

**Climate Change Immediate Action Workgroup Meeting
November 10, 2008 Anchorage, AK
Convened: 10:10 am**

Communities and individuals participating by phone:

St. Michaels: Frank Myomick
Shishmaref: Fred Eningowuk
Curtis Nayokpuk
Unalakleet/ Steve Ivanoff
Shaktoolik
San Francisco: Brad Dobbins (GAO)
Allen Chan (GAO)
Washington, D.C: Jeff Malcolm (GAO)
Juneau: Mike Coffey (IAWG Member - DOT)
Fairbanks: Luke Hopkins (IAWG Member - AML)
Clint Adler (RNWG Co-Chair - DOT)
Anchorage: Indra Arriaga (Info-Insights)
Taunie Boothby (DCCED-DCRA)

Anchorage In-Person:

IAW Members

Mike Black, Co-Chair (DCCED)
Trish Opheen Co-Chair (USACE)
Bob Pawlowski (Legislative Liaison – Denali Commission)
John Madden (MVA-EM)
Amy Holman (NOAA)

Public and Agency Participants

Larry Hartig, Commissioner (DEC)
Margaret (Meg) King – Facilitator
Kolena Momberger (DEC)
Sally Russell-Cox (DCCED)
Andy Jones (MVA-EM)
Jamilia George (Denali Commission/DCCED)
Robin Bronen (UAF)

Organization of 11/10/08 Summary

- **Summary of Adaptation Advisory Group and Mitigation Advisory Group**
- **November 6 & 7 Meetings**
- **Update from GAO on Draft Report and IAWG comments**
- **Update from Emergency Management of Draft 30 Year Report on Disasters in Alaska**
 - IAWG Suggestions to RNWG based on 30-Year Report
- **Update from Sub-Cabinet on Climate Change**
- **IAWG Policy #2 and Data/Research Needs Discussion**
 - IAWG Discussion/Reflection on Policy #2
 - IAWG Continuing Role on Data and Research
 - RNWG Requests/Suggestion for Problem Statement
 - Discussion: Taking RNWG Request to Sub-Cabinet
 - IAWG Policy Suggestion for Infrastructure Work Group
 - IAWG Co-Chair Request to IAWG Agencies and Others to Identify Data Available
 - IAWG Co-Chair Suggestion to Sub-Cabinet to Also Request Data
 - IAWG Co-Chair Request to Sub-Cabinet Chair to Request Input on IAWG Policies
 - IAWG Co-Chair Request IAWG to Review Policy #2
 - Sub-Cabinet Chair and IAWG Suggestions for 12/5 Sub-C Meeting regarding RNWG
 - IAWG Policy Suggestion on Data, Including Infrastructure
- **Previously Mentioned Policy Issues/Potential Recommendations**
 - Range of Potential Threats that May Not be Related to Climate Change
 - Policy on Funding Maintenance and Operations
- **New Policy Issues/Potential Recommendations**
 - Institutionalize Collaboration Across State and Federal Agencies or *How does IAWG get out of this business?*
 - State Should Take Credit for its Climate Change Efforts
- **Follow-up from Previous Meetings**
- **New Policy and Recommendations**
- **Public Comments**

Summary of Adaptation Advisory Group and Mitigation Advisory Group November 6 & 7 Meetings

M. Black, J. Madden, T. Opheen, B. Pawlowski all attended some or part of the Advisory Group meetings. In general they identified the following as important in relation to the IAWG's efforts:

- Linkage between the Adaptation Group and IAWG exists
- There's a lot of interest in what IAWG is doing and the approach it's taking
- IAWG needs to be able to explain the rationale of its Policies 1&2 and how policies can be advanced
- IAWG may be able to help by providing a model of coordination of agencies and funding streams (especially when other organizations are involved), this includes how to shape issues to allow as many funding sources as possible to support the need
- IAWG may also be able to assist by providing several definitions from which the Climate Change groups can use.
 - The group identified: "Arctic" perhaps Sea Ice (Bob P.), "Erosion" and "Flooding" (T. Opheen)

