

2011 Policy and IAWG Procedural Recommendations

Policy Recommendations

1) IAWG seeks authorization by the Subcabinet on Climate Change, or the Governor, to advance its recommendations on identifying new projects or communities. The IAWG recognizes that its recommendations may be modified through this Cabinet-level review. In order to provide meaningful input to align with developing the FY13 budget, the IAWG needs this authorization by DATE (May, June, July 1, 2011?). If the authorization isn't received by that time, the IAWG will then recognize that it has served its purpose to assist the state in developing projects and programs to prevent loss of life and property in Alaska's communities due to impacts likely caused by climate change. IAWG then closes its efforts by leaving well-documented recommendations and its rationale for others to use in the future.

2) Depending on outcome to identify new projects or communities, determine if recommendation to change legislation/regulations for ACCIMP procedures is needed.

3) Identify from 2009 report, which Policy Recommendations should be brought forward, if any. (See 2009 Policy Summary on Pages 2 – 5; Full 2009 Policy Recommendations on Pages 5 -18 of this document)

4) The State of Alaska should explore and Identify both state and federal policies and regulations to make recommendations about removing policy/regulatory barriers to promote and support community sustainability, including stay-in-place, migration, and relocation strategies.

Examples:

- NEPA and EIS requirements preclude actions that can be taken in a time efficient manner.
- If biomass is a viable, renewable energy source, accessing harvestable feedstock may require EIS's. It's been suggested that a programmatic EIS be considered.

IAWG Mission/Charter/Tasks

1) IAWG's mission should to be broadened, such that climate change is part of the mission, but not the mission. Suggestions include Arctic Strategy or Partnerships for Sustainable Communities.

2) Redefine/re-label communities being supported by IAWG recommendations and efforts, so that state/federal agencies continue to provide funding for communities' needs.

3) Explore IAWG's mission/charter to see whether it should be expanded to address the best practices of infrastructure development in climate change affected communities and regions. This should include examining the work of the Infrastructure Development / Adaptation Workgroup's recommendations to integrate more deliberately into IAWG's recommendations. An example is the wise design, siting and construction of infrastructure that recognizes the hazards and changing

conditions manifest in many regions of the state is simply a smart approach to the investment of public and private dollars.

- 4) Identify and support the appointment of a State IAWG Co-Chair or Chair.
- 5) Explore IAWG name change, perhaps to Infrastructure & Adaptation Workgroup.
- 6) Identify a system to evaluate the outcomes of the work done/accomplished based on IAWG recommendations. The purpose of evaluation is to identify lessons learned and improve implementation.
- 7) Identify resources to develop detailed report (research quality) on Newtok, as a model for relocation efforts and as a how-to for future efforts.
- 8) Identify means to effectively brief new Climate Change Sub-cabinet.

IAWG Membership /Structure

- Review/revise membership, especially if mission is broadened, e.g., BIA.
- Structure may need to be clarified so that IAWG members are state representatives; others participating are advisors.

2009 Summary of Strategic and Community Assistance Recommendation Policies

The following summarizes IAWG's policy recommendations, which are further detailed in the Policy section of this report as well as in Appendix A. The IAWG has created working relationships that can help to advance these recommendations in a meaningful and cost-effective manner, which is why the IAWG is *recommending that the Subcabinet refer the next steps to advance these policies back to the IAWG.*

Based on the IAWG's 2009 efforts where we brought together information and data from various agencies to identify the next six communities in need of immediate action, we found:

- There is no consistency in criteria, timeline, weighting, data acquisition technique or analysis to determine if impacts are from climate change.
- No framework exists for the comprehensive identification, analysis, and dissemination of current data or the methodical acquisition of new research to support new policy options.
- Without new policy options state and federal agencies are severely limited in their ability to integrate or identify data, research, programs or projects necessary to mitigate or prevent impacts to communities.
- We were unable to, with confidence, identify the next six communities for immediate action.

The IAWG then combined these findings with what most in public service already know, and that is many capital projects need years of planning, engineering, design and time to identify complementary federal funding.

From this, the IAWG recommends:

- **An integrated, multi-agency and inter-governmental approach to effectively identify and address the needs of communities that are potentially in peril.**

The outcome and benefit of this integrated approach has:

- Significant potential to save money on public infrastructure, avoid costly delays, save funds through economies of scale and combining mobilization, mitigate the effects and costs of disaster relief and recovery.

POLICY 1: ESTABLISH A STATEWIDE SYSTEM TO DOCUMENT, ASSESS, AND ANALYZE CURRENT AND PLANNED PUBLIC INFRASTRUCTURE TO PROTECT EXISTING AND FUTURE INVESTMENTS AND PREVENT THREATS TO LIFE IN AN UNCERTAIN ENVIRONMENT

The Immediate Action Workgroup offers a model for a statewide system that integrates information from all state departments, local entities, and federal agencies on current and planned public infrastructure and capital projects in communities currently or potentially affected by climate change. This system will enable a more rapid identification of community needs and vulnerabilities, and more informed decisions on the future repair, retrofit, replacement, or relocation of critical infrastructure. Further, the IAWG believes, this statewide system will create a more cost-effective means to make decisions about public infrastructure needed to ensure community safety and economic viability.

IAWG Recommended Action to Subcabinet: Adopt Policy 1 and provide the IAWG with guidance to develop implementation options for this policy. At a minimum the guidance should instruct that options should include identifying benefits, challenges, and effective organizational structures for implementation. This integrated system will create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance should also include melding the relevant Adaptation and Mitigation Advisory Groups' products with this statewide system to reach a desired outcome of integrated actions in order to address what seems to be increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective statewide system.

