seabird observations along the CPR lines have been submitted or published. A key area for ecosystem status and monitoring is the observation of changing phenology of planktonic organisms in the North Pacific.

Unfortunately, the funding situation is dire and without assistance the project will likely end after collections early in 2008. In the past, the North Pacific Research Board (NPRB) has funded the east–west transects (including bird and mammal observations), and the Exxon Valdez Oil Spill Trustee Council (EVOSTC) has funded the north–south transects. EVOSTC declined a recent proposal, and NPRB has promised only half of what was formerly granted. A research proposal to the U.S. National Science Foundation (NSF) was pending at the time of PICES XVI. Dr. Charles B. Miller, Chairman of CRP-AP, reported on behalf of the Panel and agreed with Dr. Batten’s assessment of the project (the full CPR-AP report can be found elsewhere in this Annual Report). CPR-AP wholeheartedly endorsed the project as one of the premier monitoring efforts in the PICES region and recommended that MONITOR request that the Science Board approve the concept of a “North Pacific CRP consortium” that could distribute the project costs among a larger group of funding sources while still allowing each contributor to share the recognition/credit of the scientific achievements.

CPR-AP proposed to change their chair from Dr. Miller to Dr. Phillip Mundy and MONITOR supported the idea. The Advisory Panel is requesting Science Board’s and Governing Council’s endorsement of CPR as a PICES monitoring activity. Drs. Miller and Mundy will draft letter for PICES approval that Executive Secretary, Dr. Bychkov, can circulate to funding sources.

AGENDA ITEM 6

Planning for PICES-2009 annual meeting

MONITOR strongly supported the following two proposals for PICES-2009:

- Dr. Ro proposed a 1-day MONITOR Symposium on “*State of Art of Realtime Monitoring and its Implication for the FUTURE Oceanographic Study*”.
- Recommended conveners are: Drs. Youngjae Ro (Korea) Jack Barth (U.S.A.) David Mackas (Canada) Hiroya Sugisaki (Japan) Vyacheslav Lobanov (Russia), D. Chen (China).
- The description of this symposium: As the technology for the Ocean Sciences and Engineering is advanced rapidly, the realtime data production will revolutionize the field investigation and laboratory analysis in many ways which will have the impact over the entire Oceanographic paradigm in the end. This session will demonstrate the state of art technology for the ocean investigation on realtime and/or near-realtime basis and will discuss the impact on the research and educational horizons made possible by it. Each nation will demonstrate their ocean monitoring network and their application. The exhibits from ocean monitoring companies are to occur in conjunction.

AGENDA ITEM 7

Joint SGGOOS sessions with ICES

The Chairman reported that a co-convenor was requested from the MONITOR Committee for a SGGOOS theme session on an ICES/GOOS topic along the lines of “*ICES and GOOS: maintaining observing systems as the basis for research, biodiversity protection and resource management in the marine environment*” for ICES Annual Science Conference in 2009 in Berlin, Germany. The Committee recommended Dr. Sugisaki as a co-convenor of the session.

AGENDA ITEM 8

PICES Ocean Monitoring Service Award

Significant advances in marine science are often based on ocean observations. Long-term observations are particularly important for detecting and understanding ecosystem change because major shifts in ecosystem structure and function occur over long temporal periods. It is widely recognized that these fundamental activities often lack the glamour and respect that typically accompanies other types of scientific achievement even though these other achievements rely on monitoring and observation. It is unfortunate that monitoring activities are often taken for granted and are frequently targeted for budget cuts when countries experience financial constraints or hardships. With this in mind, PICES recently established a new award to recognize the sustained accomplishments of those engaged in monitoring data management, and communication. The PICES Ocean Monitoring Service Award (POMA) was established to recognize organizations, groups and outstanding individuals that have contributed significantly to the advancement of marine science in the North Pacific through long-term ocean monitoring and data management and communication. In January of this year the Secretariat announced the award and solicited nominations for the very first POMA. MONITOR and TCODE have the responsibility to recommend the nominees to Science Board. The nominations were considered at the inter-sessional Science Board meeting and Science Board was unanimous in its decision. It is our pleasure to announce that the T/S *Oshoro-maru* of Hokkaido University is the first recipient of the PICES Ocean Monitoring Service Award. The chairman confirmed the POMA nomination rules and announced that member countries should nominate recipients for POMA by January 2009.

AGENDA ITEM 9

Other reports

This year's reports of Advisory Panels, organizations and workshops of relevance to MONITOR were introduced as follows:

1. GOOS Scientific Steering Committee (GSSC-XI): Dr. Young Jae Ro, further communication between PICES/MONITOR and GOOS is necessary and mutually beneficial. The Committee members agreed to recommend a MONITOR member to attend the next GOOS Scientific Steering Committee meeting.
2. NEAR-GOOS activities: Dr. Lobanov reported that NEAR-GOOS is operational.
3. MONITOR/ESSAS Workshop overview (W3) and SAFARI workshop: Dr. Sei-Ichi Saitoh reported on their workshop contents and purposes.
4. CREAMS Advisory Panel: Dr. Kuh Kim reported on the status of CREAMS-AP.

