# W6 POC/CCCC Workshop
# Climate scenarios for ecosystem modeling

*Co-Convenors: Jacquelynne R. King (Canada) and Michael G. Foreman (Canada)*

This workshop will include invited papers from members of the Climate Forcing and Marine Ecosystem Task Team (CFAME) and the POC Committee Working Group on *Evaluations of Climate Change Projections* (WG 20) on research activities related to applying output from WG 20 regional climate models, or IPCC (Inter-governmental Panel for Climate Change) global models, to CFAME ecosystem models. CFAME is developing conceptual and empirical models of the mechanisms relating climate forcing to the population dynamics of species and to ecosystem processes. CFAME has focused on four North Pacific ecosystems that represent different dominant physical processes: (1) California Current System (boundary current with upwelling); (2) Kuroshio/Oyashio Current System (boundary currents); (3) Sea of Okhotsk (sea ice cover); and (4) Yellow Sea/East China Sea Region (freshwater input). WG 20 is developing higher resolution regional coupled atmosphere-ocean models forced by IPCC global or regional models. These regional models could provide forecasts of regional parameters (such as SST, sea ice cover, and river discharge) relevant to ecosystem processes. This workshop will facilitate discussion between CFAME and WG 20 members for future collaborative research on forecasting the impacts of climate change (as represented by IPCC projection scenarios) on regional ecosystems and species of the North Pacific.

**Friday, Oct. 26, 2007 09:00 – 17:00**

09:00 **Jacquelynne King (CFAME member)**
- Introductions
- Review workshop objectives

09:15 **Kerim Aydin (CFAME Co-Chairman, Invited)**
- Overview of CFAME terms of reference
- CFAME workshops and work completed to date

09:30 **Michael Foreman (WG 20 Co-Chairman, Invited)**
- Overview of WG 20 terms of reference
- Work completed to date

***California Current System***

09:45 **Vera Agostini (CFAME member, Invited)**
Overview of the California Current System

10:00 **Gordon McFarlane (CFAME member, Invited)**
Conceptual mechanisms linking physical and biological oceanography to population dynamics of key species in the California Current System

10:30 ***Coffee / tea break***

10:50 **Emanuele Di Lorenzo (WG 20 member, Invited) and Niklas Schneider**
A North Pacific gyre-scale oscillation: Mechanisms of ocean's physical-biological response to climate forcing (W6-4176)

11:10 **Enrique Curchitser (WG 20 member, Invited)**
Embedding a high-resolution California Current climate model into the NCAR global climate model

11:25 **Michael Foreman (WG20 member, Invited)**
Future winds off the BC coast

***Kuroshio/Oyashio Current System***

11:40 **Akihiko Yatsu (CFAME member, Invited), Tsuneo Ono, Kazuaki Tadokoro (CFAME member, Presenter), Akira Nishimura, Shin-ichi Ito, Sanae Chiba and Yasunori Sakurai**
Overview of the Kuroshio/Oyahsio Current System (W6-4139)

11:55 **Akihiko Yatsu, Yoshiro Watanabe (CFAME members, Invited), M. Kaeriyama, Y. Sakurai and A. Nishimura (Presented by Jacquelynne King)**
Conceptual mechanisms linking physical and biological oceanography to population dynamics of key species in the Kuroshio/Oyashio Current System

12:25 ***Lunch***

14:00 **Taketo Hashioka, Yasuhiro Yamanaka, Takashi T. Sakamoto and Maki N. Aita**
Future projection with a 3-D high-resolution ecosystem model (W6-4324)

***Yellow Sea / East China Sea***

14:20 **Young Shil Kang (CFAME Co-Chairman, Invited)**
Overview of the Yellow Sea/East China Sea

14:35 **Yeong Hye Kim (Invited)**
Conceptual mechanisms linking physical and biological oceanography to population dynamics of key species in the Yellow Sea/East China Sea

15:05 **Jinhee Yoon, K.-I. Chang, Takashi T. Sakamoto, Hiroyasu Hasumi and Young Ho Kim**
Effects of global warming on the East/Japan Sea heat balance using a global climate model (MIROC3.2-hires) (W6-4315)

15:25 ***Coffee / tea break***

15:50 **James Overland (CFAME member, Invited)**
Synthesis and summary of key climate and oceanographic factors identified by CFAME and required for ecosystem projections given climate change

16:20 **Muyin Wang (WG 20 member, Invited)**
Uncertainties in climate model ensemble projections

16:30 ***Workshop discussion***
- Outstanding issues and discussion from presentations
- Next steps for collaboration between CFAME and WG20

**Saturday, Oct. 27, 2007 09:00 – 12:00**

09:00 ***Workshop discussion***
Continued discussion from previous day, if required

***Breakout discussions - CFAME and WG20 to convene separately***
***CFAME:***
- Finalize species' scenarios by ecosystem
- Discussion of communication of results
- Review and of draft PICES Scientific Report
- Assignment of tasks

***WG20:***
- Provision parameters for the CFAME shopping lists
- Future meetings and research plans