



# *Witness The* **ARCTIC**

Chronicles of the NSF Division of Arctic Sciences

Winter 2011, Volume 15 Number 1

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## **State of the Arctic Conference Resolution Released**

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The final Conference Resolution from the State of the Arctic Conference has been released and is available online.

The State of the Arctic Conference, held March 2010 with 448 participants from 16 countries, including representatives of Indigenous Peoples' organizations, featured over 400 keynote addresses, scientific talks, and poster presentations. The resolution summarizes the four recommendations that emerged from the conference:

1. Develop responses to arctic change and advance solution-driven science.
2. Fully implement a coordinated and multi-disciplinary arctic observing system.
3. Optimize existing efforts for projecting future states of the arctic system.
4. Promote open access to arctic areas and data.

An initial draft of the Resolution was presented and discussed during the final plenary session, and the final resolution was developed with extensive input from conference participants.

The full Conference Resolution can be found at: <http://soa.arcus.org/products-and-resources>.

For more information on the State of the Arctic Conference, visit the conference website at: <http://soa.arcus.org/> or contact Helen Wiggins, Arctic Research Consortium of the U.S. (ARCUS), at: [helen@arcus.org](mailto:helen@arcus.org).

## **Science Steering Committee Meeting Refines Future Directions for SEARCH**

A SEARCH Science Steering Committee (SSC) meeting was held 17-19 November 2010 in Washington, D.C. The major items on the agenda were development of updated SEARCH vision and mission statements and five-year goals, and improved interagency implementation of SEARCH. The draft vision and mission statement, developed at the meeting to guide future SEARCH directions and specific activities, will be released in spring of 2011.

More information on the November SSC meeting can be found at: <http://www.arcus.org/search/meetings/2010/ssc-november>.

## **SEARCH at the American Geophysical Union Fall Meeting**

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SEARCH held several activities at the American Geophysical Union (AGU) Fall Meeting in San Francisco, California. A Town Hall entitled "The Study of Environmental Arctic Change (SEARCH): Current Activities and Community Input on Future Directions" was held to provide a forum for open exchange on SEARCH activities and future priorities. Specific topics included: the new SEARCH vision and mission and the Arctic Observing Network. Over 70 members of the arctic science community attended the Town Hall.

In addition, a SEARCH poster was presented, and the SEARCH Science Steering Committee (SSC) and SEARCH Observing Change Panel (OCP) held meetings of opportunity.

More information about the SEARCH activities at AGU, including the Town Hall presentation, is available at: <http://www.arcus.org/search/meetings/2010/agu>.

For more information on SEARCH, contact Hajo Eicken, SEARCH Science Steering Committee Chair, at [hajo.eicken@gi.alaska.edu](mailto:hajo.eicken@gi.alaska.edu) or Helen Wiggins, Arctic Research Consortium of the U.S (ARCUS; SEARCH Project Office), at [helen@arcus.org](mailto:helen@arcus.org).

## **New Faces in Arctic Sciences Division at NSF**

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Dr. Brendan P. Kelly was appointed to the new position of Deputy Director in the National Science Foundation's (NSF) Division of Arctic Sciences (ARC). Dr. Kelly came to NSF from NOAA's National Marine Mammal Laboratory where he led investigations regarding the impact of sea-ice loss on arctic seal populations. As Division Deputy Director, Dr. Kelly will represent the Director of NSF as Chair of the Interagency Arctic Research Policy Committee (IARPC) and work closely with the Office of Science and Technology Policy in the White House (See Witness Fall 2010). Additionally, Dr. Kelly will develop the strategic vision for the Division of Arctic Sciences in support of the Office of Polar Programs and NSF.