AGENDA ITEM 10

Country reports

The following Committee members made short presentations on national monitoring activities relevant to PICES: Dr. Batten (Canada), Drs. Saitoh and Sugisaki (Japan), Dr. Ro (Korea), Dr. Lobanov (Russia), Drs. Jack Barth, Mundy, and Jeffrey Napp (U.S.A.).

MONITOR-2008

MONITOR Endnote 1

Participation list

Members

Jack Barth (U.S.A.)
Vyacheslav Lobanov (Russia)
David L. Mackas (Canada)
Phillip R. Mundy (U.S.A., Vice-Chairman)
Jeffrey M. Napp (U.S.A.)
Young Jae Ro (Korea)
Sei-Ichi Saitoh (Japan)
Hiroya Sugisaki (Japan, Chairman)
Young Sang Suh (Korea)

Observers

Sonia D. Batten (Canada, CPR-AP)
Hong Sun Kim (Korea, CREAMS-AP)
Charles B. Miller (U.S.A., CPR-AP)
Skip Mckinell (PICES Secretariat)
Akira Nakadate (Japan)
Zhifeng Zhang (China)

MONITOR Endnote 2

MONITOR meeting agenda

1. Welcome, introductions and sign-in
2. Best Presentation awards
3. Status of FUTURE
 - i) Briefing on the current situation of Future integrative scientific program
 - ii) Discussion how our committee corresponds to FISP, *etc.*
4. North Pacific Ecosystem Status Report current status
 - i) Briefing on Science Board decision about NPESR-II
 - ii) Discussion about MONITOR's roles with NPESR-II
 - iii) Discussion of revision of Terms of reference and Action Plan of MONITOR committee
5. Progress report of CPR-AP and recommendations
6. Proposals for PICES-2009 MONITOR workshops
7. Invitation to participate in ICES/GOOS meeting
 - i) Briefing on the SGGOOS session, plenary conference of 2009 ICES annual science conference
 - ii) Discussion of MONITOR's role at the conference
8. Report on POMA
9. Other reports
 - i) Report on GOOS Scientific Steering Committee (GSSC-XI)
 - ii) Report on NEAR-GOOS activities
 - iii) MONITOR/ESSAS Workshop overview (W3)
 - iv) Report from SAFARI workshop
 - vi) CREAMS Advisory Panel with POC
7. Country reports of relevant monitor/observation activities

MONITOR Endnote 3**MONITOR Comments on a draft Science Plan for FUTURE (version 4.2)****Forecasting**

- More emphasis on data assimilation; TCODE does not have an explicit role in the present draft.
- More emphasis on real-time dissemination of information from observation networks; Need efficient data QC and analyses, effective alarm and advisory systems for public and business sectors.

Understanding

- Emphasis appears to be on prediction; increase focus on assimilation of data and mechanistic models for better understanding.

Trends

- Increased emphasis on better integration of physical and biological observations. Are GCOOS observations on the correct time and space scales for biological predictions?
- Observation networks often rely on point estimates and gridded data, but important processes and trophic transfer often occur at “hotspots”;
- Seek a balance for observations of mean system state *versus* “events”; Allow for adaptive strategies in observation systems that enhance our understanding by increasing observation frequency and spatial resolution during events;
- Will the observation systems we rely upon today be supported tomorrow (*e.g.*, satellite remote sensing)?

Ecosystems

- How do we measure ecosystem structure?
- Does FUTURE build on existing national and regional research plans (*e.g.*, Gulf of Alaska Ecosystem Monitoring, GOOS, BSIERP)?

MONITOR Endnote 4**Recommended modifications to the MONITOR Terms of Reference 3**Current terms of reference

1. Identify principal monitoring needs of the PICES region, and develop approaches to meet these needs, including training and capacity building;
2. Serve as a forum for coordination and development of inter-regional and international components of the North Pacific Ocean Observing Systems, including the GLOBAL Ocean Observing System, GOOS. Facilitate method development and inter-comparison workshops to promote calibration, standardization and harmonization of data sets;
3. Serve as the senior editorial board of the North Pacific Ecosystem Status Report, reporting to Science Board; serve as senior editorial board for PICES web pages on major monitoring efforts in the North Pacific, including the annual reporting of important time series;
4. Recommend interim meetings to address monitoring needs and PICES–GOOS activities;
5. Provide annual reports to Science Board and the Secretariat on monitoring activities in relation to PICES;
6. Interact with TCODE on management issues of monitoring data.

Modified terms of reference 3

3. Contribute to the development of the North Pacific Ecosystem Status Report, advising editors and lead authors on monitoring issues, identifying the need for particular time series and their continuities, the period on which they need to be updated for the FUTURE forecast products, recommend to Science Board that they endorse the need to establish or maintain particular time series.