POLICY 2: SUNSET THE IMMEDIATE ACTION WORKGROUP AND DIRECT THE RELEVANT STATE AGENCIES TO ESTABLISH AN INTERAGENCY COLLABORATION WITH EACH OTHER, ALONG WITH RELEVANT FEDERAL AGENCIES AND COMMUNITIES. THIS COLLABORATIVE REQUIRES REGULARLY SCHEDULED MEETINGS TO COORDINATE INFORMATION, PLANNING, EVALUATION AND DECISIONS ON PUBLIC INFRASTRUCTURE FOR THOSE COMMUNITIES IMPACTED BY CLIMATE CHANGE PHENOMENA.

The Immediate Action Workgroup believes that the outcomes and results of its ad hoc collaborative efforts over the past year have been exceedingly useful and should be integrated into agencies' operational efforts. This policy recommendation should be viewed as an interim step to implementing Policy 1 above. Once Policy 1 is established as a strategic operational mechanism, then this Interagency Collaborative should be integrated, reformulated or discontinued, depending on the structure and needs of the Statewide Office.

IAWG Recommended Action to Subcabinet: Adopt Policy 2 and provide the IAWG with guidance to develop options to accommodate the transition described in Policy 2. At a minimum the guidance should instruct that options include identifying benefits, challenges, and effective organizational structures for implementation. This precursor to an integrated system will set the framework to create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance to the IAWG should also include melding the relevant Adaptation and Mitigation Advisory Groups' products into options for Policy 2. This would be in an effort to reach the desired outcome of taking integrated actions to address the increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective interagency collaborative while a statewide integrated system is being established.

POLICY 3: ASSISTANCE TO COMMUNITIES IN PERIL MUST UTILIZE COMPREHENSIVE INTEGRATED PLANNING AND VIABLE, FUTURE-ORIENTED SOLUTIONS WITH FUNDING THAT ALLOWS FOR SUSTAINABILITY WHETHER THE COMMUNITY REMAINS IN PLACE, USES A MIGRATION STRATEGY OR NEEDS TO RELOCATE.

The Immediate Action Workgroup believes that comprehensive integrated planning must be used to implement solutions for communities in peril. The planning process must integrate the expertise and resources available from the various state and federal agencies as well as community and regional stakeholders. Flexible funding streams should be sought; and may need to be created, to accommodate the needs associated with preserving the options available for protecting public infrastructure and preventing loss of life. These options range from staying in a community's current location, to a migration strategy, to full relocation. All of these options should integrate the concepts of sustainability into the design, location, and attributes of projects, and if relocating, into future settlements. (See IAWG Sustainability Considerations in Appendix B) Existing and new funding mechanisms for responding to climate change hazards should also provide for adaptation and mitigation measures. In seeking funds for adaptation and mitigation, an examination of current federal and State statutes needs to be conducted to identify limitations in addressing these measures. The Stafford Act, for example, limits the ability of the State to deal effectively with communities in peril.

IAWG Recommended Action to Subcabinet: Adopt Policy 3 and provide the IAWG with guidance to develop implementation options for this policy. At a minimum the guidance should instruct that options should include identifying benefits, challenges, and effective organizational structures for implementation. This comprehensive planning system is a key component to create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance to the IAWG should also include melding the relevant Adaptation and Mitigation Advisory Groups' products with comprehensive integrated planning to reach a desired outcome of integrated actions in order to address what seems to be increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective comprehensive integrated planning system, which also must be a key component of the statewide system identified in Policy 1.

POLICY 4: THE STATE OF ALASKA WILL LEAD A COORDINATING EFFORT TO DEVELOP A COMPREHENSIVE STATEWIDE DATA COLLECTION AND EVALUATION SYSTEM THAT PROVIDES FOUNDATIONAL INFORMATION FOR COMMUNITY AND BUSINESS DECISIONS AND SOLUTIONS LEADING TO EFFECTIVE RESPONSES AND ADAPTATION STRATEGIES TO ADDRESS CLIMATE CHANGE IMPACTS.

Through the Subcabinet Climate Change Strategy process, various components of a statewide data collection and evaluation system have been identified, yet components need to be coordinated in order to understand and use the information effectively. The phenomena of climate-related impacts are not well understood and the impacts themselves are also uncertain. The State of Alaska, playing the coordinating role, will bring together state agencies, university resources, and federal and local stakeholders to develop an effective data collection and evaluation system. The likely outcomes of this effort will be to identify what data exists in order to build forward from existing data and maps; what format it is in and what technology is needed for the systems to “talk” with each other; what data is needed but missing; and what funding is needed to identify, collect, analyze and disseminate data in order to address impacts from climate change phenomena. Response strategies should be developed through adaptation impact analysis and modeling to identify near-term scenarios for options ranging from protecting what’s in place, migration and full relocation.

IAWG Recommended Action to Subcabinet: Adopt Policy 4 and provide the IAWG with guidance to develop implementation options for this policy. At a minimum the guidance should instruct that options should include identifying benefits, challenges, and effective organizational structures for implementation. This comprehensive data system is another key component to create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance to the IAWG should also include melding the relevant Adaptation and Mitigation Advisory Groups’ products with this statewide data collection and evaluation system to reach a desired outcome of integrated actions in order to address what seems to be increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective integrated data system. This system must also be a key component of the statewide system identified in Policy 1.

2009 FULL RECOMMENDATIONS

Strategic and Community Assistance

Recommendation Policies

Last year, the IAWG recommended policies to advance comprehensive integrated planning and a comprehensive statewide data collection and evaluation system. In this 2009 report, we carry those recommendations forward as Policy Recommendations 3 & 4, and include additional detail to them, which the IAWG believes will help to effectively initiate and implement those policies.

