



North Pacific Marine Science Organization

PICES

Capacity Building in the Marine Sciences in the North Pacific

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About PICES

The International North Pacific Marine Science Organization

- Established in 1992 as an intergovernmental organization
- Member Nations include Canada, Japan, People's Republic of China, Republic of Korea, Russian Federation, and the United States
- Principal objectives of PICES are:
 - Promoting and coordinating marine research in the North Pacific and adjacent seas
 - Advancing scientific knowledge in the region
 - Promoting the collection and scientific exchange of information



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PICES Capacity Building Strategy

A high priority activity for PICES

- **Strategy for capacity building was developed by a Study Group and approved in 2003**

Essential components of this strategy are:

- **holding special conferences and schools on marine sciences**
- **organizing methodological workshops and training courses**
- **sharing methodologies, information and data**
- **providing financial support for participation of students and early career scientists in PICES Meetings and symposia**
- **maintaining an Intern Program with scientific as well as administrative assignments**



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Funding PICES Capacity Building

- **The PICES budget, with national contributions totaling less than \$700,000 per year, is not sufficient to support an extensive CB program.**
- **Any significant CB initiative requires increased priority at the national level and extra-budgetary contributions from one or more member countries.**
- **Additional resources include collaborations with other international organizations/national agencies and grants from private foundations.**



ICES/PICES Early Career Scientist Conferences



Objective: Create opportunity for scientists at the beginning of their careers to meet colleagues from around the globe and develop contacts and collaborations across international borders and disciplines that would persist for decades

- **Early career scientists form steering committee to organize the event**
- **First event held in 2007, Baltimore, MD, USA: Cost ~\$180,000**
- **Major funding from ICES and PICES plus outside funds**
- **Second event planned for 2012 in Spain**



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ICES/PICES Early Career Scientist Conferences

ICES/PICES “*New frontiers in marine science*” conference
for ECS
Baltimore, Maryland



ICES
CIEM

International Council for
the Exploration of the Sea
Conseil International pour
l'Exploration de la Mer



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Features

- 6 theme sessions
- 2 workshops
- Mini-symposium on “*International and interdisciplinary collaboration*”
- 65 oral presentations, 33 posters
- ~100 scientists from 20 countries in attendance
- Selected papers published in ICES Journal of Marine Science





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PICES Marine Science “Summer Schools”

Specific training opportunities

- Topics developed by PICES Committees, Expert Groups
- Locations dependent upon support of member countries
- Participants are early career scientists from member and non-member countries.
- Lecturers are selected for expertise world-wide
- Joint sponsorship with other organizations would promote broader participation.



**First CREAMS/PICES Summer School
on Ocean Circulation and Ecosystem
Modeling
University of Busan, Busan, R Korea**

2006



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PICES Marine Science “Summer Schools”

Specific training opportunities

**Second PICES Summer School
on Ecosystem-based
Management
Hokkaido University, Hakodate,
Japan, 2008**



**Third PICES Summer School on Satellite
Oceanography
Seoul National University
Seoul, Republic of Korea, 2009**

ClimECO2 Summer School, 8/23-27, 2010

PICES co-sponsors with Organizers IMBER, IUEM



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PICES Methodological and Training Workshops

Additional training opportunities

- **Develop shared methods for data collection, modeling**
- **Methodological Workshops, Training Courses, Special Publications**
- **Assure participation of diverse and early career scientists**

Training workshop on Techniques for building multi-trophic level marine ecosystem models, with special emphasis on NEMURO and NEMURO.FISH for PhD-level scientists at Centro de Investigaciones Biológicas del Noroeste (CIBNOR), La Paz, BCS in 2007





PICES Methodological and Training Workshops

Additional training opportunities

PICES International Seafood Safety Project training classes



Manila, Philippines

January, 2009



Guatemala City

February, 2010



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PICES Intern Program

Professional training in science and administration



China 2000



Korea 2001/02



Russia 2002/03



China 2003/04



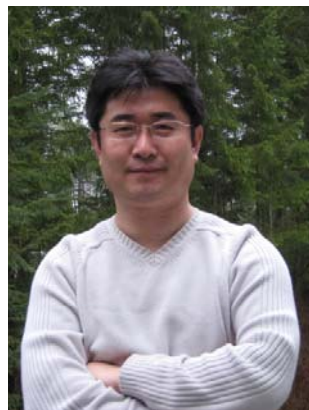
Korea 2004/05



Korea 2004/05



Russia 2006



China 2007/08



Korea 2008/09



China 2009



Russia 2010



National Programs

- **The Government of Canada has two primary options for providing Capacity building for the conservation and management of fishery resources.**
- **Canadian International Development Agency (CIDA)**
 - **country-driven and must be obtained through formal channels, often requires matching funding**
- **International Research Development Centre (IDRC).**
 - **research-driven, funding to individuals and groups, rather than bilaterally.**
 - **Centre for Training and Awards Program (CTAP) helps developing countries gain a critical mass of trained and experienced researchers**



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National Programs

- **US Symposium Held 2004**
- **Identifies concrete approaches to build international capacity**
- **Focus on mechanisms for US contributions internationally**
- **Addresses concepts in UNEP Global Program of Action and US Commission on Ocean Policy**
- **Stresses need for evaluation and follow-up**
- **Follow-up NAS/NRC Report:**
<http://dels-old.nas.edu/oceans/report.shtml>

