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ARCTIC RESEARCH

OF THE UNITED STATES

INTERAGENCY ARCTIC RESEARCH POLICY COMMITTEE

Cover Caption: With permanent observation sites in Barrow and Atqasuk, Alaska, the Atmospheric Radiation Measurement (ARM) Climate Research Facility is providing continuous data about cloud and atmospheric properties for the Arctic research community. In 2004, researchers sponsored by this user facility conducted the Mixed-Phase Arctic Cloud Experiment at the North Slope of Alaska. Evidence has shown that mixed-phase clouds are poorly represented in both regional and global climate models. Using both surface-based and airborne instrumentation, the researchers successfully obtained a comprehensive data set of Arctic boundary-layer and multi-level mixed-phase clouds. Featured on the cover are just a few of the surface instruments and aircraft probes used during the campaign; a sample flight path is visible in the background. Some initial results of the experiment are described in this report. Managed through the US Department of Energy (DOE), Office of Science, the ARM Climate Research Facility, is part of the Arctic Observing Network and is available to scientists worldwide for interdisciplinary studies of earth systems. (Image courtesy of Chris DeGraaf, Pacific Northwest National Laboratory, for the US DOE ARM Program.)

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Contributors:

Interagency Arctic Research Policy Staff (see Appendix 5) and
Carin Ashjian, Woods Hole Oceanographic Institution
Sara Bowden, Arctic Ocean Sciences Board
Jim Cimato, Minerals Management Service
Hajo Eicken, University of Alaska Fairbanks
Henry Gholz, National Science Foundation
Jaqueline Grebmeier, University of Tennessee
Jack Kruse, University of Alaska Anchorage
Seelye Martin, National Aeronautics and Space Administration
Sue Moore, National Oceanic and Atmospheric Administration
Pete Murdoch, US Geological Survey
John Payne, North Slope Science Initiative;
Tom Royer, US Arctic Research Commission
Mike Simpkins, Marine Mammal Commission
Jack Stickel, Alaska Department of Transportation and Public Facilities
Neil Swanberg, National Science Foundation
Ken Taylor, Alaska Department of Natural Resources
Maeve Taylor, US Fish and Wildlife Service
Taneil Uttal, National Oceanic and Atmospheric Administration
John Walsh, University of Alaska Fairbanks

Maps:
Arctic Research Consortium of the United States (Tina Buxbaum, Allison Gaylord, Wendy Warnick, Helen Wiggins)

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Arctic Observing Network: Toward a U.S. Contribution to Pan-Arctic Observing

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