IAWG adds two new policy recommendations, and because they are more strategic and overarching in nature, those policies are identified as Policies 1 & 2. Policy 1 addresses how Alaska could create an integrated system of information, analysis and evaluation to make cost-effective decisions on public infrastructure, and Policy 2 addresses the role of the Immediate Action Workgroup and helps to advance Policy 1.

IAWG’s policy recommendations, for which the justification is further detailed in [Appendix A](#), are described in this section. The IAWG has created working relationships that can help to advance these recommendations in a meaningful and cost-effective manner, which is why the IAWG is *recommending that the Subcabinet refer the next steps to advance these policies back to the IAWG.*

One of the anticipated outcomes of the IAWG’s 2009 efforts was to identify the “next six” communities in need of immediate action, due to impacts from climate change phenomena.

Climate change phenomena have been identified as:

- Lack of sea ice
- Change in extent of sea ice
- Timing of sea ice
- Increased effects of storm surges unbuffered by shorefast ice
- Erosion due to flooding or permafrost melt
- Flooding
- Permafrost melt
- Wild fires

The various IAWG participating agencies were able to identify over 150 communities of concern based on their mission-specific programs. ***However, not one agency had analyzed their actions, nor responded to community needs based on climate change.***

Based on the IAWG's 2009 efforts where we brought together information and data from various agencies to identify the next six communities in need of immediate action, we found:

- There is no consistency in criteria, timeline, weighting, data acquisition technique or analysis to determine if impacts are from climate change.
 - No framework exists for the comprehensive identification, analysis, and dissemination of current data or the methodical acquisition of new research to support new policy options.
 - Without new policy options state and federal agencies are severely limited in their ability to integrate or identify data, research, programs or projects necessary to mitigate or prevent impacts to communities.
 - We were unable to, with confidence, identify the next six communities for immediate action.
- Many state and federal agencies and academia are researching potential projects, programs and research efforts to assist communities that are impacted, or potentially impacted by climate change phenomena. However, each agency is working from differing sets of assumptions, approaches and timelines.
 - State and federal agencies are severely limited by this lack of integration for data, research, and program or project development.
 - This environment of uncertainty increases the risk of many communities of facing extreme risks from the unknown effects of natural disasters.
 - The traditional “stove-piped” approach of creating and managing government programs ensures a narrow, myopic view of community needs and places the individual programs in competition for approval and funding.
 - This segregated approach increases the uncertainty of funding but decreases the potential for meaningful and comprehensive assistance.
 - The State of Alaska, just as the federal government, plans for and manages programs primarily through individual departments. The priorities are set usually during budget formulation for the next budget cycle. However, many capital projects need years of planning for engineering study and design and for the identification of federal funding. These funding decisions occur for each individual agency and often are without consideration of other state or federal projects that may be in potential conflict for the same community or region.

From these findings, the IAWG recommends:

- **An integrated, multi-agency and inter-governmental approach to effectively identify and address the needs of communities that are potentially in peril.**

The outcome and benefit of this integrated approach has:

- Significant potential to save money on public infrastructure, avoid costly delays, save funds through economies of scale and combining mobilization, mitigate the effects and costs of disaster relief and recovery.

POLICY 1: ESTABLISH A STATEWIDE SYSTEM TO DOCUMENT, ASSESS, AND ANALYZE CURRENT AND PLANNED PUBLIC INFRASTRUCTURE TO PROTECT EXISTING AND FUTURE INVESTMENTS AND PREVENT THREATS TO LIFE IN AN UNCERTAIN ENVIRONMENT

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1) A statewide system to make timely and cost effective decisions for both the public and private sectors must include:

- a. Identifying all data on public and critical infrastructure from:
 - i. State agencies
 - ii. Federal agencies
 - iii. Denali Commission
 - iv. Local governmental entities, including tribal entities
 - v. Non-governmental organizations
 - vi. Private sector
 - vii. Academia
- b. Consolidating and linking together data to:
 - i. Enable queries for agencies and communities
 - ii. Improve quality of data and databases
- c. Analyzing data to:
 - i. Identify and fill gaps in data
 - ii. Determine status and capability of current infrastructure
 - iii. Determine useful life and future plans for repair, renovate, retrofit, replacement, or relocation
 - iv. Determine vulnerabilities to climate/weather and other environmental/economic factors
 - v. Identify all funding and budget streams
 - vi. Identify conflicts between agency plans
 - vii. Resolve conflicts for timely implementation
- d. Integrating policy to:
 - i. Improve policy coordination between agencies – timing, impacts, integration
 - ii. Determine effects of proposed policies
 - iii. Test assumptions of climate, economic trends and strategic directions
 - iv. Determine effects of non-state policies and budgets
 - v. Update analyses for new data information
 1. Weather patterns/flood plains/mapping
 2. Economic assumptions

3. Changes in demographics
 - vi. Document out-year O&M costs
 - vii. Calculate life cycle costs
 - viii. Contribute data to budget formulation

- 2) **A statewide system to make timely and cost effective decisions for both the public and private sectors must be based on a collaborative decision making model that consistently includes:**
 - a. Key stakeholders
 - b. Identified timelines and outcomes
 - c. Streamlined process to minimize unnecessary effort and transaction costs of developing and carrying out the statewide system

- 3) **A statewide system to make timely and cost effective decisions for both the public and private sectors must be based on an organizational structure that likely possesses the following characteristics:**
 - a. Executive order to establish and create structure
 - b. Senior State Executive as manager
 - c. Small staff
 - d. Non-centralized and non-bureaucratic system
 - e. Implementation (planning and building capital projects) is through existing agencies/authorities
 - f. Monitor to make sure things progress in proper order
 - g. Identify and integrate new opportunities, such as the likelihood of cap and trade
 - h. Identify and integrate old challenges, such as timely processing of permits and integrating sustainability into communities and economies in remote Villages

Rationale:

- The number of communities potentially impacted by climate change phenomena is growing
- The locations of these communities are spread across the entire state of Alaska.
- The ability to identify which community or piece of infrastructure is most at risk cannot effectively be done given current procedures that are not linked and coordinated.
- Coordinating and linking procedures, organizational structures and leveraging budgets will be most effective if a collaborative approach is used to identify, assess, and make and implement decisions.

