



Marine Planning & Climate Change Action Plan

- 1. In drafting the Council's Marine Planning and Climate Change Policy, define "impacts" of climate change, e.g., food security, national security, people, etc., and address the the Council Guiding Principles, traditional fisheries knowledge and management, and the private sector.**

- 2. Determine what research and appropriately scaled models already exist and what research and models are needed to understand impacts of climate change and inform adaption decision-making at both site-specific/community and regional/pelagic fisheries levels. Note: Climate change as defined by the Council's Marine Planning & Climate Change Committee includes ocean acidification and natural climate variability.**
 - Ask Council's Scientific & Statistical Committee members Richard Deriso (Inter-American Tropical Tuna Commission, Chief Scientist and Coordinator of Scientific Research) and John Hampton (Secretariat for Pacific Community, Oceanic Fisheries Programme) for summaries/reports of work already undertaken by institutions to build stock assessment models that consider potential effects in fishery performance and management effectiveness due to change in climate and ocean chemistry as well as ecosystem models that explore changes in the North Pacific pelagic fish abundance and how this is influenced by fishing pressure, climate change and oceanographic factors and the potential development of multispecies maximum sustainable yield.

 - Find out whether NOAA and other agencies and institutions are producing climate change and ocean chemistry forecasting models to incorporate fishery production scenarios and whether these are at the site-specific/community and/or regional/pelagic fisheries level.

 - Determine availability of data from Pacific Islands Ocean Observing System (PacIOOS) for site-specific/communities level work.

 - Contact PacIOOS, NOAA ocean acidification program, Environmental Protection Agency, University of Hawaii, University of Guam and coral reef folks to see who is producing ocean acidification information.

 - Have committee members meet with their jurisdiction agencies to see what research is needed regarding cumulative impacts.

2. Secure funding to understand regional climate change impacts and adaptation strategies.

- **Draft a letter to CEQ, Intergovernmental Affairs, John Holdren (OSTP White House) and Congress (DOD and Commerce and Natural Resources Committees) with cc WPR Congressional delegates, NOAA, DOI Office of Insular Affairs, and WPR Governors.** Focus on environment and food security, instead of climate change per se. Add specific details based on other action items. Use Pacific Islands Regional Climate Assessment (PIRCA) and a few ocean chapters from the Intergovernmental Panel on Climate Change (IPCC) as some of the rationale and, perhaps, some examples from each of the jurisdictions. Prioritize work as regional and stress that we are working together (e.g., Pacific Regional Ocean Partnership (PROP)). Circulate draft letter from committee to review. Send letter in January 2015. The Council letter could be followed by letter(s) from Governor(s) if they are inclined.
- **Respond to existing funding opportunities with territories/states by** submitting a single letter from the region that emphasizes collaboration rather than competition for same funding source. Note that on island resource in territories that are collaborating will provide more local level buy in.

4. Work with CNMI Bureau of Environmental and Coastal Quality, CNMI Division of Fish and Wildlife, Guam Bureau of Statistics and Plans, State of Hawai'i and American Samoa Department of Marine and Wildlife Resources on climate change plans and working groups.

- American Samoa Governor's climate change person (Whitney Peterson) departed. Until new person onboard, Selaina at DMWR is acting. America Samoa has an executive order and plan that Whitney worked on.
- Guam permanent working group on climate change (being established by executive order by Guam Governor; may be in place in January 2015; for now contact Sheena). A plan is one of the deliverables. The working group may have an advisory committee in which the Council may be able to interact.
- CNMI climate change working group (contact is Robbie Greene, in Fran's office) is working on a plan. A planning group drives the working group. The working group is comprised of all agencies and the private sector. The Council can have a seat and Jack may have already been invited. Next working group meeting Fran will get Council in. She will send an email to Kitty. Frank Villagomez represents DFW in the group, and he could represent the Council also. Council to follow up with suggested teleconference meeting as proposed by a letter sent July 14, 2014, from Frank Rabauliman, administrator, CNMI Bureau of Environmental & Coastal Quality, in response to the Council's letter in June.
- Hawaii deals with climate through its Ocean Resource Management Plan, through Office of State Planning, Coastal Zone Management. The Marine and Coastal

Zone Advocacy Council (MACZAC) feeds into it. Sarah Pautzke used to attend for Council. Check to see if Council is advisor or provides input.