Dr. Robert (Buck) Sanford is the newly appointed ARC Program Director within the Intergovernmental Personnel Act (IPA). Dr. Sanford will assume responsibilities for the Arctic Observing Network (AON) Program as well as the Decadal and Regional Climate Prediction using Earth System Models (EaSM). Dr. Sanford, whose home institution is the University of Denver, was recently an IPA appointee in the Division of Environmental Biology. He fills the vacancy left as Dr. Martin Jeffries finished his IPA appointment in the Arctic Sciences Division as AON Program Director.

Also new to ARC are Dr. Kelly Falkner, the new Deputy Office Director in OPP, and Mr. Peter West, the new Program Director for Education and Outreach in OPP. All began their appointments in early January 2011.

The Office of Polar Programs often has openings for IPA appointees to serve term positions, assist with the management of OPP programs, and learn about the government funding process from the inside. At present, there is an opening for a program officer to manage the OPP Cyber-Infrastructure program, which serves both the Division of Antarctic Sciences and the Division of Arctic Sciences. For more information about IPA and rotator positions at NSF, see the description of employment opportunities at OPP on the NSF website: <http://www.nsf.gov/pubs/2010/opp10001/opp10001.jsp?org=ARC>, or contact Simon Stephenson, Director, Arctic Sciences Division ([sstephen@nsf.gov](mailto:sstephen@nsf.gov)).

## **Temporary Funding Levels Extended for FY2011**

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On 21 December 2010, Congress approved House Resolution (H.R.) 3082, which extended fiscal year 2011 (FY2011) appropriations through 4 March 2011. This temporary spending bill, also referred to as a Continuing Resolution (CR), freezes discretionary appropriations for FY2011 at FY2010 spending levels. If Congress does not pass FY2011 regular appropriations acts before the 4 March expiration, they may extend FY2010 spending levels through another interim CR. The fiscal year runs from 1 October through 30 September.

H.R. 3082 was the fourth CR passed since the start of the current fiscal year. At FY2010 funding levels, this CR provides NSF with \$498 million less than the Obama Administration's FY2011 proposed budget released on 1 February 2010. Full funding of the President's proposed budget would have provided NSF's Office of Polar Programs a 17% increase over FY2010 funding levels, including a 4.8% increase in funding for the Division of Arctic Sciences, and \$54 million for operations and maintenance of the U.S. Coast Guard polar icebreakers *Polar Sea* and *Healy* (See Witness Fall 2010).

The Administration will release its proposed FY2012 budget on 14 February 2011.

For more information on the status of appropriations for FY2011, see the Library of Congress website: <http://thomas.loc.gov/home/approp/app11.html>. For more information about the NSF FY2011 Budget requests, see the Division website: <http://www.nsf.gov/about/budget>.

## **America COMPETES Act Reauthorized**

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On 4 January 2011 President Obama signed into law the America COMPETES Act, reauthorized by Congress on 21 December 2010. The Act focuses on three main areas: (1) Increasing science and research investments; (2) Strengthening science, technology, engineering, and mathematics (STEM) education; and (3) Developing a national infrastructure for innovation. America COMPETES provides a three-year reauthorization for increased investment in the National Science Foundation, the Department of Energy Office of Science, and the National Institute of Standards and Technology. Although continued full funding of the Act would double the budgets at these three agencies over a 10-year period, the actual funding may vary depending on the annual appropriations from Congress.

For more information, see the [Office of Science and Technology Policy website](#).

## National Oil Spill Commission's Findings, Recommendations, and Implications for the Arctic

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The Presidentially appointed Oil Spill Commission released "Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling" on 11 January 2011. The report, issued after six months of investigations and public hearings, addresses the causes and consequences of the BP Deepwater Horizon oil spill and proposes reforms to reduce the risk of future large-scale spills.

The Commission found that the Deepwater Horizon spill was foreseeable and preventable, yet neither industry nor government was prepared to contain a deepwater well blowout. On the industry side, human errors, engineering mistakes, and corporate management failures in risk evaluation and safety procedures played key roles in the accident. The Commission concluded that the errors were not the function of a single company, but revealed the management failures and inadequate safety procedures of corporations with significant presence in offshore drilling throughout the world.