Implementation – Initial Steps

IAWG Recommended Action to Subcabinet: Adopt Policy 1 and provide the IAWG with guidance to develop implementation options for this policy. At a minimum the guidance should instruct that options should include identifying benefits, challenges, and effective organizational structures for implementation. This integrated system will create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance should also include melding the relevant Adaptation and Mitigation Advisory Groups’ products with this statewide system to reach a desired outcome of integrated actions in order to address what seems to be increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective statewide system.

POLICY 2: SUNSET THE IMMEDIATE ACTION WORKGROUP AND DIRECT THE RELEVANT STATE AGENCIES TO ESTABLISH AN INTERAGENCY COLLABORATIVE WITH EACH OTHER, ALONG WITH RELEVANT FEDERAL AGENCIES AND COMMUNITIES. THIS COLLABORATION

REQUIRES REGULARLY SCHEDULED MEETINGS TO COORDINATE INFORMATION, PLANNING, EVALUATION AND DECISIONS ON PUBLIC INFRASTRUCTURE FOR THOSE COMMUNITIES IMPACTED BY CLIMATE CHANGE PHENOMENA.

The Immediate Action Workgroup believes that the outcomes and results of its ad hoc collaborative efforts over the past year have been exceedingly useful and should be integrated into agencies' operational efforts. This policy recommendation should be viewed as an interim step to implementing Policy 1 above. Once Policy 1 is established as a strategic operational mechanism, then the IAWG should be integrated, reformulated or discontinued, depending on the structure and needs of the Statewide Office.

Implementation – Initial Steps

IAWG Recommended Action to Subcabinet: Adopt Policy 2 and provide the IAWG with guidance to develop options to accommodate the transition described in Policy 2. At a minimum the guidance should instruct that options include identifying benefits, challenges, and effective organizational structures for implementation. This precursor to an integrated system will set the framework to create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance to the IAWG should also include melding the relevant Adaptation and Mitigation Advisory Groups' products into options for Policy 2. This would be in an effort to reach the desired outcome of taking integrated actions to address the increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective interagency collaborative while a statewide integrated system is being established.

POLICY 3: ASSISTANCE TO COMMUNITIES IN PERIL MUST UTILIZE COMPREHENSIVE INTEGRATED PLANNING AND VIABLE, FUTURE-ORIENTED SOLUTIONS WITH FUNDING THAT ALLOWS FOR SUSTAINABILITY WHETHER THE COMMUNITY REMAINS IN PLACE, USES A MIGRATION STRATEGY OR NEEDS TO RELOCATE.

The Immediate Action Workgroup believes that comprehensive integrated planning must be used to develop and implement solutions for communities in peril. The planning process must integrate the expertise and resources available from many state and federal agencies working with community and regional stakeholders. Flexible funding streams should be sought; and may need to be created, to accommodate the needs associated with preserving the options available for protecting public infrastructure and preventing loss of life. These options range from staying in a community's current location, to a migration strategy, to full relocation. All of these options should integrate the concepts of sustainability into the design, location, and attributes of projects, and if relocating, into future settlements. Existing and new funding mechanisms for responding to climate change hazards should also provide for adaptation and mitigation measures. In seeking funds for adaptation and mitigation, an examination of current federal and State statutes needs to be conducted to identify limitations in addressing these measures. The Stafford Act, for example, limits the ability of the State to deal effectively with communities in peril.

Implementation – Initial Steps

- **IAWG Recommended Action to Subcabinet:** Adopt Policy 3 and include guidance to the IAWG to develop more detailed implementation options in coordination with the appropriate stakeholders

Five major actions are necessary to address and advance assistance to communities in peril. Each of the five includes a description of the action, rationale and implementation steps for each action.

1) Comprehensive Integrated Planning must include:

- a. Suite of Community Emergency Planning Efforts.
 - i. Community Evacuation Plans.
 - ii. Community Emergency Operation Plans.
 - iii. Hazard Mapping, Hazard Analysis, and Mitigation Plans.
 - iv. Preparedness Activities to include outreach, training, and exercises.
- b. Community Wildfire Protection Plans for communities at significant risk of wildfire.
- c. Expansion of Comprehensive Community Plans to encompass strategic options to address and mitigate climate change impacts of stay in place, migrate and if necessary, relocation
- d. Community-based decision making approach will ensure continued focus to achieve the necessary end result.
- e. Local, Regional, Tribal, State, and Federal partnerships.
- f. Strategies that address incorporated and unincorporated community eligibility for the National Flood Insurance Program (NFIP), which likely require statutory changes by the State of Alaska.
- g. Enhancement and expansion of DCCED/DCRA's partnership with the Alaska Coastal Management Program (ACMP) to enable more effective assistance to the communities in peril and at significant risk.
- h. A strategy to consolidate various programmatic and grant reporting requirements into a single format that reinforces comprehensive integrated planning.
- i. A strategy to collect and utilize needed data and to develop data where gaps exist, including sustainability principles and strategies. (See Policy 2).

Implementation actions:

- Inclusion of native villages, tribal governments, and other land owners in collaboration with agencies during the planning process provides a wide range of benefits from broad-based community support and commitment to specifics such as land relocation issues. Communities take the lead and receive significant support from state and federal entities.
- Ease the administrative burden on remote communities by establishing a shared web-based system as an initial step toward consolidating program and grant reporting requirements into a single format.
- Identify coordinating and participating agencies and develop necessary Memoranda of Agreement (MOAs).

