



BEST – PICES Collaboration



Presentation to the PICES Council

Yokohama, Japan October, 2006



What is BEST?

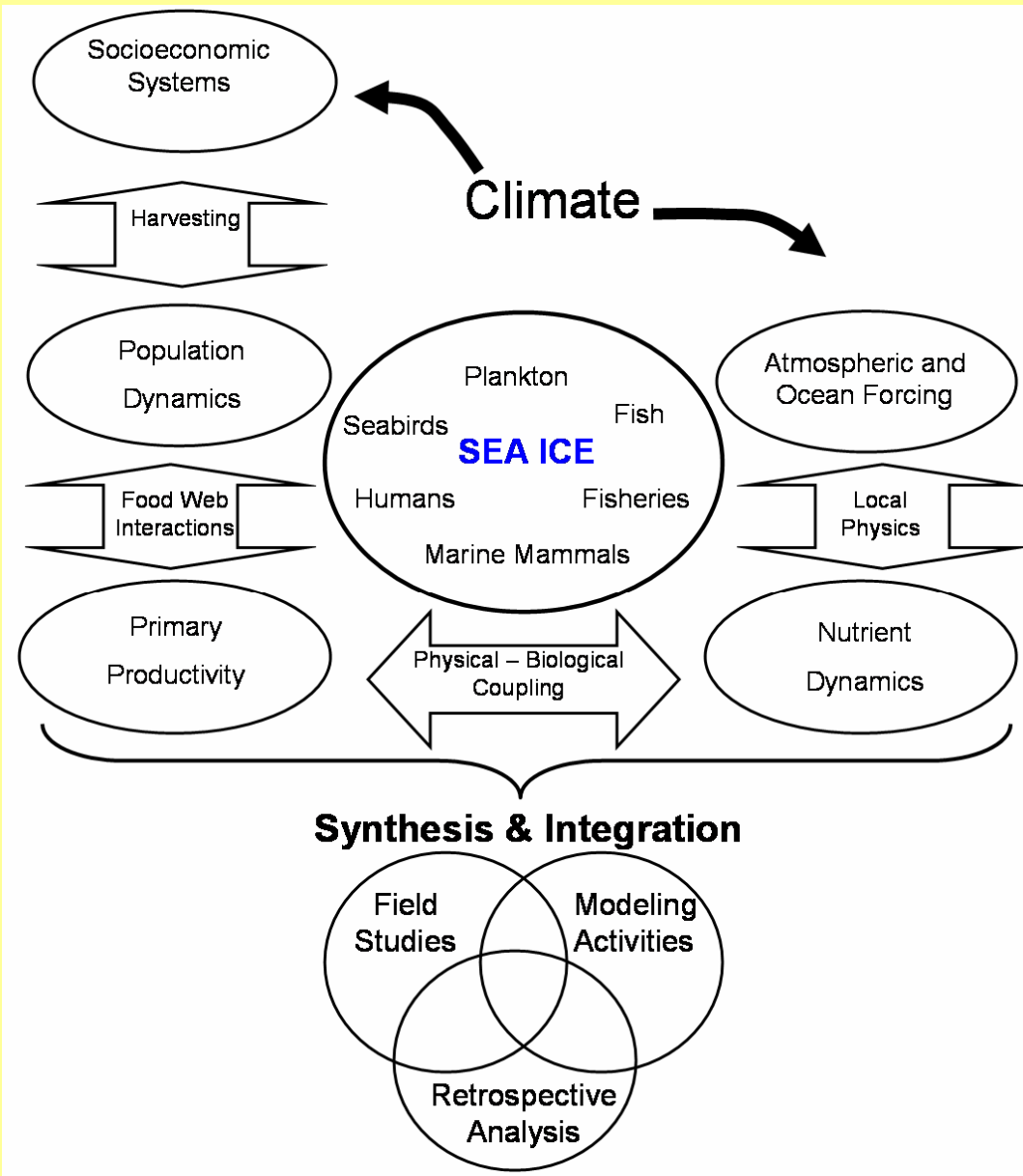


- **A component of SEARCH (Study of Environmental Arctic Change)**
- **A program designed to understand and predict the consequences of climate change for Bering Sea marine ecosystems**
- **End to End: Climate, physics, primary production, zooplankton, fish, seabirds, marine mammals and people**
- **Strong social sciences component expected**

