

## Scope

Climate change will have many impacts on marine ecosystems and on human uses of them. Improved scientific support for policy and management decision-making in the face of these potential impacts is essential. In response to this need, interdisciplinary research teams have been formed around the world to analyze data and develop models to explore the likelihood and nature of future ecosystem states and strategies for sustainable use in these future states. To facilitate the advancement of this critical research, PICES, ICES and FAO are holding an international symposium. This symposium will provide a forum for scientists and policymakers to discuss the potential impacts of climate change on marine ecosystems and our uses of these ecosystems, and to consider the strategies that society can take to be prepared for anticipated impacts. Quantitative studies of the potential impact of climate change on fish and fisheries throughout the world will be featured.

The symposium will:

- » provide a forum to discuss techniques for investigating the impacts of climate change on population parameters, distribution, migration, production, and abundance of fish and shellfish and on food web processes supporting fish and shellfish;
- » provide an opportunity for scientists to discuss their observational, analytical and modeling approaches with other research teams in order to stimulate methodological improvements;
- » allow experts to identify analytical techniques needed to reliably forecast climate change impacts on marine fish and shellfish populations, including methods for quantifying the uncertainty in projections and ways to address the uncertainty in policy and management;
- » allow experts from diverse disciplines to discuss policies and strategies for society and users of marine resources to consider in the face of a changing climate and altered marine ecosystems.

## Outcome

Selected papers from the symposium will be included in a special issue of ICES Journal of Marine Science scheduled for publication in 2011, within a time-frame that will allow it to be considered by the Fifth Assessment of the Intergovernmental Panel on Climate Change (IPCC).

The symposium and subsequent publication will inform the scientific community and the public about our current understanding of the impacts of climate change on marine ecosystems and the implications of these changes for marine resources and their uses.

## Structure and Scientific Program

A 3.5-day symposium will comprise of plenary sessions on Day 1 and Day 4, and 2 parallel theme sessions on Day 2 and Day 3. Scientific sessions will include invited and contributed papers. Contributed papers will be selected for oral or poster presentation. Posters will be on display for the duration of the symposium. All coffee breaks and refreshments will be provided in the poster area to maximize opportunities to see these contributions and to interact with the presenters. Evening poster sessions/receptions are planned for Day 2 and Day 3.

Sunday, April 25, the day preceding the symposium, will be devoted to topical workshops proposed by the science community. Interested parties are welcome to send topic suggestions by e-mail to [secretariat@pices.int](mailto:secretariat@pices.int).

The themes of the plenary and parallel science sessions are:

- » Forecasting impacts: From climate to fish (Plenary Session 1, April 26, AM)
- » Forecasting impacts: From fish to markets (Plenary Session 2, April 26, PM)
- » Downscaling variables from global models (Session A1, April 27, AM)

## Registration, Abstracts and Financial Support

On-line registration and abstract submission open July 1, 2009. Please consult the symposium website at <http://www.pices.int/climatechange2010.aspx> for registration and abstract submission details.

Limited funds are available to assist early career scientists (35 years of age or younger) and researchers from developing countries to attend the symposium. Application procedure can be found on the symposium website.

- » Assessing ecosystem responses: Impacts on community structure, biodiversity, energy flow and carrying capacity (Session B1, April 27, AM)
- » Species-specific responses: Changes in growth, reproductive success, mortality, spatial distribution, and adaptation (Session A2, April 27, PM)
- » Comparing responses to climate variability among nearshore, shelf and oceanic regions (Session B2, April 27, PM)
- » Impacts on fisheries and coastal communities (Session C1, April 28, AM)
- » Measuring uncertainty, identifying key unknowns and communicating risk (Session D1, April 28, AM)
- » Evaluating human responses, management strategies and economic implications (Session C2, April 28, PM)
- » Contemporary and next generation climate and oceanographic models, technical advances and new approaches (Session D2, April 28, PM)
- » Sustainable strategies in a warming climate (Plenary Session 3, April 29, AM)

## Sponsors

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## Important Dates

July 1, 2009

- » Registration and Abstract submission opens

August 31, 2009

- » Deadline for submission of proposals for workshops

November 30, 2009

- » Abstract submission deadline
- » Financial support application deadline

January 15, 2010

- » Abstract acceptance notification

February 1, 2010

- » Early registration deadline

April 25-29, 2010

- » Symposium and associated workshops

May 28, 2010

- » Manuscript submission deadline

## Local Host

Fisheries Research Agency of Japan

## Local Arrangements

Tohoku National Fisheries Research Institute

## Venue

Sendai Conference Center, Sendai, Japan  
<http://tnfri.fra.affrc.go.jp/eindex.html>