Rationale:

- Comprehensive planning has multiple benefits identified throughout this document. Comprehensive planning increases the ability to address complicated land exchanges involving multiple parties with permitting such as complying with NEPA requirements. NEPA requires the review of the effects of all federal, federally-assisted, and federally-licensed actions at any proposed new village site, including, but not limited to: Estate permits, endangered species, coastal consistency, essential fish habitat, and a host of other regulations and requirements recognizing agencies with funding or potential projects. Increased collaboration should focus on solutions such as a Programmatic EIS that

can be developed which addresses many of the general issues involved in a proposed relocation. Once a lead agency is identified for NEPA some of the challenges the lead federal agency may encounter include, and can be most effectively addressed through coordination and cooperation, are:

- Identification of coordinating and participating agencies and development of necessary Memoranda of Agreement (MOAs).
 - Identification of funding to undertake a NEPA analysis if such funding is not in the current project budget.
- Waiting for a disaster event that forces relocation will result in unnecessary risks to life/safety and extraordinarily complex response/relocation/recovery.
 - Foundational plans (flood plain mapping, orthographic and geologic mapping, hazard mitigation planning, community and regional emergency and evacuation plans) are critical building blocks for comprehensive community relocation planning. Only through integration of these plans can we characterize possible relocation sites, identify hazards, and locate potential construction materials resources
 - Adoption of a formal State Hazard Mitigation Program integrated with federal hazard mitigation programs would help protect current investments in communities and preserve the options during the decision making process for possible relocation.
 - Preparedness activities provide opportunities for communities to test and modify plans in non-emergency situations.
 - A Comprehensive Community Relocation Plan is essential to informed planning for communities in peril and is anticipated to significantly reduce costs compared to disaster-related response costs coupled with non-comprehensive approaches to mitigation and relocation.
 - The full costs of not relocating a community in peril, e.g. erosion control at a current site and repair/replacement of essential public facilities should be considered when developing relocation policies and priorities. This analysis should also review projected costs based on different timeframes to relocate. This can provide policy makers as well as taxpayers better information from which to consider cost effective alternative.
 - Unincorporated communities are not currently eligible for the National Flood Insurance Program (NFIP) and the State must address this issue. Under existing statutes, the Legislature has responsibility for land-use issues for unincorporated areas of the state. Therefore DCCED and the Department of Public Safety, Division of Fire and Life Safety should develop recommendations and implementation strategies for the Legislature to consider, that addresses incorporated and unincorporated community eligibility in the NFIP.
 - Imperiled communities are overwhelmed with the level of paperwork and documentation required by various agencies for grant and regulatory and other compliance. Alaska's small remote villages have the capability but lack the staff to handle this onerous documentation and reporting requirement for each funding stream.. It would greatly help viability and functionality of a remote village if funding agencies could, wherever possible, collaborate and provide integrated report/documentation that could serve the purpose of all funding agencies.
 - Obtaining and administering government funds can be a challenge for small communities. Local capacity limitations place many rural communities at a competitive funding disadvantage. Because there is no dedicated funding source for erosion and/or relocation, imminently threatened communities must rely upon existing programs to meet erosion/relocation needs, yet few have the expertise to identify, write, secure and administer grants.

2) Flexible Funding Streams must accomplish:

- a. Analysis of projected costs of all viable relocation alternatives, including the costs of remaining in place
- b. Emergency, hazardous and evacuation plans for communities in peril to prevent loss of life when a natural disaster occurs
- c. A means of prioritizing project funding from many sources for many communities for the most effective results. This includes providing capacity building opportunities in communities by funding local training or consulting efforts, where needs have been identified.
- d. State funding to attract federal funds.
- e. Sufficient full-time employee positions for state agencies taking a lead or participative role to address expanded agency functions.

Implementation Actions:

- Develop investment guidelines and priorities to address critical infrastructure for communities-in-peril. Guidelines should include an assessment to identify critical needs, similar to the DCCED RUBA program. Guidelines must consider the need to swiftly respond to emerging changes in climate, hazards, and research.
- State appropriations must be synchronized with federal appropriations to better position our coastal erosion needs in the federal process. State appropriations should be distributed through a grant process consistent with the Policy recommendation in paragraph 3. DCCED should be the coordinating agency. Distribution of funds the first year will come with a requirement to identify the Immediate Actions scope, schedule and budget prior to the release of funds for any construction contracts.
- Identify funding to undertake a NEPA analysis if such funding is not in the current project budget. Funding sources, such as through AHFC, encompass new construction but not funds to rehabilitate a damaged structure or one that needs to be moved out of imminent danger, even when the costs of doing so may be substantially less than replacement (e.g., less than \$20,000 to save a home). A funding mechanism is needed to stage structures, to stabilize and move infrastructure in imminent danger before the damage is inflicted. Identifying secondary and preventative protections can be accomplished through agency coordination with the community. However, specific assessment tools are lacking as are the entities most appropriate to apply them. These must be identified and applied in a coordinated and site specific effort. The tool(s) should identify at-risk facilities appropriate to move and the means to decide on exact relocation measures – how to move, where to move, whether to elevate or relocate away from threat.
 - Roles and Responsibilities: Each responsible agency must identify barriers to making coordinated decisions on infrastructure investments in threatened and newly designated communities (relocation sites). This process should identify needs to revise existing policies, statutes, and regulations or to create new ones to effectively address communities-in-peril and optimize the current community efforts to keep moving forward in the process.
 - Community in Peril: Newtok finds itself in a Catch-22, or a no-win, situation. Plans to relocate, combined with the imminent threat of flooding and erosion, has rendered Newtok ineligible for capital funding for improvements to existing infrastructure (e.g., water and sewer, bulk fuel tanks, power plant, and clinic) to meet needs at the current village until the relocation is complete or substantially complete. The ability to divert designated resources to the new village site is hampered by policies that create barriers to investment in non-existent communities.
- Any upgraded facilities or new facilities must be protected against imminent environmental threats, such as flooding and erosion, consistent with [Administrative Order No. 175](#).

