

PICES science – 2006

Review of 2006

PICES aims to develop international collaborations by bridging scientists across disciplines, national boundaries and institutions through the organization of meetings and publications. This year is particularly notable in that the PICES community has met thirteen times at workshops and meetings around the world since the 2005 Annual Meeting in Vladivostok. Some of these include:

- In October 2005, an NPAFC/PICES symposium on “*The status of Pacific Salmon and their role in North Pacific marine ecosystem*” was held in Jeju, Korea (see *PICES Press* Vol. 14(1));
- In November 2005, a workshop on “*Global comparison of sardine, anchovy and other small pelagics – building towards a multi-species model*” (sponsored by FRA, APN, IAI, PICES and GLOBEC) was held in Tokyo, Japan (*PICES Press* Vol. 14(1));
- In April 2006, a PICES/GLOBEC symposium on “*Climate variability and ecosystem impacts on the North Pacific: A basin-scale synthesis*” was convened in Honolulu, U.S.A. (*PICES Press* Vol. 14(2));
- In June 2006, a PICES/NPRB workshop on “*Integration of ecological indicators for the North Pacific with emphasis on the Bering Sea*” was convened in Seattle, U.S.A. (*PICES Press* Vol. 14(2));
- In June 2006, an ESSAS workshop to develop comparative studies of the sub-Arctic seas (sponsored by GLOBEC, PICES and TINRO-Center) was held in St. Petersburg, Russia (*PICES Press* Vol. 14(2));
- In July 2006, a symposium on “*Time series of the Northeast Pacific Ocean*” (co-sponsored by DFO and PICES) was convened in Victoria, Canada, to mark the 50th anniversary of Line-P, which has been a backbone of time series observation programs in the northeastern Pacific (*PICES Press* Vol. 14(2));
- In August 2006, a CREAMS/PICES workshop on “*Model data inter-comparison for the Japan/East Sea*” (sponsored by SNU, KORDI, PKNU and PICES) was held in Busan, Korea (this issue of *PICES Press*);
- Close cooperation between PICES and ICES continued this year with two joint theme sessions on “*Large-scale changes in the migration of small pelagic fish and the factors modulating such changes*”, and on *Operational Oceanography* organized at the ICES Annual Science Conference in September 2006, in Maastricht, Netherlands.

PICES has maintained excellence in its record of publications in 2006. Selected papers from two PICES XIII Topic Sessions on “*Mechanism that regulate North Pacific ecosystems: Bottom up, top down, or something else?*” and “*Hot spots and their use by migratory species*”

and top predators in the North Pacific” were published as special issues in *Progress in Oceanography* (Vol. 68(2–4); Guest Editors: G. Hunt and S. McKinnell) and *Deep-Sea Research II* (Vol. 53(3–4); Guest Editors: W. Sydeman, R. Brodeur, A. Bychkov, C. Grimes and S. McKinnell), respectively. Results of the SERIES iron enrichment experiment in the eastern North Pacific were published in *Deep-Sea Research II* (Vol. 53 (20–22); Guest Editors: P. Harrison, P. Boyd, M. Levasseur, A. Tsuda, R. Rivkin, S. Roy and W. Miller). A set of papers on NEMURO and NEMURO.FISH models will appear soon in a dedicated issue of *Ecological Modelling* (Guest Editors: M. Kishi, B. Megrey, S.-I. Ito and F. Werner).

In addition to the special issues in peer-reviewed journals, three reports were published in the PICES Scientific Report Series. *PICES Scientific Report No. 31* (Editors: S. Takeda and C.S. Wong) is the proceedings of the 2004 workshop on “In situ iron enrichment experiments in the eastern and western subarctic Pacific”, and *PICES Scientific Report No. 32* (Editors: C. Miller and T. Ikeda) is the proceedings of the 2005 workshop on “Oceanic ecodynamics comparison in the subarctic Pacific”. Results of the PICES/NPRB Workshop on “Integration of ecological indicators of the North Pacific with emphasis on the Bering Sea” were published as *PICES Scientific Report No. 33* (Editors: G. Kruse, P. Livingston, J. Overland, G. Jamieson, S. McKinnell and R.I. Perry).