The Commission also found that regulation by the Mineral Management Service (MMS) had not kept pace with the industry's technological advancements. Funding for the agency had remained static during two decades of dramatic growth in deepwater drilling, and agency responsibilities to ensure safety were compromised by the competing mission to facilitate offshore leasing and drilling. (Note: On 18 June 2010 the agency name was changed from MSS to Bureau of Ocean Energy Management, Regulation and Enforcement [BOEMRE]).

The Commission concluded that with major changes in government and industry practices, deepwater drilling could be done safely. Recommended changes include: creating an independent safety agency within the Department of Interior, establishing a risk-based approach to regulation, accelerating scientific and technical research to inform regulatory decision making, and providing adequate and predictable funding for regulatory oversight by establishing regulatory fees on new and existing oil leases.

The Commission also addressed implications for oil and gas exploration in the Arctic, a region with significant potential for domestic resource development and for offshore drilling by other arctic nations. The Commission recommended that a comprehensive research effort providing baseline ecosystem data be implemented on a time-frame that will inform decision making on resource exploration and development.

The remote and harsh conditions of the Arctic increase the risk and complexity of offshore drilling and oil spill response. Federal emergency response capabilities in the region are very limited; the U.S. Coast Guard operations base nearest to the Chukchi lease area is nearly 1000 miles away on Kodiak Island, and two of its three icebreakers are currently non-operational. Recommendations from the Commission for the Arctic are as follows:

1. The Department of Interior should ensure that industry's containment and response plans are adequate for each stage of development, and that the underlying financial and technical capabilities have been demonstrated in the Arctic.
2. The U.S. Coast Guard and oil companies should delineate their respective responsibilities in the event of a



spill, including search and rescue, and then must build and deploy the necessary capabilities.

3. Congress should provide the resources to establish U.S. Coast Guard capabilities in the Arctic, based on the U.S. Coast Guard's analysis of current and projected gaps in capacity.

For more information about the Commission's findings and recommendations, see the full report:

<http://www.oilspillcommission.gov/final-report>.

## **Lessons for Potential Oil Spill Response in the Arctic**

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Immediately following the Deepwater Horizon (DWH) Oil Spill in the Gulf of Mexico, scientific expertise was needed in the emergency response and impact assessment efforts. These efforts included the tracking of ship and personnel assets; tracking surface oil, tar balls, and an underwater oil plume in four dimensions; measuring rates of oxygen consumption by microbial decomposition of oil and methane; assessing the damage to coastlines, fish stocks, and fish larvae; and tracking the effects of the oil spill on seabirds, sea turtles, and marine mammals. The science community responded quickly, but with varying levels of preparedness.

A special session entitled "Lessons Learned from the Gulf of Mexico Oil Spill" was held 19 January 2011 at the Alaska Marine Science Symposium (AMSS). Several scientists involved in the DWH response efforts shared insights from their experiences with the wide representation of the arctic marine science community in attendance. The goal of the session was to review the significant logistical, data management, and risk assessment challenges that developed during response to the Gulf of Mexico oil spill. Discussion addressed how the experiences from DWH could inform preparations for potential oil spill response in remote arctic marine environments. Presentation topics included:

- The current state of oil spill detection and tracking technologies;
- Methods of modeling oil movement for accurate risk assessment;
- The range of baseline data required to document biological effects; and
- The information technology and communication infrastructure required to support effective use of OpenSource software and open protocols such as the Environmental Response Management Application (ERMA).

Presentations and a talk on the DWH Investigating Committee report by DWH Commission member Fran Ulmer, and a link to the Commission report, are available online at <http://tinyurl.com/bplessons>.

For more information contact Philip McGillivary, U.S. Coast Guard Pacific Area & Icebreaker Science Liaison ([Philip.A.McGillivary@uscg.mil](mailto:Philip.A.McGillivary@uscg.mil)).