Rationale:

- Current funding streams neither require nor enable comprehensive analysis of comparative costs, of critical path for construction, or identifying potential conflicts with other projects..
- This long-term problem cannot be addressed with short-term personnel.
- Recent changes to Section 117 of the Consolidated Appropriations Act of 2005, PL 108-447, Division C - Energy and Water Development Appropriations Act, 2005, were intended to streamline the ability of the Secretary of the Army to react to situations in Alaska, but the change only reduced the 15 year cycle to a 2 year cycle. This act states in part as follows:
“SEC. 117. Notwithstanding any other provision of law, the Secretary of the Army is authorized to carry out, at full Federal expense, structural and non-structural projects for storm damage prevention and reduction, coastal erosion, and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities.” However, even with this streamlined authority, without state appropriations federal funds alone will likely not be made at a level to meet immediate needs.
- AO224 potentially presents investment barriers for possible new locations sites. Other standards and requirements also present barriers to investment in new developing communities. For example, ADOT/PF policy suggests that emerging communities have a minimum of twenty-five residents, a post office, and a school before a project will be considered by the Project Evaluation Board. In addition, there is a minimum population requirement of twenty-five children for construction of a new school. Under these guidelines, the deferment of infrastructure investment can be expected to create hardships on relocating communities. Because village relocation is likely to be an incremental process, there will be populations at both locations (the current village and the new village site) and needs must be met concurrently.
- If a disaster affects any community in peril before it is improved or relocated, there is a serious risk to safety of life. Also there will be extraordinarily costs for response and recovery. Further, the state and federal disaster statutes require that all other possibilities be exhausted before relocation is considered.

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- 3) **Formulate a strategy to implement the Sustainable Community Relocation policy.** The strategy must define the process for addressing the specific needs of a community and the broader needs of a region. Specifically, the strategy must result in a work plan based on principles of sustainability and articulate cooperative working relationships through the specific assignment of roles and responsibilities across agencies, communities, and others along with resources, data and other information needs.
- a. DCCED will serve as the overall coordinating agency to formulate and implement the strategy.
 - b. DMVA will serve as the lead agency for the Suite of Community Emergency Planning Efforts.
 - c. DNR will serve as the lead agency for Community Wildfire Protection Plans.
 - d. DNR will serve as the lead agency for geologic mapping and geologic hazards evaluation.
 - e. DCCED will serve as the coordinating agency for the Expansion of Comprehensive Community Plans to encompass Relocation.
 - f. DCCED will serve as the coordinating agency to develop and coordinate mechanisms that support community-based decision making.
 - g. DCCED will serve as the coordinating agency for coordinating and formalizing Local/Regional, Tribal, State, and Federal partnerships.
 - h. DCCED and the Department of Public Safety, Division of Fire and Life Safety will serve as the coordinating agencies to develop recommendations and implementation strategies that address incorporated and unincorporated community eligibility in the National Flood Insurance Program.

Implementation actions:

- Utilize Denali Commission or similar MOU methodology to help address needed collaboration.
- Relocation sustainability community principles shall include:
 - Economic viability including:
 - Renewable / alternative energy technologies, green building design and land use planning
 - Guidelines for ensuring sustainability, including ICLEI Global Sustainability principals and cultural sustainability
 - Guidelines for prioritizing strategies and associated funding streams for erosion and relocation, including mitigation and the alleviation of hazards in proposed location
- Develop a clearing house type function, including planning and technical assistance that will help jump start the process.

Rationale:

- Wherever possible, existing strategies and plans should be used after examination and determined to be effective in the uncertain environment of climate change. Immediately begin a coordinated system to identify potential resources and actions. Through regular meetings of government agencies and stakeholders, we can confidently identify, update deconflict, and integrate projects and funding sources from federal, state and regional/local sources to effectively address the most vulnerable needs. The IAQG recommends using as a model the Denali Commission’s MOU process for this process.
- The IAQWG believes that DCCED should be the lead coordinating agency for relocation assistance. This is consistent with the current authority of DCCED While there is no formally designated state lead on coordinating relocation assistance, there is considerable authority for a state lead to coordinate ongoing activities and policies on specific hazards such as erosion. This authority has been vested in DCCED through:
 - administrative Order 175, which designates the former Department of Community & Regional Affairs (now DCCED) to be the State’s lead on coordinating capital investments where there is a potential for flood and erosion damage.
 - AO231 and AO239 both direct DCCED to be the State’s coordinating agency to propose long-term solutions to on-going erosion issues.

Other authorities identify DCCED as the State’s lead coordinating agency:

- DCCED’s Division of Community and Regional Affairs is the State agency, which Article 10, Section 14 of the Alaska Constitution mandates be “...established by law in the executive branch of the state government to advise and assist local governments.”
- DCCED serves as the Governor's appointed state coordinating agency for the National Flood Insurance Program and the Flood Mitigation Assistance Program (Alaska Administrative Order No. 175).
- DCCED has statutory mandates for Planning Assistance for Development and Maintenance of District Coastal Management Plans (AS 44.33.781. This authority directs DCCED to provide a program of research, training and technical assistance to coastal resource districts within the Alaska Coastal Management Program (ACMP).
- Enhancement and expansion of DCCED/DCRA’s partnership with the Alaska Coastal Management Program (ACMP) will enable more effective assistance to those communities in peril and at significant risk due to erosion. Most of the communities currently identified as communities in peril are coastal communities.
- It is appropriate to broaden DCCED planning roles to include the process of examining the need for, deciding on, and coordination relocation. As the lead agency, DCCED will assist the community (or community efforts) by providing guidance on where to get assistance, how to access resources, and to

bring all the players together – which by working together the agencies and communities will then leverage resources for emergency preparedness, community infrastructure – including housing, education, health, environmental and related needs. Designating a lead coordinating agency does not preclude each agency from using its authorities and expertise and moving its projects forward for which it is responsible.

