

## Meeting Notes

### Climate Change Forum Executive Roundtable Campbell Creek Science Center February 22, 2007

Leslie Holland-Bartels welcomed everyone and introduced Joel Schmutz, who presented a talk entitled “DOI on the Landscape: Predicting Biological Response to Environmental Change along the Arctic Coastal Plain.”

Tom Melius thanked everyone for coming. He explained that 175 people attended the technical session of the FWS-USGS Climate Change Forum yesterday to lay the foundation for what is going on today at regional HQ offices, where FWS and USGS staff are working together to share information and address key questions about climate change.

#### **Participants:**

Wini Kessler – U.S. Forest Service, RD Fisheries, Wildlife and Subsistence  
Dave Bernard – Alaska Department of Fish and Game  
Marcia Blaszak – National Park Service, RD, Alaska  
Doug Mecum – National Marine Fisheries Service, Regional Administrator, Juneau  
Carolyn Merritt – DOI Secretary’s Office  
Rich Myers – DOI Regional Solicitor  
Jackie Poston, EPA  
Fran Ulmer, University of Alaska - ISER  
Larry Hartig, Alaska Department of Environmental Conservation  
Ed Fogels, Alaska Department of Natural Resources  
Julia Dougan, Bureau of Land Management  
Bob Szaro, USGS, Chief Scientist  
Mark Myers, USGS, Director  
Leslie Holland-Bartels, Director, Alaska Science Center  
Tom Melius, Fish and Wildlife Service, RD-R7 Alaska  
Dale Hall, FWS, Director  
Gary Edwards, FWS  
Laverne Smith, FWS  
Beth Stevens, FWS  
Larry Bell, FWS  
Tony DeGange, USGS  
Tom Armstrong – USGS  
Tauline Davis, FWS  
Suzanne Weedman, USGS  
Gary Frazer, FWS  
Virginia Burkett, USGS

Introductory comments by Dale Hall and Mark Myers – purpose of the Climate Change Forum is to share common goals, define problems in key areas, where research is needed. Shared logistics is a minimum goal -- partnerships are needed in this area where issues are so challenging. Where should we prioritize?

Each participant was given 5 minutes to summarize key issues:

Need national framework for agencies to monitor and track change.

North Slope Science Initiative, possible model.

Role for individual agencies – each could designate places to be indicators of change

Also multi-agency role for public outreach – e.g., science symposia, NPS meeting at Denali is a good example.

Users of the resources are often inflexible. Hard to patch together an economy based on changing resources.

Endangered species and habitat change – some species will be winners and some losers.

Focusing on habitat is important. Invasive species are not so much of a concern at the present time, mainly concerned about “rogue introductions.” But perception that invasive species are not a problem in Alaska is incorrect.

How to deal with electronic data – from a legal point of view – severe penalties for not complying with release of data. If data is not catalogued, lawsuits and other challenges are possible.

Future NEPA challenges may come if data are not catalogued and accessible due to failure to maintain an updated administrative and technical record to support decisions.

No plan or strategy at a coordinated state level. The DEC was told to take a leadership role. They will help get the state agencies together, maybe a sub-cabinet on global warming. Monitoring for this and other purposes is important. More collaboration is planned among State agencies and it will extend to Federal agencies. Desire is to assess potential change at a local level. Need federal government to help run climate models. As there are discussions about the vulnerability of AK, some resources may be allocated. Carbon sequestration is another area of opportunity. AK needs funding for adaptation.

Example, need information at a local scale to help people adapt.

Relevant projects at University of Alaska, Anchorage:

- NOAA-sponsored Regional ISA at University of Alaska.

- ISER - Public infrastructure analysis to state of AK – 2030 and 2080 outlook will be released in 2 weeks.
- Scenarios network for Alaska Planning (SNAP) will allow people to integrate data in GIS format (habitat, fish, and wildlife) - just getting underway, can be integrated with other efforts.
- Department of Military and Veteran Affairs, U of A and DNR are doing a statewide digital mapping initiative.

Inventory and assessment is being planned - including inventory of emissions of greenhouse gases in Alaska.

The DNR is developing a high resolution Digital Elevation Model and ortho-photo coverage. The State got \$2 million to start work on building the digital map. They are doing GAP analysis and a strategic plan for this effort.

Land management pressures are growing. Coastal erosion is a concern because of eroding state lands and mineral rights.

Implications for forest fire fighting - now one month earlier each year the state prepares for wildfires, which is costing the state a million more per year.