## **International Study of Arctic Change (ISAC) Science Plan Published**

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The International Study of Arctic Change (ISAC) Science Steering Group has released the ISAC Science Plan. This plan was developed after broad community input and outlines an international research program on arctic environmental change.

The Science Plan provides background information on recent arctic changes and frames science questions to guide integrated research. The document includes discussion of ISAC's background; objectives and key science questions; program components of observing, understanding, and responding to arctic change; and near-term as well as long-term implementation activities.

ISAC builds upon existing efforts to develop an understanding of past, present, and expected arctic change in order to carry new insights into the public and the decision-making arenas. ISAC connects with national and international efforts in both basic and applied sciences. The Science Plan is available on the ISAC website: <http://www.arcticchange.org/>.

For more information, contact Maribeth Murray, ISAC Executive Director ([murray@arcticchange.org](mailto:murray@arcticchange.org)).

## **International Ice Chart Working Group Warns of Continued Navigation Hazards in Polar Seas**

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The International Ice Chart Working Group (IICWG) held its 11th annual meeting 18-22 October 2010 in Washington, D.C. Established in 1999, IICWG promotes cooperation between the international ice services charged with monitoring sea ice and icebergs for maritime safety and brings together the operational ice services of Canada, Denmark (Greenland), Finland, Germany, Iceland, Norway, the Russian Federation, Sweden, the United States, and the International Ice Patrol. Seventy-one representatives of ice service organizations from nine arctic nations attended the October meeting, which was hosted by the U.S. National Ice Center and the North American Ice Service. Topics discussed at the meeting included Antarctic ice charting and ice modeling and forecasting.

Following the meeting, IICWG issued a news release warning that sea ice and icebergs continue to present significant hazards to navigation and other maritime activities in the polar seas. Given the increasing maritime traffic in polar regions, IICWG expressed strong support for the continued development of the International Maritime Organization's Polar Code for improved safety of ship operations and for reliable information on current and forecast ice conditions. The full news release, "National Ice Services Warn of Continuing Hazards to Navigation in the Polar Seas," is available at: [http://nsidc.org/noaa/iicwg/IICWG\\_2010/IICWG-XI\\_News\\_Release\\_Final.pdf](http://nsidc.org/noaa/iicwg/IICWG_2010/IICWG-XI_News_Release_Final.pdf).

For more information, see the International Ice Chart Working Group website: <http://nsidc.org/noaa/iicwg/index.html> or contact Pablo Clemente-Colón, Chief Scientist, U.S. National Ice Center ([Pablo.Clemente-Colon@noaa.gov](mailto:Pablo.Clemente-Colon@noaa.gov)).

## **Jonathan Pundsack Joins ARCUS Staff**

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ARCUS is pleased to announce the appointment of Jonathan W. Pundsack as Program Manager, effective 1 January 2011. In this position he will assume responsibility for ARCUS projects and activities, primarily within the Arctic Science System Program (ARCSS), and for support for the Arctic Observing Network (AON) project within the Study of Environmental Arctic Change (SEARCH) program.

Prior to joining ARCUS, Mr. Pundsack served as Executive Director of the Arctic-CHAMP (Community-wide Hydrologic Analysis and Monitoring Program) Science Management Office, coordinating an interdisciplinary NSF-funded arctic hydrological research initiative. Additionally, he served as Program Manager for Latin America and the Caribbean for the NOAA Office of Global Programs, where he also served a year as the National Sea Grant John A. Knauss Marine Policy Fellow.

Mr. Pundsack will receive his PhD from the University of New Hampshire Natural Resources and Earth Systems Science (NRESS) Program in spring 2011. His dissertation will address science policy related to arctic hydrology and climate change.

We are very fortunate to be able to bring a scholar of Jonathan Pundsack's background and experience into ARCUS. Jonathan's experience working as a liaison with NSF and the polar research community will further strengthen ARCUS' initiatives and goals.

-- Susan E. Fox, ARCUS Executive Director