

## The state of PICES science - 2005

PICES has grown rapidly since its inception in 1992 and has become the primary organization of marine sciences in the North Pacific. At its Annual Meetings, the PICES community gathers at scientific sessions, workshops and at meetings of Scientific, Technical and Executive Committees, to move forward in achieving the mandate of the Organization, stated clearly in Article III of its Convention: firstly, to promote and coordinate marine scientific research in order to advance scientific knowledge of the area concerned and of its living resources, and secondly, to promote the collection and exchange of information and data related to marine scientific research in the area concerned.

### *PICES XIV Annual Meeting*

The PICES Fourteenth Annual Meeting (PICES XIV) was held from September 28-October 9, 2005, in Vladivostok, Russia with a total of 316 registered participants attending the 17 sessions and workshops. The keynote lecture, "*Far-eastern sea shelf ecosystems of yesterday, today, and tomorrow*", was given by Dr. Vladimir I. Radchenko of Sakhalin Research Institute of Fisheries and Oceanography. He reviewed the research conducted on the Russian Far-eastern shelf since 1950 on bottom sediments, physical conditions, fish and invertebrate abundance and distribution, and discussed processes which can affect ecosystem functioning on long-term time-scales. The

keynote lecture was followed by the Science Board Symposium on "*Mechanisms of climate and human impacts on ecosystems in marginal seas and shelf regions*".

PICES XIV should be recognized as the first annual meeting to take a concrete step toward the development of the next major scientific integrative program of PICES after the completion of the CCCC Program. The Study Group on *Future Integrative Scientific Program(s)* reviewed themes of potential interest to all PICES member countries and presented the results to the Governing Council. Following recommendations from the Council, the Study Group placed the suggested themes on the PICES website for comment and solicited new proposals from the scientific community. The Study Group is expected to provide a final report on themes to the Governing Council and prepare for an open forum to discuss the recommendations at PICES XV.

Congratulations are in order for winners of Best Presentation Awards at PICES XIV. These awards are given to scientists, nominated by the Science Board and each PICES Scientific Committee, who gave the best presentation in a scientific session sponsored by the Board or Committee. The Science Board Awards went to Dr. William Peterson (U.S.A.) for his paper on "*Extreme climate variability in the northern California Current: Can we explain the current anomalous warm state and its*



Dr. Vladimir Radchenko giving the keynote lecture at the PICES Fourteenth Annual Meeting.



Members of the Study Group on Future Integrative Scientific Program and invitees participate enthusiastically in the group's meeting at PICES XIV.

effects on the coastal upwelling ecosystem off Washington and Oregon” (co-authored by Rian Hooff and Robert Emmett) and to Hanna Na (Korea) for her poster (Best Poster Award) on “Temporal variation of the estimated volume transport through the Korea and Tsugaru Strait” (co-authored by Kuh Kim). The BIO Award was given to Jaime Jahncke (U.S.A.) for his paper on “Krill and krill-predators: Habitat associations in the dynamic Gulf of the Farallones, California” (co-authored by Benjamin L. Saenz, Chris Rintoul and William J. Sydeman). The FIS Award went to Eun Jung Kim (Korea) for her paper on “The vertical and horizontal distribution of bigeye (*Thunnus obesus*) and yellowfin tuna (*Thunnus albacares*) related to ocean structure” (co-authored by Suam Kim, Dae-Yeon Moon and Jeong-Rack Koh). The MEQ Award was given to Xuelei Zhang (China) for his paper on “Benzene toxicity to the scallop, *Chlamys farreri*, and the shrimp, *Penaeus japonicus*” (co-authored by R. J. Wu, Z.

H. Zhang and Z. F. Dong). The POC Award had a tie and went to Yuri Yu. Nikonov (Russia) for his paper on “Water and chlorophyll circulation modeling of Aniva Gulf according to oceanographic data from the year 2002” (co-authored by Valeriy N. Chastikov and Ludmila Yu. Gavrina) and Satoshi Osafune (Japan) for his paper on “Bidecadal variability in the intermediate waters of the northwestern subarctic Pacific and the Okhotsk Sea in relation to the 18.6-year nodal tidal cycle” (co-authored by Ichiro Yasuda). The CCCC Award was given to Chiyuki Sassa (Japan) for his paper on “Recruitment processes of jack mackerel (*Trachurus japonicus*) in the East China Sea in relation to environmental conditions” (co-authored by Youichi Tsukamoto, Yoshinobu Konishi, Song-Guang Xie, Yoshiro Watanabe and Hideaki Nakata).