History of BEST

- **Sept. 2002: Laguna Beach, Initial Planning**
- **Mar. 2003: Seattle, Science Plan Workshop**
- **Oct. 2004: Science Plan Published**
- **Mar. 2005: Science Steering Committee**
- **May 2005: Open Implementation Workshop**
- **Aug. 2005: Implementation Plan to NSF**
- **Sept. 2005: Announcement of Opportunity (AO)**
- **Fall 2006: Anticipated 2nd AO for March 2008**
- **Mar. 2007: Commencement of Field Program**

Assembling an End-to-End Program



- Atmosphere / Ocean
 - Local Physics
 - Phys - Biol Coupling
 - Food Web Interactions
 - Harvesting / Fisheries
 - Socioeconomic Aspects
-
- Modeling Activities
 - Field Research
 - Retrospective Studies

BEST Research Priorities

- **Primary Focus:**

How is the Disappearance of Sea Ice Affecting the eastern Bering Sea Ecosystem and the people dependent on it?

- **Secondary Focus:**

a) What controls the abundance of nutrients on the shelf and what is the influence of climate variability?

b) What will be the ecosystem effects of a warmer and more stratified Bering Sea?

c) Regional studies:

Northern Bering; Pribilofs; Aleutian Passes

Projects Funded in BEST

- **The Role of Ice Melting in Providing Available Iron to the Surface Water of the Eastern Bering Sea Shelf**
 - P. I.: Jinqfeng Wu, U. Alaska Fairbanks
- **Denitrification and Global Change in Bering Sea Shelf Sediments**
 - P. I.: Allan Devol, U. Washington & David Shull, Western Washington U.
- **Nitrogen Supply for New Production and its Relation to Climatic Conditions on the Eastern Bering Sea Shelf**
 - P. I.: Raymond Sambrotto, Columbia U. & Daniel Sigman, Princeton U.
- **The Impact of Changes in Sea Ice on the Physical Forcings of the Eastern Bering Ecosystem: Retrospective Investigation and Future Projection**
 - P. I.: Jinlun Zhang & Rebecca Woodgate, U. Washington
- **BEST: Nelson Island Natural and Cultural Knowledge Project**
 - P. I.: Mark John & Ann Fienup-Riordan, Calista Elders Council

Integrated Bering Sea Ecosystem Study



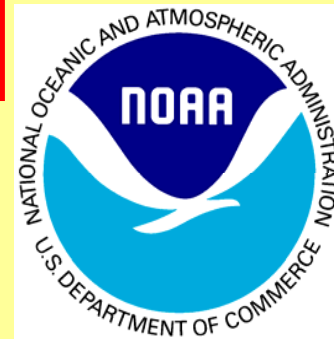
AYK-SSI
(interagency)