- IAWG ties closely to the Infrastructure TWG. Coordinating information between the two is important. J. Madden is on the I-TWG and they may want to consider IAWG's experiences to shape their policies. Two policies Madden reported from the I-TWG are:
 - Protect what we have and build better in the future.
 - Co-Chair suggested IAWG should send questions, challenges and information that's needed regarding infrastructure to the I-TWG:
 - What's flooding prone, where to place infrastructure, where infrastructure is located within/out of the community. Who, where and how these are determined. Currently no one entity does this.

Update from GAO on Draft Community Relocation Report and IAWG Comments

Jeff Malcolm with the U.S. General Accounting Office (GAO) reviewed the 1-page summary of the status of GAO's work on communities needing relocation, which is included here in this meeting summary.

GAO Engagement subject: Alaska Native Village Relocation Efforts

Source for the work: GAO is conducting this work in response to a request made by the Senate Subcommittee on Disaster Recovery, Committee on Homeland Security and Governmental Affairs

Objective/key questions: This is an update to GAO's December 2003 study, *Alaska Native Villages: Most are Affected by Flooding and Erosion, Few Qualify for Federal Assistance* (GAO-04-142). Key questions are: (Q1) What flooding and erosion threats do Alaska Native villages currently face? (Q2) What federal and state programs are available to assist villages facing potential disasters? (Q3) What is the status of efforts to assist relocating villages? (Q4) How do federal programs provide and prioritize assistance to threatened villages?

Status: GAO has visited seven villages and spoken with various federal, state, and local government agencies. We have completed the design phase of our work and are currently conducting field work to address our key questions. We expect to have a completed report by mid-May 2009.

Villages visited: Alatna, Allakaket, Kivalina, Koyukuk, Shaktoolik, Shishmaref, and Unalakleet.

Other villages of interest: Chefornak, Elim, Golovin, Hughes, Huslia, Kipnuk, Newtok, and Nulato.

Agencies contacted: Departments of Agriculture; Defense's Army Corp of Engineers; Health and Human Service's Indian Health Service; Homeland Security's Federal Emergency Management Agency; Housing and Urban Development; the Interior's Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service; and Transportation's Federal Aviation Administration. We have also spoken to officials from the Denali Commission, the Bering Strait Housing Authority, the Maniilaq Association, the Tanana Chiefs Conference, Kawerak, the Northwest Arctic Borough, and the State of Alaska's Department of Environmental Conservation, Department of Commerce, Community, and Economic Development, and Division of Homeland Security and Emergency Management.

GAO contacts:

Jeffery Malcolm, Assistant Director, (202) 512-6536 (phone), (202) 512-8354 (fax), MalcolmJ@gao.gov
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End of 1-page GAO Summary

IAWG members suggested to GAO, for land issues, e.g. if land trades are needed—Newtok as an example, to review the Federal/State Land Commission, which was created under ANILCA, but subsequently dismantled. It was a useful coordinating body. J. Malcolm stated there are also models from the Navaho and Hopi.

IAWG members also asked if GAO will help identify who has authority in the federal government; who the lead agency should be, which should then help lead to improved service delivery. J. Malcolm stated that he believed the report will help to address this challenge and who has the authorities. These issues straddle emergency-side FEMA and State Emergency Planning and Response and how much GAO will get into disaster/emergency or just concentrate on the relocation will depend on the information gathered and complying with what GAO was charged to address within the scope of this audit/assessment.

Another IAWG member identified that if GAO could help identify if legislative or executive fixes are needed, and referred back to the land exchange example, that too would be useful.

S. Ivanoff stated that often full relocation isn't need, and including a migration model would be useful in the GAO's assessment. GAO indicated that it will address both by identifying the differences and special challenges of each.

GAO Requested – If there are other villages that see relocation as only option, please let him know who that is.