Adaptive management is needed but they don't know what questions to ask, what kind of monitoring to do.

Wildland fire – repeated burns, what does this mean in the long-term to resource.

Information is coming out so fast it is difficult to handle. As people leave the workforce they take the connections with them.

\$10 million spent on Dalton well site remediation (BLM land) and there are 10 more coastal wells that need to be addressed.

Problem that borehole temperature records are going to be taken out as wells are shut in, and they are the monitoring base for North Slope temperature. Need to consider where we will get future measurement when these well sites have been abandoned.

Only 137 stream gages in the state, only 4 ocean monitoring buoys. Growing realization and accumulation of evidence is happening; need to insure that long term monitoring programs will continue. This group needs to collaborate, plan monitoring.

Agencies need to step up to the challenge to reduce their own emissions.

Understanding what others are doing and not reinventing what has already been proven successful – example in Kenai NWR of efforts to assess emissions as well as impacts.

North Slope Science Initiative is mainly focused on the management of oil and gas exploration. It has not focused on climate change. It has made it into the FY07 budget. BLM will get \$2 million in 2007 and 2008 for the NSSI.

Part of what we could do with a land managers' forum would be to inventory what information is already out there.

Meshing the human dimensions with the other goals of the land management agencies is important, and prioritization is both important and difficult.

Change is occurring at a rate that far exceeds the ability to mobilize and deal with problems.

Improved forecasting of inundation hazards is underway at EPA, as well as a CCSP (US Climate Change Science Program) Synthesis and Assessment Report with a chapter on Alaska, led by Brad Griffith.

The EPA serves as a convener of researchers, tribes, universities and others via the Alaska Forum on the Environment. The group was encouraged to participate in the Forum next year.

Need to include the military, particularly on the North Slope, where they have left behind hazardous materials.

Business roundtable, held last week to present economic impacts to business, over 100 people signed up. 80-90 represented businesses, 9 out of 10 are willing to inventory emissions.

Looking for opportunities to share and leverage resources. Presently seems to be on a piecemeal basis. We can't just wait for opportunities.

Could all agencies contribute funds to pull data together, even just at a pilot project level?

National architecture of monitoring systems is decaying at an alarming rate. Dozens to hundreds of stream gages are being shut down every year in the US. Can't assume the data you have had in the past will be there in the future (such as stream gages).

There has to be a push back at State level to be sure resources are available, such as monitoring. Awareness is there but the capabilities are being diminished.

Metadata standards are really important. Are models compatible? If we plan together there can be economies of scale.

Use Alaska experience to teach about climate change, impacts and adaptation.

If we approach the Secretaries (Federal) with a joint approach, may get help.

The discussion has shifted from debate about emissions to “Adaptation.” Real opportunity now to move into predicting change, economic impacts....in AK it is about “adaptation.”

One idea about what to do after today --- a possible model was Land Managers Forum, 10 years ago, co-chaired by DOI Secretary and Lieutenant Governor. Land managers Forum organized around climate change could bring focus to data gathering, modeling, mechanisms for coordinating projects, pooling of resources for funding. Could be responsive to both the Governor and DOI Secretary. This would be a beginning point in a process, maybe lead to a plan of action, and possibly a staff.

The MOA between the Secretary of DOI and the Governor of Alaska – not with any authority but to provide opportunity to exchange information among land managers. In the past, the Land Manager’s Forum evolved around tourism, but now climate may be the unifying theme. It went defunct about 4 or 5 years ago. If we did something like that -- have a decision maker group that would meet less frequently, and working groups that would meet regularly and tackle issues.

Statewide climate plan - in 7 states where groups have come together to define response (NC, WA, TX). Such an effort could define what we are emitting, both a mitigation and adaptation strategy that can be owned as a state.

Other suggestions for first steps:

- Need to get an inventory of what all agencies are doing, would help us determine or see where things fit together.
- Identify areas where we are already partnering and collaborating.
- Need to come to agreement on data collection priorities. Identify hot spots for monitoring – which ones are most important to wildlife, human health, etc. Scalability and longevity of data is important.
- It’s more than just providing local models, but having places where people like transportation planners can go for information and not develop it for their particular sector.

Fewer stream gaging stations in Alaska than New Hampshire.

Tom Melius - Now we will take these thoughts, send them back out, keep this process going. Come up with a suggested way to keep momentum going.

The Alaska Forum on the environment – all are invited next year.