OPP
Arctic Natural
& Social
Sciences



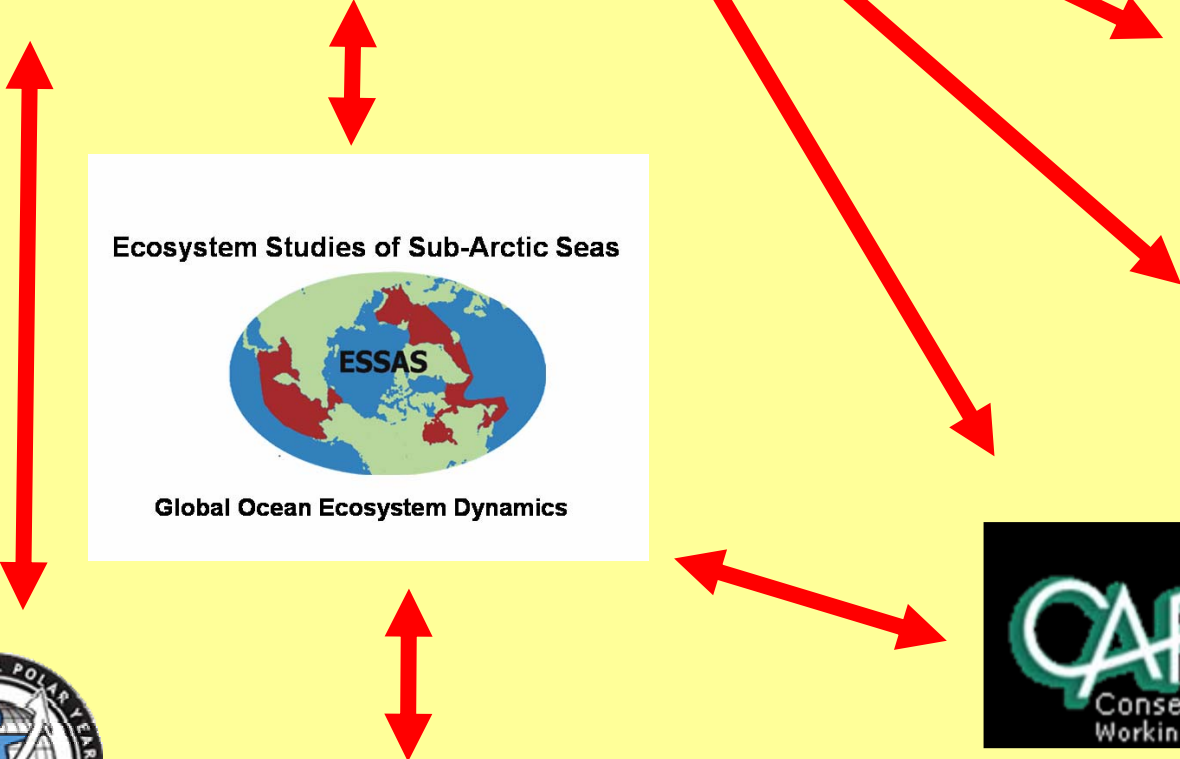
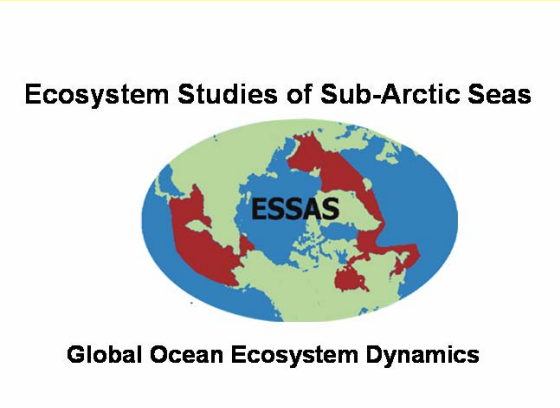
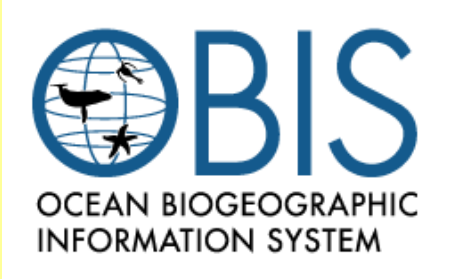
USFWS
USGS



AFSC
NMML
PMEL

Beyond the Eastern Bering Sea

Integrated Bering Sea Ecosystem Study



Advantages to PICES of BEST Collaboration

BEST can provide:

- A strong connection to scientists working in the eastern Bering Sea
- An entry to IPY activities through the role played by BEST in SEARCH and ESSAR
- Complementary activities to the PICES CCCC program

Advantages to BEST of PICES Collaboration

PICES can provide:

- Formal input to strengthen western Bering Sea contribution to overall understanding of Bering Sea Ecosystems
- Facilitation of comparative studies of climate impact mechanisms in other North Pacific regions
- Opportunities for BEST to leverage support from other international organizations



Summary



We hope that the PICES Council will look favorably on this opportunity to build a strong working collaboration between PICES and BEST scientists. Working together, we can enhance our understanding of how climate variability will affect the sustainability of the harvests of North Pacific Ocean marine resources.

BEST Information Sources

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Web Site:

<http://fish.washington.edu/best>