Emergency Management - 30 Year Review of Disasters in Alaska

Full report is forth coming. The following are excerpts from the discussion, but doesn't include the statistics and data presented, which EM is using as its basis for thinking on policy challenges and formulation.

EM is forming policy challenges based on randomness of disasters that can't be predicted, as there are no good predictable patterns except to look at the risks to a community - What are the risks? E.g., How much rain, water movement—trying to predict.

1. Identify the hazard (possibility)
2. Identify the risk (probability – vary from year-to-year)
3. Identify the threat (predict disaster in near-term couple days/week)

It was noted that communities often underreport/estimate damages – this happens a great deal where there is no public works director.

EM acknowledged this and has developed a process where EM staff now travels and contacts communities when disasters occur to ensure that they know about assistance programs and actually help them to document losses.

IAWG Recommendations for RNWG

The conversation continued about data, trends, organizations involved. This information is captured below. Co-Chair Black recommended this information be send on to the Research Needs Work Group.

J. Madden commented that there's a need to make sense of evidence/data to develop trends about both correlations and causal relationships. The report-overview led to the following reflections:

- Should include EM information about communities in currently-used databases

- DCRA (3), Denali Commission (1-new), and
- Identify relationships between potential risks with disasters – ice jams, floods, weather, temperatures (NOAA – need to focus on specific communities)
- Identify evidence that phenomena is occurring more frequently than 10 years ago, is happening at unusual times of year, and that phenomena is at record/dramatic levels (e.g. greatest or minimum on record) (NOAA – need to focus on specific communities)
- Identify maps available and those that are needed (DCRA and Fed-State integration work group – meet on Wed – 11/13)
- Taunnie Boothby (DCCED) reported that a Fed-State Interagency Hydrology Committee has identified data needs and letter has been drafted, will cc M. Black and other IAWG members.
 - Those collecting data/mapping have authorizations that they will consider requirements for flood plain analysis, but don't have to share info. There's no repository for saving/sharing the data.
- Data: Identify who has information and create repository to collect. Researchers often not required to provide information back to community or to a coordinated repository.
- To assess vulnerability of communities need to:
 - Identify what communities
 - Identify areas of communities
 - Identify public infrastructure
 - Identify lives/population

Update from Sub-Cabinet on Climate Change

(afternoon)

Commissioner Hartig joined the IAWG in the afternoon and reported tentative date for Sub-Cabinet meeting will be in the morning on 12/5 with the following as agenda items:

- Review IAWG Policy 1 & 2 at that time
- NCEP – National Commission on Energy Policy/working with D. White (UAF), draft report now out and begins building a framework for vulnerability and probability analysis for investing in projects (overview at Sub-Cabinet)
- SNAP - is another data gathering project to develop planning scenarios due to climate change from around the state - permafrost, dryness, sea storms, etc. to use for planning and engineering. (overview at Sub-Cabinet)
- CIP budget items

IAWG Policy #2 and Data/Research Needs Discussion

Purpose of this discussion was to provide the RNWG with some of IAWG's insights before it begins formally meeting. This was done in an effort to help them identify a strategy and outcomes that could be useful to them, and to convey some of the thinking about data and research needs that the IAWG developed during Jan- April 2008.

IAWG Discussion/Reflection on Policy #2: Responding/thinking about what the IAWG put together as recommended Policies for the April Report could assist IAWG with determining where we need to do now.

We need concrete recommendations, reactions, feedback and likely refined for the Sub-Cabinet. Could provide more or better identification of needs and strategy, including what's happening with other agencies. Currently, it's a very broad, general statement.

Policies IAWG came up with were based on specific needs and suggestions from individual communities. For the RNWG, it may want to consider taking this to a global/statewide level.

ANTHC (Steve Weaver) best summarizes the climate change risk assessment for what is needed on the ground and thinking about how to build for a statewide model. (Appendix in 4/17/08 report and information sent with 11/10 agenda).

