COOPERATIVE INSTITUTE FOR ARCTIC RESEARCH
University of Alaska Fairbanks
P.O. Box 757740
Fairbanks, AK 99775-7740
(907) 474-5818
Dr. John E. Walsh, Director

cifar@iarc.uaf.edu

The Cooperative Institute for Arctic Research (CIFAR) was established in 1994 at the University of Alaska. CIFAR fosters collaboration between NOAA, the University of Alaska, and several other U.S. universities working in the Western Arctic. CIFAR collaborates with NOAA's Pacific Marine Environmental Laboratory, Arctic Research Office, Ocean Exploration Program, NMFS, and the National Weather Service. CIFAR is also a major partner in the annual Global Change Student Research Grant Competition, conducted by the Center for Global Change (CGC) at the University of Alaska Fairbanks.

Research presently supported by CIFAR falls under nine themes: (1) **Arctic Atmospheric and Climate Research** – Research Arctic atmospheric circulation, clouds and the global energy balance, and paleoclimates; (2) **Fisheries Oceanography** – Study the life histories, habitats, and assessment of targeted populations to improve sustainable management of living marine resources in the Bering Sea; (3) **Tsunami Research** – Enhance the computer modeling abilities for the prediction and propagation of tsunamis; (4) **Marine Ecosystem Studies** – Increase the understanding of processes controlling Arctic ecosystems and their productivity; (5) **Contaminant Effects –** Determine the quantities, sources, sinks, and effects on both humans and animals of various pollutants in the Arctic; (6) **UV and Arctic Haze Studies** – Enhance the understanding of ozone depletion in northern latitudes and determine the health and environmental impacts of the man-made, gaseous and particulate matter in the Arctic's atmosphere; (7) **Hydrographic and Sea Ice Studies** – Study sea ice properties and deformation; examine the role of tidally-induced, coastal freshwater discharge, and wind-driven circulations in the formation of the Bering Sea hydrological regime and biological productivity; and investigate how the Arctic Ocean circulation works and what are its important inputs and outputs; (8) **Climate Modeling –** Perform coupling of general circulation models to regional models of the Arctic and inter-comparisons of various existing numerical models; and (9) **Data Archiving and Support** – Contribute to the development of an integrated database of climatic indices and supporting materials that meets needs of the user community and NOAA partners such as the Alaska Ocean Observing System.

CIFAR investigators publish 18 scientific publications annually of which 60% are peer-reviewed. CIFAR's work has included contributions to the preparation of the Arctic Climate Impact Assessment (ACIA), which has synthesized information on recent and projected climate changes and consequences in the Arctic. CIFAR operated the international secretariat for the ACIA and coordinated the preparation of the Overview and Final Scientific Report of the assessment. Another major CIFAR activity is the funding of the Russian-American Long-term Census of the Arctic (RUSALCA) research projects conducted on a 2004 cruise to the Northern Bering Sea, a highly productive area that is being subject to rapid climate change.

CIFAR's research activities assist NOAA in four of its Mission Goals: 1) Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management; 2) Understand climate variability and change to enhance society's ability to plan and respond; 3) Serve society's needs for weather and water information; and 4) Support the nation's commerce with information for safe, efficient, and environmentally sound transportation.

11/15/05