### **Highlights from 2005 and features for 2006**

PICES is known for its excellent publications. The CCCC/BASS workshop on “Linkages between open and coastal systems” held at PICES XII in Seoul in 2003, produced 9 papers in *Deep-Sea Research II*. Selected papers from the 2004 Symposium on “Quantitative ecosystem indicators for fisheries management”, co-sponsored by IOC, SCOR, PICES, GLOBEC, etc., were published in the *ICES Journal of Marine Science*. In the coming year, 3 special issues will be published in *Progress in Oceanography*, *Deep-Sea Research II*, and *Ecological Modeling*.

It is remarkable that the North Pacific Ecosystem Status Report was published as *PICES Special Publication No. 1* in spring of this year, taking only two and a half years. Many PICES scientists were involved in this important task by participating in workshops and meetings, and as 14 lead authors and 67 contributors for chapters on Synthesis, Ocean and Climate Changes, and 13 regions in the North Pacific. This report lays a foundation for future scientific activities of PICES.

A parallel collaborative effort between PICES and the Census of Marine Life made it possible to publish “*Marine Life in the North Pacific: The Known, Unknown, and Unknowable*” as *PICES Special Publication No. 2*. This publication was edited by Drs. Ian Perry and Skip McKinnell, who also put in months of work on the publication of the North Pacific Ecosystem Status Report. PICES should be proud of these two marine scientists who worked so hard and effectively for the last three years to produce these two *PICES Special Publications*.

Completion of the North Pacific Ecosystem Status Report opened the door for new missions. A Study Group on *Fisheries and Ecosystem Responses to Recent Regime Shifts* was formed to respond to the first formal request (from NOAA/Fisheries of the United States) to PICES for scientific advice on the implication of a potential 1998



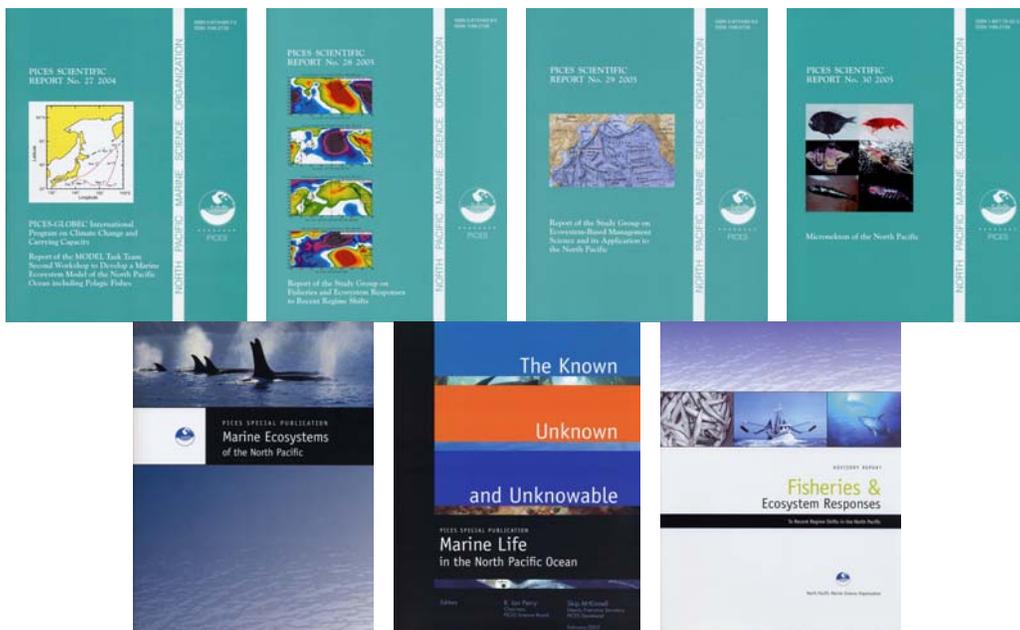
*Scientists who received Best Presentation Awards at PICES XIV. Top row: Science Board Award - William Peterson (U.S.A.), Best Poster Award – Hanna Na (Korea); middle row: BIO Award - Jaime Jahncke (U.S.A.), FIS Award – Eun Jung Kim (Korea), MEQ Award – Xuelei Zhang (China), CCCC Award - Chiyuki Sassa (Japan); bottom row: POC Award – Satoshi Osafune (Japan) and Yuri Nikonov (Russia). Their presentations can be found on the PICES website (just click on the presentation photo on the main page <http://www.pices.int>).*

regime shift. The Study Group published its report as *PICES Scientific Report No. 28*, edited by Dr. Jacquelynne R. King. An abstract of this report was also published as PICES' first Advisory Report.