Action item – voices need to be heard from State. Data gaps need to be identified, data needs conveyed.

Integration of current efforts, prioritization of needs is also “untapped.”

All of our employees are going to work tomorrow to do something, can't we use the resources we already have to start addressing the needs we have talked about today.

Monitoring and research to support response to climate change needs to be in each agency's strategic plan.

Impacts of your actions plus impacts of climate (on polar bear, for example) if you don't have the administrative record in place, you will lose in a legal setting. Need to inventory the type of decisions you might have to make to deal with climate change.

Need to be able to predict what will happen to ice seals and shorebirds. What kind of information will we need to manage, to adapt?

This is not traditional land management. It is complicated by climate change because the baseline is not constant. The amount of data needed is much greater, the ordering and management of that data is more important. Data integration is a huge issue.

Alaska is in the circumpolar region; CAFF and others with similar challenges should be involved.

Tom Melius - Pledged that in the next 2 months we will get together again - to share examples, find leveraging opportunities, identify hot spots. We need to keep moving and sharing information and plans. Tom will take it upon himself to set up the next meeting. The group agreed.

Tom Melius agreed to send out email addresses for everyone.

The group was asked to share announcements of related meetings, kind of a bulletin board.

## **FLIP CHART NOTES**

### **ISSUES/CHALLENGES**

- Forest infestations increasing/changing fire
- Relating management actions to changing environment  
“understanding background”
- Need to collectively prioritize research needs
- Sharing information (among agencies and with the public)
- Identify agency roles
- Need for better baseline data  
Picking up on change
- Changing fish and wildlife distribution  
Managing changing use patterns
- Increasing species at risk/increasing ESA issues

- Habitat: Changes – what will they mean?
- Invasive Spp. – will they increase?  
Plants/animals
- Diseases – Are outbreaks climate related?
- Land management. Increasing pressures on State & Federal lands  
Coastal erosion
- Permitting – Energy Sources  
Increased coal demand
- Fire – Longer Season and increased costs
- Agriculture - increased demands on land
- Dealing w/electronic DATA to comply w/legal requests
- Potential for rapidly changing DATA  
Changing Record of Decision, etc.
- “Global Warming” – New legal arena  
NEPA challenges
- Agencies finding their correct leadership role
- Agencies’ roles in reducing greenhouse gas contributions
- Need to factor expected changes into infrastructure siting – understanding climate change projections so we spend public dollars well
- Monitoring – State/Federal cooperation to leverage dollars
- Contaminant issues  
Carbon cycles – mercury release with increasing fires, etc.
- Need to identify opportunities in Alaska for carbon sequestration
- Alaska needs dollars for adaptation as changes occur
- Research needs

ISER – Reg. integrated science projects

AK NOAA – climate

Infrastructure project - need local models to help site infrastructure

SNAP – data needs to be captured in geographic context GIS

Needs State/Federal Collaboration

Digital mapping effort - needed by many agencies

## ISSUES

- Repeatability, long term change data – what is the best scale?
- Need better data to manage multiple use
- How do we utilize Adap. Mgmt. w/so many parameters  $\Delta$ ing
- Wildland fire 2004 – Largest  
2005 – 3<sup>rd</sup> Largest  
Increased fire return rates - reburning
- Impact analysis factoring in climate change – new, quickly changing challenge
- Gauges – Do we have good coverage?
- ↑ Timeline for cleaning up sites threatened by erosion, etc.
- Gauges inadequate (stream, temp., ocean buoys, weather stations)  
Existing systems – adequate? - How to maintain?

Need better LT data

- Shoreline mapped (NOAA, etc. working)
- Changes occurring at rate that makes it challenging for agencies to adapt
- Addressing urgent village relocations
  - How to sync various agencies; funding and permitting
- NWR – Green Star
- How can agencies catalog and ↓ their carbon inventories?
- How can agencies encourage businesses to do the same?
- How do we turn piecemeal actions into a more holistic multi-agency integrated effort?
- Would a pilot help start?
- Models: Compatibility? Integrated? Meta data organization and integration?
  - Joint funding initiatives? Priority needs? What gets addressed first?
- So what? Econom
  - Human Social
  - Health Tourism
  - F&W Mgmt/Conservation
- Need an inventory of what each agency is doing, hotspots
- Size of Alaska challenging
  - Need to identify hotspots
  - Need common priorities relative to which monitoring tools to continue/fund
- What are the key questions?
  - Identify across agencies to drive what data needs to be collected?