- A Relocation policy will provide non-profit organizations and NGO's such as Engineers Without Borders a better sense of how they can play an effective role and augment resources.

4) Develop statutes for Statewide Programs, with dedicated funding assurances, to mitigate hazards to enhance community viability and sustainability.

- a. Statewide Hazards Analysis and Risk Mitigation Program through DMVA
- b. Statewide collection of field data on hazards in priority areas lacking information through DNR
- c. Statewide Vulnerability Assessment Program through DMVA

Implementation actions:

- DMVA shall develop recommendations for a Statewide Program to proactively address mitigation hazards that is not contingent, directly or indirectly, on the declaration of a federal disaster upon which current funding streams are based.
- Identify local rock and gravel sources for western Alaska communities in peril that will support infrastructure construction at relocation sites.

Rationale:

- Well-formulated state statutes will provide clear guidance and support, with associated funding, for ongoing, comprehensive programs. The recent federal funding trend of pre-designating funds for various states has reduced the amount of funds available to states, thus increasing the competitiveness for such funds and decreasing the likelihood of receiving any significant needed mitigation funding.
- Identification of local sources for rock and gravel is integral to any relocation planning and will significantly impact viable community alternatives.

5) Identify and call for required changes to federal statutes, such as the Stafford Act, that would enhance Alaska's ability to deal effectively with communities in peril and other communities with significant risk.

Implementation actions:

- Designated state agencies shall develop similar recommendations for changes to existing federal legislation and seek support from appropriate national organizations.
- DMVA shall develop recommendations for changes to the Stafford Act and seek direct support from NEMA (National Emergency Management Association) and its member states.
- The Legislature should support needed changes in federal law through a legislative resolution.
- The Alaska Municipal League should support needed changes in federal law through a supporting AML Resolution.

Rationale:

- Federal competitive mitigation grants rely on a cost-benefit analysis detrimental to the realities of Alaska. Alaskan projects often benefit a small population but at high costs. This results in Alaskan

projects being considered of lower national priority. In addition, the cost-benefit analysis does not include the consequence of not mitigating a known hazard. Any investment in hazard mitigation will save many times the investment when the disaster occurs. The Immediate Action Workgroup believes that an effective mitigation and prevention strategy and associated funding, will significantly reduce the risk to public safety and the costs of recovering from any climate or weather disaster. The Stafford Act is written for responding to an actual or imminent disaster. It was not envisioned to be used when the disaster is inevitable as is now the case with changing sea ice, melting permafrost and extreme variations in weather. These inevitable disasters can be identified by DHS&EM and appropriately addressed through the National Emergency Management Association legislative process with companion support from Alaska’s congressional delegation. Direct action from the Alaska Legislature and the Alaska Municipal League, through personal companion efforts and through resolutions, would strengthen efforts to seek needed changes.

POLICY 4: THE STATE OF ALASKA WILL LEAD A COORDINATING EFFORT TO DEVELOP A COMPREHENSIVE STATEWIDE DATA COLLECTION AND EVALUATION SYSTEM THAT PROVIDES FOUNDATIONAL INFORMATION FOR COMMUNITY AND BUSINESS DECISIONS AND SOLUTIONS LEADING TO EFFECTIVE RESPONSES AND ADAPTATION STRATEGIES TO ADDRESS CLIMATE CHANGE IMPACTS.

Through the Subcabinet Climate Change Strategy process, various components of a statewide data collection and evaluation system have been identified, yet components need to be coordinated in order to understand and use the information effectively. The phenomena of climate-related impacts are not well understood and the impacts themselves are also uncertain. The State of Alaska, playing the coordinating role, will bring together state agencies, university resources, and federal and local stakeholders to develop an effective data collection and evaluation system. The likely outcomes of this effort will be to identify what data exists in order to build forward from existing data and maps; what format it is in and what technology is needed for the systems to “talk” with each other; what data is needed but missing; and what funding is needed to identify, collect, analyze and disseminate data in order to address impacts from climate change phenomena. Response strategies should be developed through adaptation impact analysis and modeling to identify near-term scenarios for options ranging from protecting what’s in place, migration and full relocation.

Implementation – Initial Steps

IAWG Recommended Action to Subcabinet: Adopt Policy 4 and provide the IAWG with guidance to develop implementation options for this policy. At a minimum the guidance should instruct that options should include identifying benefits, challenges, and effective organizational structures for implementation. This comprehensive data system is another key component to create the knowledge base from which informed decisions can be made to set priorities and allocate resources. The guidance to the IAWG should also include melding the relevant Adaptation and Mitigation Advisory Groups’ products with this statewide data collection and evaluation system to reach a desired outcome of integrated actions in order to address what seems to be increasing impacts due to climate change phenomena. The IAWG should work with others throughout the state and federal agencies to develop options, request input, questions and concerns that will need to be addressed in order to create an effective integrated data system. This system must also be a key component of the statewide system identified in Policy 1.