The PICES Scientific Report Series has reached 30 volumes. *PICES Scientific Report No. 27* is the proceedings of the MODEL Task Team Second Workshop which was held in March 2003, in Yokohama, Japan, to develop a marine ecosystem model of the North Pacific Ocean that includes pelagic fishes. *PICES Scientific Report No. 29* is the final report of the Study Group on *Ecosystem-based Management Science and its Application to the North Pacific*, established under FIS and MEQ. *PICES Scientific Report No. 30* is the final report of the Working Group 14 on *Effective Sampling of Micronekton to Estimate Ecosystem Carrying Capacity*.

PICES also fulfills its mandate through scientific meetings. Examples are:

- The first CREAMS/PICES workshop on “*East Asian Seas Time-series (EAST)-I*” was held in April 2005, in Seoul, Korea, as part of the CREAMS/PICES Program which was approved by the Science Board last year. Establishing permanent observation stations in the Japan/East Sea was discussed as an initial focus of the Program.
- In May 2005, a 2-day Oceanic Ecodynamics Comparison in the Subarctic Pacific (OECOS) workshop on “*An east-west comparative study of lower trophic level pelagic ecology in the subarctic Pacific Ocean*” was convened in Corvallis, U.S.A., and co-sponsored by PICES and the Oregon State University.
- A 2-day CCCC/CFAME workshop was held also in May 2005, in Victoria, Canada, to develop a workplan for future Task Team activities and hypothesis for CCCC synthesis.
- PICES co-sponsored a 5-day GLOBEC/ESSAS symposium on “*Climate variability and sub-Arctic marine ecosystems*” in May 2005, in Victoria, Canada.



*The most recent PICES Scientific Reports and Special Publications*

- Close collaboration between PICES and ICES continued this year with two theme sessions jointly organized at the ICES Annual Conference (Aberdeen, Scotland): “Multidisciplinary approaches to the identification of stock structure of small pelagics: Implications for assessment and sustainable management” and “Regional ecosystem pilot projects, ecosystem forecasting, and operational oceanography”. A joint workshop on “Introduced species in the North Pacific” was also convened at PICES XIV.

PICES is developing successful cooperation with regional organizations such as the North Pacific Research Board (NPRB). Through funding from NPRB, a new project has been initiated on “Integration of Ecological Indicators for the North Pacific with emphasis on the Bering Sea”, and further updates to the North Pacific Ecosystem Status Report will be made.

PICES evolves as needs arise and new groups emerge. A Section on *Carbon and Climate* was established in 2005, under the BIO and POC Committees, recognizing that PICES has proven its expertise and leadership through earlier activities of Working Groups 13 and 17, to coordinate scientific problems related to carbon cycling on a regional scale, which could then be put into a global scale. PICES also formed an Advisory Panel (under POC) to oversee activities of the *CREAMS/PICES Program in the East Asian Marginal Seas*. Three new groups were established at PICES XIV, and will begin active work in 2006: a Working Group on *Evaluations of Climate Change Projections* (under POC); a Working Group on *Aquatic Non-indigenous Species* (under MEQ); and a Study Group to develop a strategy for GOOS (under MONITOR).

In coming years, PICES will be busy with several important meetings. In April 2006, PICES will convene a symposium on “*Climate variability and ecosystem impacts on the North Pacific: A basin-scale synthesis*” in Honolulu, U.S.A., co-sponsored by GLOBEC. The objective of this symposium is a synthesis of all scientific activities of the CCCC Program since its beginning in 1994. In July 2006, a symposium to celebrate the 50<sup>th</sup> anniversary of sampling along Line P and at Ocean Station P will be held in Victoria, Canada, co-sponsored by Fisheries and Oceans Canada and CLIVAR. In 2007, the 4th Zooplankton Production Symposium will be convened in Hiroshima, Japan, co-sponsored by PICES, GLOBEC and ICES. Two more joint events with ICES, a conference on “*Marine bioinvasions*” and a Young Scientists Conference on “*New frontiers in marine science*” are scheduled for 2007 and are in various stages of planning.

The PICES Science Board has approved many exciting topic sessions and workshops for PICES XV to be held on October 13-22, 2006, in Yokohama, Japan, with a general theme of “*Boundary current ecosystems*”. A detailed program is now available on the PICES website. You can look forward to a slightly different meeting format, with the Committee meetings taking place in the afternoon of the third day for vigorous and closer involvement of the scientific community in the activities of PICES Committees. We are also beginning to plan PICES XVI, which will be held in Victoria, Canada, in 2007.

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