### **SOLUTIONS/ACTIONS**

- Holistic approach to monitoring
- National framework to monitoring
  - Ability to separate natural (background) change vs. anthropogenic change
- NSSI model useful; also NPS I&M Network
- NPS Science Symposium good communication tool' e.g., Denali, Glacier Bay
  - ADF&G anadromous fish catalog
  - Need to look at habitat – influences animal distributions
  - Availability of data
  - DEC taking lead for State on climate change
- Taking inventory assessment
  - CO<sup>2</sup> emission (greenhouse gases); CO<sup>2</sup> injection
- Factor climate change into infrastructure development
- Enhanced collaboration among State and Federal agencies
- Predictive modeling @ local level, e.g. erosion
- Research on climate feedback mechanisms
  - e.g. release of mercury w/permafrost degradation

### **ISER**

1. Regional NOAA-sponsored ISA at UAA (new to Alaska)
2. Public infrastructure analysis – cost to Alaska because of climate change - 2030 & 2080 forecasts - out in 2 weeks



3. SNAP – Data integrated into mapping to show changes:  
e.g. habitat, wildlife; UA funded. Needs collaboration with other agencies
4. DMVA/UA/ADNR  
Statewide digital mapping effort
  - ADNR – has new dollars to initiate digital DEM orthoquad mapping effort
  - Mid resolution mapping perhaps more advantageous because of cost and repeatability
  - Adaptive management
  - Include DOD as partner
    - lots of activity
    - logistic support
  - Continue long-term monitoring programs, e.g. ocean buoys, weather stations, stream gauges
  - NOAA’s habitat and ecological processes program
  - Break down wall between terrestrial and marine
  - EPA
  - Develop adaptation techniques
    - Brad Griffith/T. Armstrong
  - Forecasting hazards
  - Climate change impacts on ability to meet air quality standards
  - Alaska Forum on Environment as a communication vehicle
  - Supporting Newtok translocation
    - Need comprehensive strategy for state village relocations
  - Mitigation Business Roundtable held – inventory carbon footprints
  - Extensive network w/tribes
  - Energy initiative, e.g. carbon sequestration integrating w/business
  - Maintain data collection systems, e.g. stream gauge network; landsat
  - Data integration and metadata standards need compatibility
  - Research prioritizing
  - Possible opportunity – Secretary of DOI may be willing to take on climate change as an issue

### Suggestions

1. Land Managers Forum – MOU between State of Alaska and DOI  
chaired by Lieutenant Governor and DOI designee, formerly focused on tourism  
Something similar to that but focused on climate change and include DOD, Tribes, etc.
2. Statewide climate plan developed by groups such as businesses, stakeholders  
Includes mitigation, adaptation strategies
3. Develop list from each agency on what each is doing related to climate change – what are issues, hotspots
4. Take advantage of where science infrastructure already in place and where the science “hotspots” are
5. EPA – Focus on mitigation within each agency, e.g. Greenstar

### Back to Forum Idea

- decision-maker group meets less often
  - technical group meets more often
  - NASA/USGS Invasive Species Inst.
  - New effort related to State wildlife programs
  - FY09 Budget – Non-Federal agencies need to provide their input thru Federal agencies and other avenues of influence (lobby)
  - Integration of resources
  - Prioritization of activities
  - Need to integrate existing activities to better harness existing dollars
  - Alternatively need to compete better for new dollars
- Ways to compete:
1. Hear from the locals
  2. Cross Bureau efforts are effective
  3. Demonstrate use of existing dollars too

Circumpolar perspective – In Alaska need to integrate across the Arctic  
→ data, mapping, metadata standards

Get together within next 2 months

Continue dialogue

Keep this moving

Include others that did not make meeting

Send out email list and attendees list

Share websites for AK Forum and FWS/USGS Climate Change Forum

### **PARKING LOT**

UAA → State cooperation as next step for State

### **NEXT STEPS**

- Share data/information
- Interagency approach
- Each agency contribute to new person to help us i.d. best way to work together and i.d. opportunities
- Land Managers Forum
  - Regular meetings
  - Organizing principle of climate change
  - Funding entity through combining forces
- Begin to develop a State Climate Plan

- Challenge agencies to participate in Greenstar or Individual Initiative i.e. What will you do at your station?
- Meet again in 2 months
  - Discuss “Hot Spots”
  - FWS – Lead for organizing next meeting