

PICES Press



Newsletter of the North Pacific Marine Science Organization (Published semi-annually)



The state of PICES science - 2000

The PICES Ninth Annual Meeting, held October 18-29, 2000 in Japan, was extremely successful with over 500 people registered to attend the 253 oral presentations and many posters that were given at the meeting. The main part of the meeting was held at the newly opened Future University in Hakodate. It was truly a futuristic building with many open areas, high-tech rooms, and beautiful grounds. The keynote lecture on "Recent advances and key questions on the Kuroshio-Oyashio ecosystem" given by Prof. Takashige Sugimoto provided a comprehensive overview of the research efforts, results, and questions of this important region. The Science Board Symposium topic "*Subarctic gyre processes and their interaction with coastal and transition zones: physical and biological relationships and ecosystem impacts*" followed. Presentations in this session provided many interesting insights, ranging from physical connections between the Subarctic gyres to the biological responses of upper trophic level species to interannual variations in the transition zone chlorophyll front. Similar importance of the frontal regions in the Oyashio/Kuroshio region was also noted.

Topic sessions were very well attended and ranged from purely physical ones such as "*Large-scale circulation in the North Pacific*", to those dealing with environmental quality such as "*Science and technology for environmentally sustainable mariculture in coastal areas*". The topic session on "*Short life-span squid and fish as keystone species in the North Pacific marine ecosystems*" was quite appropriate for our

meeting in Hakodate, as we nightly observed the lights of the squid fishing boats and daily saw the beautiful artwork of a local artist who uses squid ink to produce his pictures. Other topic sessions encompassed the full range of the ecosystem from continuing our investigations into the carbon cycle, advancing progress in zooplankton ecology, higher trophic level predators, and continuing the ecosystem synthesis of GLOBEC research. The topic session on "*Recent Findings and comparisons of GLOBEC and GLOBEC-like programs in the North Pacific*" was co-sponsored by the Global Ocean Ecosystem Dynamics Project of IGBP. Another IGBP Core Project, Joint Global Ocean Flux Study (JGOFS) participated in planning and co-sponsored the topic session on "*North Pacific carbon cycling and ecosystem dynamics*".

Interdisciplinary workshops and sessions on understanding climate variability and its effects on ecosystems began even before the main scientific meeting with two events that were held in Tsukuba: a symposium/workshop on "*North Pacific CO₂ data synthesis*" and a planning workshop on "*Designing the iron fertilization experiment in the Subarctic Pacific*". The Marine Bird and Mammal Advisory Panel met for the first time and held a technical workshop. The Task Teams of the PICES GLOBEC Climate Change and Carrying Capacity Program (CCCC) signaled they were entering the final phase of the program with the workshops and Task Team meetings emphasizing coordination between these groups and the development of linked biophysical models.



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Congratulations are in order for winners of the Best Presentation Awards at the PICES Ninth Annual Meeting. These awards are given to scientists, nominated by each PICES Scientific Committee and the Science Board, who gave the best presentation in a topic or paper session sponsored by the committee or board. Here are the 2000 winners: the BIO Award to Dr. Christine T. Baier for her paper on *"Effects of chaetognath predation on copepod communities on the southeast Bering Shelf"*; the FIS Award to Dr. Bambang Semedi for the paper on *"An approach of DMSP/OLS satellite imagery and GIS technology to study the dynamics of Pacific saury migration"*; the MEQ Award to Dr. Kazufumi Takayanagi for the paper on *"Water quality criteria to manage sustainable aquaculture in Japan"*; the POC Award to Dr. Anatoly Salyuk for the paper on *"Exchange of deep and bottom waters in the Kurile Basin, Sea of Okhotsk, with the Pacific"*; the CCCC Award to Dr. Shoko Hotta for her paper on *"Factors affecting the growth of chum salmon in the western North Pacific revisited"*; and the Science Board Award to Dr. Shingo Kimura for his paper on *"Biological production process associated with frontal disturbances of the Kuroshio and the Kuroshio Extension"*. Science Board awarded a Best Poster Award for the first time this year, and the recipient was Dr. Tetsuya Takatsu for the poster on *"Dominant year-classes in brown sole *Pleuronectes herzensteini*"*.