## Contact

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## Symposium Convenors

Anne Hollowed	Alaska Fisheries Science Center, NOAA-Fisheries, U.S.A.
Manuel Barange	Plymouth Marine Laboratory, UK
Shin-ichi Ito	Tohoku National Fisheries Research Institute, Fisheries Research Agency, Japan
Suam Kim	Pukyong National University, Republic of Korea
Harald Loeng	Institute of Marine Research, Norway

## Scientific Steering Committee

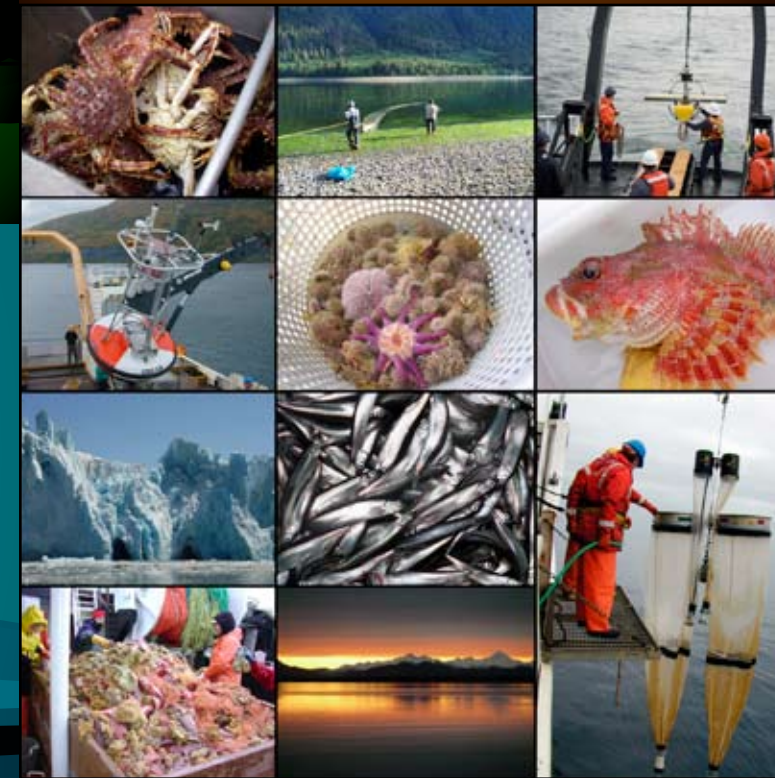
The Scientific Steering Committee is established mostly with members selected from the joint PICES/ICES Working Group on Forecasting Climate Change Impacts on Fish and Shellfish:

Jürgen Alheit	Baltic Sea Research Institute, Germany	Carl O'Brien	Centre for Environment, Fisheries and Aquaculture Science, UK
Richard Beamish	Department of Fisheries and Oceans, Canada, and NPAFC	Thomas Okey	Pew Fellow in Marine Conservation; West Coast Vancouver Island Aquatic Management Board, Canada
Keith Brander	National Institute of Aquatic Resources, Denmark	Myron Peck	University of Hamburg, Germany
Kevern Cochrane	Food and Agricultural Organization	Valdimir Radchenko	Sakhalin Research Institute of Fisheries & Oceanography, Russia
Kenneth Drinkwater	Institute of Marine Research, Norway	Jake Rice	Department of Fisheries and Oceans, Canada
Michael Foreman	Department of Fisheries and Oceans Canada	Yasuhiro Yamanaka	Hokkaido University, Japan
Jonathan Hare	Narragansett Laboratory, NOAA-Fisheries, U.S.A.	Akihiko Yatsu	Seikai National Fisheries Research Institute, Japan
Jason Holt	Proudman Oceanographic Laboratory, UK		
Jacquelynn King	Department of Fisheries and Oceans, Canada		
Franz Mueter	University of Alaska Fairbanks, U.S.A.		

## Symposium Organizing Committee

Jürgen Alheit (IOC)
Alexander Bychkov (PICES)
Cassandra de Young (FAO)
Yukimasa Ishida (FRA, Japan, NPAFC)
Adolf Kellermann (ICES)
Yukihiko Nojiri (NIES)
Yasuhiro Yamanaka (Hokkaido University, Japan)

## Climate Change Effects on Fish and Fisheries: Forecasting impacts, assessing ecosystem responses, and evaluating management strategies



April 26–29, 2010  
Sendai, Japan

<http://www.pices.int/climatechange2010.aspx>



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