Observations on the observations: Where we might go from here

Fran Ulmer
Chair
U.S. Arctic Research Commission
Duties of the Commission:

• Develop, recommend, and assist in implementing a national Arctic research policy
• Facilitate Arctic research cooperation among Federal, State and local governments
• Review federal Arctic research programs and recommend improvements
• Recommend improved methods for data sharing among Arctic research entities
• Cooperate with the State of Alaska in the formulation of Arctic research policy
• Recommend ways to improve international scientific cooperation in the Arctic
Federal Arctic research policy/process

USARC: Set goals; build international cooperation, work with Alaska

IARPC: adopt plans; coordinate

White House: OMB/OSTP

Congress: Authorizers & Appropriators

IARPC 5-year plan 1st draft completed
Public review soon
Goals Report research themes

- Environmental Change
- Arctic Human Health
- Civil Infrastructure
- Natural Resource Assessment & Earth Science
- Indigenous Languages, Identities, Cultures
Captain Cook
Ecosystem-based Management
Weather and Climate Data:
Alaska Satellite Facility - http://www.asf.alaska.edu/
Alaska Climate Research Center - http://climate.gi.alaska.edu/
Alaska Snow, Water and Climate Services (NRCS) - http://ambcs.org/
NWS Fairbanks - http://pafg.arh.noaa.gov/
NWS Alaska Region HQ - http://www.arh.noaa.gov/
NWS Anchorage - http://pafc.arh.noaa.gov/
Alaska DOT Road Weather - http://www.dot.state.ak.us/iways/roadweather/forms/IndexForm.html
Neighborhood Environmental Watch Network - http://environweb.lanl.gov/newnet/
UAF Water and Environmental Research Center Data - http://ine.uaf.edu/werc/current-data/
Fairbanks Mesonet - http://www.tanana-watershed.org/mesonet/
ARM data archive - http://www.archive.arm.gov/
Alaska RAWS Network - http://www.raws.dri.edu/wraws/akF.html
NOAA International Arctic Systems for Observing the Atmosphere (IASOA) - http://iasoa.org/iasoa/
NASA/LaRC Atmospheric Science Data Center - http://eosweb.larc.nasa.gov/
NOAA Climate Services - http://www.climate.gov/#dataServices
NOAA Climate Research - http://www.arctic.noaa.gov/arp/resources.html
NOAA/ESRL Global Monitoring Division (Barrow, AK Observatory) - http://www.esrl.noaa.gov/gmd/obop/brw/
One-stop shop for Arctic observation data
Arctic Environmental Response Management Application
Arctic science “social network”
Integration, synthesis, modeling

“Models without data will never get you to reality.

Data without models will never get you to the future.”

-RADM David Titley
Self-subscribe to the update at arctic.gov

Focuses on research. Over 600 subscribers.

Newsletter structure:

• Today’s Events
• Media
• Legislative Action
• Future Events
speaker transition...
Budget figures, in million $, are for FY05, as self-reported by IARPC members and reported in "Arctic Research of the US" vol. 20, published by NSF in 2006.
Arctic Org Chart

organizational charts for Alaskan Arctic Research Groups (USARC)

Cheryl Rosa
15 March 2012
An America whose stewardship ensures that the ocean, our coasts, and the Great Lakes are healthy and resilient, safe and productive, and understood and treasured so as to promote the well-being, prosperity, and security of present and future generations.
5 “actions”

1. Improve Arctic environmental response management
2. Observe and forecast Arctic sea ice
3. Implement a distributed biological observatory
4. Enhance communication systems in the Arctic
5. Advance Arctic mapping and charting
Each “action” has specific outcomes, agencies, & milestones

Outcomes
A distributed biological observatory will help experts track and understand changing environmental conditions in the Arctic.

Agencies: NOAA, USFWS

Milestones
- Conduct and coordinate multi-year DBO research cruises with Federal, State, and international partners to document change in distribution, abundance, biomass, species composition, and rates of primary production at two of five stations along the DBO latitudinal gradient. (NOAA; 2012)
- Review pilot DBO activities and plan upcoming cruises in collaboration with international partners via Pacific Arctic Group meetings. (NOAA; 2012)
- Complete pilot phase analysis and prepare international report on distributed biological observatory activities and results to date. (NOAA; 2013)
- Update DBO concept and Implementation Plan for longer-term implementation. (NOAA, USFWS; 2014)
- Execute DBO plans and prepare annual assessments on physical and ecological state of Pacific Arctic marine environment. (NOAA, USFWS; 2015)
Arctic Collaborative Enviro. (ACE)  
(DOD/OSD funded Arctic observing)

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ACE overview

- Web-based, open-access, Arctic-focused, environmental decision-support system
- Integrates data from existing remote sensing assets and in situ observations
- Provides monitoring, analysis, and visualization based on earth observation data and modeling
- Enable local, regional, and international cooperation and coordination on long-term environmental planning and near-term actions in response to climatic and environmental changes occurring in the Arctic Region.

- Partners
  - OSD
  - COCOM Sponsors and operational managers: USEUCOM and NORAD-USNORTHCOM
  - Technical Manager: NASA MSFC
  - Transition Manager: Von Braun Center for Science & Innovation (VCSI)
  - Other Partners: NOAA, NIC, USCG, Navy Task Force Climate Change, UAHuntsville, AMRDEC, DLR (German Space Agency), CRREL, ORNL, SAON, Norwegian Polar Institute, AARI (through MOA with NOAA)
Users can choose from extensive Arctic data catalog of open access information.

Arctic data catalog includes web sites, KML/KMZ feeds, OGC compliant data and other geospatial sources that will allow GIS-enabled queries within the ACE application.
A vision/mission for AON

1. International scientific research program
   (to provide info on Arctic system via observing networks)
2. Unifies Arctic observing community to explore Arctic as a system
3. Commingling or coordination of funding*
4. Long-range (decadal) science plan
5. Annual program plan
6. Science advisory structure
7. Management and operators
8. Engineering development
9. Advances research by disseminating data from archives
10. Provides scientific context for awareness of Arctic enviro. change

*A vision without resources is a hallucination*
Integrated Ocean Drilling Program

25 countries
$138M budget (FY12)
NSF ($71M)
Arctic Coring Expedition 2004 Lomonosov Ridge