S. Ivanoff added that what was needed from village perspective/for the villages is better networking/coordination and information sharing.

Bob P. added that each community may need different items/issues that must be researched.

IAWG Continuing Role on Data and Research

IAWG Co-Chairs reflected and questioned the continuing role of IAWG in fleshing out the data and research strategy. In its previous efforts (reflected in the 4/17/08 report) IAWG strived to capture as much of its thinking and deliberations as possible with the understanding that other work groups might be able to benefit from the IAWG's initial deliberations, as it was the first group working together to address climate change in this manner.

Some discussion about current Digital Mapping efforts occurred. This led to lengthy discussions about data and information needs and linkages, what RNWG's role should be, and recommendations and suggestions from the IAWG. The following captures salient points during the discussion.

Bob P. reflected that the IAWG has been focused on vulnerable communities, and collecting data, or trying to understand what data is available, where/who has it and what data is needed/ missing in order to more effectively assist vulnerable communities. EM, ANTHC and Denali Commission have data/info, but aren't/don't do research—they have the need for data however. Need statewide data - vertical data, predictions, etc.; history of disasters.

RNWG Requests/Suggestion for Problem Statement: Looking to the Sub-Cabinet to develop a problem statement for the RNWG - dates for products, State's responsibilities – for capital and operations. What does Sub-Cabinet want – policy, data, research strategy, RNWG to define/identify priorities? Need to paint a statewide picture.

Priority Vulnerability Assessment (EM does this at a community level) but it doesn't address Sustainability and Viability.

Additional thinking indicated barriers to research, failure in the system.

Example: UA: modeling what size of scale? Design to a conservative scale?

Design to be a useful end product—could help frame that. Would like engineering standard to.... Can science do this? SNAP a long ways from this.

Can engineer but if costs million per household is it feasible? Need to come up with standards. Cost per unit and can still fund.

Need a way to get everyone on the same page. (To have the appropriate data available to decision makers and communities at right time/same time.)

C. Adler specifically asked about IAWG Policy #2-4—what is happening with these recommendations? Would be good to have it fleshed out more for Research Needs and other TWG Groups.

T. Opheen responded that there's collaboration with NOAA on Data Integration—could be on the agenda at the next meeting. There are 4 components of Policy #2 and need help with all 4 components.

Discussion: Taking RNWG Request to Sub-Cabinet

L. Hartig said he can see this as a recommendation that can come forward to the Sub-Cabinet. It needs to be put in a way to get a helpful response - What actions do you want to take?

Likely need to talk with Mike, Trish and Meg to distill down – to no more than 6 things. Not sure what the patterns are right now.

Clint: Need to provide feedback to L. Hartig and approaching Sub-Cabinet—what should the State’s role be? How should we collaborate? Etc.

L. Hartig followed with actions State could take, can influence Federal actions and can successfully address if can influence in a positive way.

L. Hartig also thought a lot of this will be brought forth at Wed. Roundtable Meeting (a fed/state meeting on mapping/data)

IAWG Policy Suggestion for Infrastructure Work Group (an additional outcome of discussion):

Co-Chair Mike B. reflected that what is likely needed is to pull together all existing data into one entity.

John M. added that the I-TWG needs to inventory all communities, all regions—but NO one entity has this information and there is no central repository for the information.

Bob P. suggested that such a data project needs to identify potential risks, recurring costs, unit of action and region of understanding.

Additional Reflections:

Compilations don’t get easier as data that needs to be gathered continues to grow and figuring out how to use the data/information effectively doesn’t get any easier.

Identifying biggest threat—not straight forward. Determining what is most vulnerable—Takes right talent and models need to be available.

IAWG Co-Chair Request to IAWG Agencies and Others to Identify Data Available: Invited everyone to provide information about the type of data that their programs/agencies have that could address the various issues and questions that have presented themselves in this discussion. E.g.- Erosion; permafrost; warming; what is built – infrastructure – state, local federal CIP and responsibility for operations; vulnerability; funding sources/needs.