PICES Fifteenth Annual Meeting

PICES XV was held on October 12–22, 2006, at the Red Brick Warehouse No. 1 in Yokohama, Japan. This meeting was hosted by the Government of Japan, in cooperation with the Fisheries Research Agency, in coordination with the PICES Secretariat. A total of 447 participants from 19 countries attended the 10 sessions and 9 workshops as well as 24 business meetings. The theme of the Science Board Symposium was “Boundary current ecosystems”. The keynote lecture, “Biological production, animal migration and ecosystem regime shifts in the Kuroshio and Oyashio Currents: Perspective for sustainable use”, at the symposium was given by Dr. Akihiko Yatsu (Hokkaido National Fisheries Research Institute). He provided a broad review on climate and regime shifts affecting the population dynamics of species in the Kuroshio and the Oyashio currents region, and emphasized that proper understanding of ecosystem dynamics, linking both climate and human activities and taking into account ecosystem factors and uncertainties, are essential for wise management. The most plausible mechanisms for sardine/anchovy cycles in the Kuroshio/Oyashio system were presented to highlight the importance of these inter-connections. The keynote lecture was followed by five invited papers presented by Anthony Koslow (Australia), Ichiro Yasuda (Japan), Kenneth Drinkwater (Norway), William Peterson and Arthur Miller (U.S.A.).

PICESians’ strong interests in the development of the next PICES science program to follow the current Climate Change and Carrying Capacity (CCCC) Program, were reflected by a room-packed attendance at the Open Forum on Future Integrative Science Program (FISP) held on the fourth day afternoon of the Annual Meeting. According to the terms of reference for the FISP Study Group, Dr. John Stein (Science Board Vice-Chairman) presented a preferred theme produced from an in-depth discussion at the 2006 inter-sessional Governing Council and Science Board Meeting under a tentative name “FUTURE”, which stands for “Forecasting and Understanding Trends, Uncertainty and Responses of the North Pacific Ecosystem”. The proposed theme aims “To understand and forecast responses of North Pacific marine ecosystems to climate change and human activities at basin-wide and regional scales, and to broadly communicate this scientific information to governments, resource managers and the general public”.



Great turnout at the FISP Open Forum.

In December 2006, a further step was taken towards the development of the new program, as a FISP work plan with associated timelines was approved by the Governing Council. A Writing Team was established with the responsibility of drafting the FISP Science Plan. The membership of the Writing Team includes 14 scientists representing all PICES member countries. The Writing Team will meet on February 16–17, 2007, in Seattle, U.S.A., to produce a detailed outline of the Science Plan. The FISP Workshop will be held in April 2007, in Yokohama, Japan, immediately prior to the inter-sessional Science Board/Governing Council meeting, to review the goals, objectives, organization and key elements of the Science Plan, define the key questions to be answered, and determine strategic approaches to answering the questions. The draft Science Plan will be discussed at an Open Forum and a 1-day workshop during PICES XVI in Victoria, Canada, and revised following comments from the PICES scientific community and from peer-reviews. It is expected that the final Science Plan will be submitted for approval by Council in April 2008. Information on FISP is available on the PICES website at <http://www.pices.int/members/FISP-WT.aspx>. It should be emphasized that the process to develop the next PICES science program is completely open, and excellent ideas and suggestions are always welcome to make an exciting program.

Congratulations are in order to winners of the Best Presentation Award at PICES XV. These awards are given to scientists, nominated by the Science Board and each PICES Scientific Committee and the CCCC Program, who gave the best presentation in a topic or paper session sponsored by the Board or Committee. Recipients for best oral presentations are: Jack A. Barth (Science Board Symposium), Andrew L. King (BIO), Min Ho Kang (FIS), Naoaki Tezuka/Masami Hamaguchi (MEQ), Ye Yuan (POC), and Muzzneena Ahmad Mustapha (CCCC); best poster presentations are Satoshi Kitajima (BIO), Atsushi Kawabata (FIS), Minkyu Choi (MEQ), Jong Jin Park (POC), and Yasuko Kamezawa (CCCC).