The year 2000 saw continued progress in the area of international collaborative field and laboratory work by the PICES scientific community. A PICES-sponsored interdisciplinary cruise aboard a research vessel *"Professor Gagarinsky"* was organized by the Pacific Oceanological Institute (Vladivostok, Russia) to study ecosystem structure and dynamics of the northern Japan/East Sea (for details see Vyacheslav Lobanov's article in this issue, pp. 31-34). Integration of the results from the 1999 international Vancouver Harbour practical workshop by scientists of our Marine Environmental Quality Committee's Working Group 8 on *Practical Assessment Methodology* took place in one of the topic sessions this year. All collected data will be compiled and published as a PICES Scientific Report in 2001. Similarly, the Physical Oceanography and Climate Committee's Working Group 13 on *Carbon Dioxide in the North Pacific* continued to make significant progress in improving measurement quality for the carbonate parameters by carrying out a series of between laboratory comparisons of measurement technique. This year's inter-comparison, followed up by a technical workshop in Tsukuba, was focused on the measurement of total alkalinity in seawater (for details see Andrew Dickson's article in this issue, pp. 15-16). Finally, the PICES-GLOBEC Climate Change and Carrying Capacity Program (CCCC) continued its two-year study to initiate continuous plankton recorder (CPR) monitoring in the North Pacific and showed interesting results with regard to a latitudinal gradient in maturation timing for winter-spring dominant copepods. PICES continues to

discuss how to maintain this monitoring as a long-term PICES effort.

International collaborations of PICES are expanding. PICES scientists participated in a joint ICES/PICES mini symposium at a meeting of the ICES Zooplankton Ecology Working Group in spring 2000. Plans for a jointly sponsored large symposium on zooplankton ecology by ICES, PICES and GLOBEC are now underway. The North Pacific Anadromous Fish Commission (NPAFC) and PICES jointly sponsored an international workshop on *"Factors affecting production of juvenile salmon"* in Tokyo just after the PICES Annual Meeting in Hakodate. The Census of Marine Life and the International Pacific Research Center will co-sponsor with PICES an international workshop on *"Impact of Climate Variability on Observation and Prediction of Ecosystem and Biodiversity Changes in the North Pacific"*. This workshop will help us make significant advances in producing a PICES Ecosystem Status Report and to begin collaborations to advance a North Pacific monitoring and prediction system that will match the goals of the Census of Marine Life program and the International Oceanographic Commission's Global Ocean Observing System (GOOS).

In the spring of 2000, PICES and several international organizations sponsored the *"Beyond El Niño"* Conference (for details see report by Dr. Paul LeBlond in PICES Press vol. 8(2)). This highly successful scientific conference provided substantial evidence for North Pacific ecosystem variability at interannual and decadal time scales and insights on the implications of these variations for fishery management. Selected papers from the conference will be published in a special volume of *Progress in Oceanography* scheduled to come out later in 2001. The proceedings from the 1999 Science Board Symposium was published this year as a special issue on *"North Pacific Climate Regime Shifts"* in that same journal, Vol. 47 (2-4).

Many other PICES scientific efforts were documented in 2000 by the publication of results in the PICES Scientific Report series: Volume 13 represents Bibliography on Oceanography of the Japan/East Sea, Volume 14 summarizes results of Working Group 11 on *Predation by Marine Birds and Mammals in the Subarctic North Pacific Ocean*, and Volume 15 has the proceedings of the 1999 PICES-GLOBEC CCCC Program REX and MONITOR Workshops and the 2000 MODEL Workshop.

Two Working Groups disbanded in 2000 and will be making final preparation for publication of results in 2001. The Fishery Science Committee Working Group 12 on Crab and Shrimp and Marine Environmental Quality Committee Working Group 8 on Practical Assessment Methodology will publish final results in the PICES Scientific Report Series in 2001.

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