IAWG Co-Chair further suggests to Sub-Cabinet to Request Data that data requests should be on the Sub-Cabinet’s website, inviting everyone to provide data that they have that could answer questions, identify where data is located. This could be on erosion, permafrost warming, what is built, vulnerable, etc. Need to create a database to retrieve.

IAWG Co-Chair Request to Sub-Cabinet Chair to Request Input on IAWG Policies and ask them to reflect on them to provide additional direction to IAWG/RNWG. *Are they valid ideas and how to advance?* Their input could assist IAWG in determining what direction we should take now. Concrete recommendations, reactions and feedback would be useful from the Sub-Cabinet, including what’s happening with other agencies.

IAWG Co-Chair Requests IAWG to Review Policy #2 was to look at background Steve Weaver provided, then revisit Policy #2 Recommendation with its 4 elements.

It will be useful to have reactions from the other TWGs, AAG and MAG, but may be awhile before that’s forthcoming, and the IAWG has a limited schedule (end of Jan).

Sub-Cabinet Chair and IAWG Suggestions for 12/5 Sub-C Meeting Regarding RNWG: Need to develop library reference—How to create the knowledge needed and library reference to then be able to influence what we do collectively. Source of information who is doing what doing research. Frame-up what research needs to be done and make information accessible (note discussion on Alaska Environmental/Engineering Atlas – AEDIS - now digital, but many don't know/aren't using it.)

Also suggested look to Canada and its vulnerability assessment model.

IAWG Policy Suggestion on Data, Including Infrastructure: During one of the discussions the following was identified as recommendations for others – not for IAWG.

There needs to be a policy regarding data, including compiling information about infrastructure that can then be analyzed and given to another work group.

Some ideas from IAWG to do this were:

- Look at USACE (Bruce) and ANTHC (Steve) assessment/criteria tools. Consider in terms of public infrastructure and vulnerability assessment tools, and what kind of information can it be provide.
- Target Western Alaska
- NOAA - Vertical data needs more work. Lot of gap analysis. Need joint funding.
- State needs to put money on the table – including in-kind such as putting cameras on state planes. Have tested equipment in Kachemak Bay, can now use for coastal Western Alaska in FY 10. Some data available, but not at level of detail that's needed/useful.
 - How will data tie to community strategy?
 - How to tie in to tide gauge priority?
 - How is vertical data collected and used? (does link wave) - Very important in how we design protective
 - measures, communities we look and submit back to Jack Dunagan
 - How to disseminate data?
- C. Adler: Mapping group needs to sit down and figure this out – develop a strategy for who, what, how when, where. University should be part of this.
 - Alaska Statewide Initiative: www.alaskamaps.org - Has already addressed much of what is being discussed.
- EGIS – T. Opheen, A.Holman, B. Swenson and C. Adler all participate in, and could be a group to help develop a strategy

C. Adler talked about ADOT/USACE had originally worked together to provide training sessions for the web-based AEDIS, but didn't catch-on; folks on using. This information could be useful and been trying to form a problem statement to figure out why it isn't being used. Updates on-line still a framework that could have “more fruit hung on the tree”. AEDIS (Alaska Engineering Design Information System). Needs more support/additional funding to realize its potential— SNAP is building onto what AEDIS has done. Can link AEDIS and SNAP tools. But there's a lack of coordination within the State to know about and use this tool.

C. Adler—looking at the policy—what to do with this.....

How to coordinate and augment – the RNWG members have the working knowledge.

T. Opheen talked about a statewide data collection effort: NOAA, AOOS and USGS began meeting 3-4 months ago. Trying to create standards so data collection can be more compatible ---ideal group to bring

questions about RNWG effort back to. Later, Trish confirmed with the data group leads that they would hold such a meeting – date/scheduling will be the hurdle.