- 1) A State led coordinated approach, which results in a comprehensive data collection and evaluation system must ensure data is identified, collected, analyzed, and available to users and policy makers. This coordinating effort is a foundational step to develop a comprehensive system and should:**

- a. Identify suites of data and indicators needed to support policy and strategy decisions for government, communities and businesses.
- b. Catalog currently available data, archived data mapping and/or GIS products (ref DCRA Community Maps) and entities collecting the data that reflect community infrastructure and ownership, site characteristics, known risks and changes in environmental conditions.
- c. Provide data from information outside of existing main databases to gather information such as snow accumulations, wildlife populations, energy usage, permafrost temps, geophysical data on glaciers.
- d. Identify what collaborative MOUs among data custodians and data collectors exists and are needed.
- e. Identify processes for collection of field and local data where lacking and potential costs and timetables.
- f. Ensure data includes cultural and traditional knowledge and recognizes the confidentiality of historical sites and proprietary rights of cultural artifacts.
- g. Identify gaps in data and determine how gaps should be prioritized for funding in order to develop a comprehensive statewide database. An example of a data gap is the current need for reliable flood hazard determination data including high water marks of record, detailed analysis of the flood plain, and base flood elevations.
- h. Identify how to establish a central data access website that links collaborators and data collectors/custodians and enables ready access to current information in both electronic and paper formats.
- i. Identify options to integrate analysis and modeling with data collection efforts and databases to provide the necessary interpretations to inform decision making.

Implementation action:

- Establish a small, yet knowledgeable workgroup to conceptualize and begin detailing the above items, with co-chairs from state and federal agencies. The Immediate Action Workgroup could serve as a functional model for this effort.
- Utilize the work and outcomes on data collection and an evaluation system from the efforts under the auspices of the Subcabinet, bringing together the information identified above into a central distribution node/link
- As data sources are added, augment the existing information with the areas not just identified, but described in 1 above.
- Create recommendations along with rationale, budget projections, and identify cooperative agreements (MOU or MOA) to strengthen the comprehensiveness and applicability of the data products.

Rationale:

- Alaska's communities in peril face complex issues that can only be effectively addressed by understanding factors surrounding the range of options from protecting what's in place, supporting migration and potential for full relocation. These factors and options are also relevant for business decisions and planning for their futures. The viability and sustainability of communities and businesses hinges on the availability of accurate, comprehensive data that potentially relates to their at-risk circumstances.
- Significant knowledge building is required to identify a system that incorporates the items listed in 1 above with data bases and products developed to date (including community, flood plain, fire, and permafrost maps). It is imperative that those who have authorities to collect and those who need to use this data work together, in a collaborative manner, to design a collection, analysis and dissemination/application system if it is to be effective.

- The number of potentially affected communities impacted by climate change phenomena will grow and will require a systems approach if the State of Alaska is to effectively address the increased needs for each community on a prioritized basis.
- A coordinated approach will create more useful information for state, community and business decision makers to use:
 - With a higher degree of confidence to effectively make investment and budgeting decisions for the community at risk, and
 - For expediting permits.

Potential outcomes:

- 1) A blueprint, clearinghouse or prototype site to establish a web-based system as an integral step toward development of a statewide collection and evaluation system.
- 2) A State lead coordinating agency or university will be identified along with resources needed to incorporate and disseminate an effective data collection and evaluation system. Recommendations on the following items shall be made to the Subcabinet:
 - a. MOUs that are needed with appropriate state and federal agencies and other collaborating entities.
 - b. An evaluation system to include comprehensive community planning products and establish a priority system for regions of the state that encompasses communities and businesses in peril from risks either common to or unique within the region (wildfires, glacial retreat and avalanches, ice jams and river floods, and coastal inundation).
 - c. Flexibility in funding, including receipt of federal funds and in kind local support for the lead agency and other organizations that actively engage in identification, collection, analysis and dissemination with this management tool to:
 - Support dissemination of the data to available users and policy makers.
 - Prioritize projects that address identified gaps in existing data.
 - Support collection and presentation of new field data to fill identified gaps in priority areas.
 - Align data priorities with priority communities in peril for monitoring trends in risk,
 - Provide sufficient data to identify, on a statewide basis, those communities with significant risk but not in immediate risks. Some of these data needs have been identified by the IAWG, such as mapping and geologic data needs. Data needs have also been identified by the IAWG by focusing on the changes likely occurring due to climate change: increased wildfires, storm surges, lack of sea ice, flooding, and melting permafrost.
 - d. Obtain funding for this comprehensive system by considering opportunities within existing grant and additional funding sources to conduct data-related research. Analyze current funding streams for requesting additional supports through a state supplemental /capital budget request, should other sources of funding not prove viable.

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- 2) **Encourage local communities to take leadership in addressing their unique situations by conducting a climate change assessment and developing locally implementable response strategies through current adaptation impact modeling to identify near-term climate change impacts for both protecting in-place and sustainability relocation scenarios:**
 - a. Encourage Alaska communities to use the ICLEI model, or other multi-step climate impact planning models, which focuses on a review of scientific data to identify expected climate change impacts and opportunities a community should expect and develop a set of responses/actions to possible changes.

Implementation actions:

- Work with the Alaska Municipal League and Regional For-Profits and Non-Profits who in turn will work with their communities to identify near-term climate change impacts and ensure community's

plans accommodate new monitoring and research data. The “milestones community planning model”, such as the ICLEI method, has been used to identify emerging impacts and opportunities and develop a set of responses that can be incorporated into local plans.

- An ICLEI method of community milestone planning should be established in immediate or near-term actions to allow new climate change impacts or opportunities to be factored into the relocation or protect- in- place plan.

Rationale:

- The effects of near- term climate changes impacts (as opposed to immediate threats) are not fully identified at this time or adequately documented in existing data products. Further research and data collection into physical and cultural changes will present additional elements to be incorporated into adaptation and relocation plans during various stages of implementation.