Jack Barth receives a Best Presentation Award from Science Board Chairman, Kuh Kim and Vice-Chairman, John Stein.

To facilitate the continuity of Science Board affairs, the Governing Council (at the 2006 inter-sessional meeting) established a Science Board Chairman-elect position to allow the election of the Science Board Chairman 1 year before the official change of the chairmanship. At PICES XV, Dr. John Stein (U.S.A.) was elected as the next Science Board Chairman for 2007–2010.

PICES capacity building

PICES' long-term interests in capacity building resulted in organizing the first PICES summer school on "Ocean circulation and ecosystem modeling" held August 23–25, 2006, in Busan (Korea). This school was co-sponsored by PICES, Seoul National University, the Korean Ocean Research and Development Institute, the National Fisheries Research and Development Institute, the Ministry of Maritime Affairs and Fisheries and the "Brain Korea 21" Program. Seven lecturers from Japan and U.S. taught a total of 37 participants from all 6 PICES member countries plus Chile and Indonesia (14 Ph.D. and 11 M.Sc. students, 7 early-career scientists, 4 undergraduate students, and 1 from a private company). Certificates were delivered to all participants on completion of the school. Details can be found in a separate article in this issue of PICES Press. Lecture notes and materials presented during the summer school can be downloaded from <http://www.pices.int/>

2006_CREAMS_PICES_school.aspx. PICES has already received a proposal from Japan to host the second summer school on "Ecosystem-based management" in September 2008, at Hokkaido University, in Hakodate.

It has taken three years for PICES and ICES to prepare an Early Career Scientists Conference on "New frontiers in marine science" to be hosted by the University of Maryland Center for Environmental Science from June 26–29, 2007, in Baltimore, U.S.A. Additional support for this event is provided by the North Pacific Research Board. The goal of the conference is to foster the development of contacts, collaborations, and associations among early career scientists that will persist for decades, and to establish personal and institutional networks that will help to advance our understanding of the marine environment. Approximately 100 young scientists from around the globe will be invited to share their interests in marine sciences. For detailed information about the conference please visit the PICES website.

Events in 2007 and beyond

Active participation of the PICES community is expected in the 5th International Conference on "Marine bioinvasions". This conference is co-sponsored by ICES, PICES and the U.S. National Sea Grant College Program, and will be convened in May 2007, in Cambridge, U.S.A. PICES, ICES and GLOBEC are co-sponsors of the 4th International Zooplankton Production Symposium on "Human and climate forcing of zooplankton populations" to be held on May 28–June 1, 2007, in Hiroshima (Japan). Three joint ICES/PICES Theme Sessions on "Integrating observations and models to improve predictions of ecosystem response to physical variability", "Comparative marine ecosystem structure and function: Descriptors and characteristics" and "The ecosystem approach: What's the impact on marine science, science-based advice and management of marine ecosystems?" will be convened during the ICES Annual Science Conference in September, in Helsinki, Finland. NAFO, PICES and ICES will organize the Symposium on "Reproductive and recruitment processes in exploited marine fish stocks" in early October 2007, in Lisbon, Portugal. PICES will co-sponsor, with ICES, IOC, SCOR and GLOBEC, the International Symposium on "Effects of climate change on the world's ocean" to be convened in May 2008, in Gijon, Spain.

The PICES Science Board has approved many exciting Topic Sessions and Workshops for PICES XVI to be held from October 26–November 5, 2007, in Victoria, Canada. The theme of this Annual Meeting is "The changing North Pacific: Previous patterns, future projections, and ecosystem impacts". We are also beginning to plan PICES XVII to be held in Dalian, China, in 2008.

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