Bob P. offered that (Dr.?) Mark Shasby, who has had many years in Alaska is newly appointed as the USGS Alaska Regional Director. USGS critical player in data collection efforts.

Updates from Previous Meetings

Budget Placeholder

Co-Chair Black requested \$7.56 million as a budget placeholder to the State's Office of Budget & Management director, Karen Rehfield, for follow-on projects to the FY09 projects.

IAWG Deadline – December 5, 2008

State Budget Programmatic Name

Purpose: To identify state's funds for leveraging federal (USACE) funds

Decision: Governor's Sub-Cabinet on Climate Change

IAWG Membership

It was suggested at 10/28 meeting that perhaps someone from the University should participate.

Decision: No, can request to meet with specific University expert if/when needed.

MVA Commissioner on Sub-Cabinet

Likely come before the Sub-cabinet

Previously Mentioned Policy Issues/Potential Recommendations

Range of Potential Threats that May Not be Related to Climate Change

Need to identify IAWG's role in this. (link to climate change)

J. Madden's Division will take lead in developing draft IAWG policy recommendation.

Background information in 10/28 meeting summary, in 30 year EM report

Need to link to climate change for IAWG to legitimately address:

What phenomena do we expect with a warming climate?

- Ice free conditions
- Erosion
- Sea level rise
- Permafrost degradation
- Forest Fires

Need to consider who should fund.

Need to identify other funding sources: Disaster relief funds as in other states

Policy on Funding Maintenance and Operations

Mike Coffey lead – will try and have draft on 12/5

Comments:

Mike B.: From DOT's stand point - easier to get Capital rather than Maintenance funds.

Could reflect on, and observation and let us know State Assets, Revetments for USACE —and city.

Maintenance needs to relate to revetment projects; 15 yr life without maintenance. With maintenance, life would be longer, but local communities don't have the funding. This leads to questions—why wouldn't we put monies for maintenance.

J. George: Shoreline erosion is another consequence—multiplied or declined to a point other infrastructure is delayed. Flooding v Erosion

John M.—hazard mitigation is another benefit of maintenance.

Trish—Decision efforts/analysis look at 5 years, 10 years. DOT could look at maintenance; at some point—need to look at all viable solutions.

Mike B.—ISER – Sustainability for Rural Communities; Steve Colt—UAA the communities could operate so they wouldn't have a problem if they had more maintenance funds. But Legislature and Congress prefer to prefer Capital budget.

New Policy Issues/Potential Recommendations

Institutionalize Collaboration Across State and Federal Agencies or *How does IAWG get out of this business?*

Need to institutionalize collaboration across state and federal agencies to address complex issues that require agencies with a variety of authorities and different funding sources to address complexities. (How does IAWG get out of this business?)

Discussion lead to the State needing to go beyond climate change, as it's difficult - information/data doesn't exist to fully separate out what is/isn't Climate Change. Perhaps should be something like EPA's Climate Change Program

State Should Take Credit for its Climate Change Efforts

State needs to take full credit for amount put into Climate Change. Especially with new federal administration, which will likely address Climate Change differently than current administration.

Public Comments

Note: Public Comments were heard shortly before lunch and at the end of the meeting. Both sets of comments are compiled here.

Fred Eningowuk, Shishmaref:

Suggested talking with Elders to identify changes and learn from their experiences.

Facilitator asked if Fred was aware of anyone currently documenting traditional knowledge in Shishmaref. Fred said no, wasn't aware of anyone at this time.

But added—*Conditions are changing from when he was growing up.*

Frank Myomick, St. Michaels

Offered that contaminates exposure from old FUDs dump sites are a greater concern/threat with erosion and melting permafrost these contaminants have a greater threat of entering the soils and water sources – both for drinking and habitat. Frank noted that he thought a UAA study was underway to study permafrost conditions.

Steve Ivanoff, Unalakleet

Reiterated his interest in getting definitions of Erosion and Flooding for the purposes of identifying how to help communities.

4:00 pm Meeting Closed