5. Work with agencies and organizations in Hawai`i and the US Pacific Islands Territories and Commonwealth on translating knowledge, science and policy on change in climate (including natural climate variability and ocean chemistry) into easy-to-understand formats for use by the public (including community members and schools) and policy makers.

- Explore including other local government agencies, e.g., Guam Department of Agriculture Fish & Wildlife, University research institutes, etc.
- Include El Nino fisheries fact sheets and how climate change will/may affect El Nino.
- Include the commerce, economic side. Get data on costs, e.g., if fish gone how market costs increase. Comprehensive Economic Development Strategies (CEDS) can be given to jurisdictions, so they take into account fisheries, agriculture, etc. and how economy is hurt. Dollars affected/people affected. Ecosystem services.
- Traditional knowledge not priority for hoteliers and other audience.

6. Conduct community-based management workshops on change in climate and ocean chemistry and related potential impacts, including cumulative impacts.

- Community workshops should include relevant management agencies and be co-sponsored collaboration with stakeholders as governments are approached with many who want to do workshops.
- Analyze state/territory plans/policies to see if they include private sector.
- Workshops should further the understanding on land-sea (`aha moku) interactions and prioritize adaptive strategies with the objective of creating recommendations for those strategies; include Coastal and Marine Spatial Planning (CMSP) as a tool in workshops; and provide reports revised for public readership.
- Identify who is going to talk about what.
- Identify time and location, e.g., World Health Organization on Guam in 2015 or 16 (food security) – Guam contact is public health; Hawaii 2016 IUCN; etc.

7. Investigate other potential partnerships.

- All Islands Committee
- Climate Science Center (USGS)
- First Stewards

- Homeland Security. Climate change could be housed in Homeland Security. Plans include climate change as hazard. Funding coming from Homeland Security. Food and economic security/stability. Cultural security.
- National Climate Assessment (globalchang.gov). MPCCC efforts could help deepen its website.
- National Park Service in American Samoa has fisheries and leases lands.
- NOAA El Nino task force. Money for rapid response group regarding fisheries when El Nino event.
- Non-traditional stakeholders
- Pacific Climate Information System (PaCIS, i.e., PacificCIS.org). Feed them what indicators the MPCCC wants them to look at as well as monitoring areas (e.g., thermocline; currently follow rainfall and temperature). Includes reports, specific fishery stories/case studies and quarterly outlooks. PacCIS looks at impacts. Perhaps a fishery sector report could be a pilot and a fishery sector one-pager on ENSO. Also help NOAA know what indices to track/monitor (e.g., thermocline). PRIMO Ohana is part of PacCIS, which is climate component of PRIMO (next meets in March). What indices do we need for coastal fisheries? For coastal fisheries, rainfall (limu production, freshwater input). Add more on impacts on indigenous fishing communities. Also their knowledge on catch, what is happening with the resource populations? Community/indigenous management. Assessments (currently voluntary or by NGO groups).
- Pacific ENSO Application Climate Center (PEAC) currently produces fact sheets and forecasts that can be utilized. They focus on temperature, rainfall and sea level. Currently quarterly reports but more frequent as an event proceeds.
- Pacific Islands Regional Planning Body
- Pacific Islands Regional Climate Assessment (PIRCA) led by Victoria Keener, at East-West Center. MPCCC efforts could help deepen its website.
- Pacific Islands Climate Change Cooperative (PICCC) social-economic vulnerability index for Hawaiian fisheries and seafood security as applies to climate change. (John Marra to discuss the MPCCC efforts with the PICCC board on Nov. 12, 2014.)
- Rising Voices.
- U.S. Climate Resilience Toolkit, (<http://toolkit.climate.gov/>). Explore having the Council gather info and relay it, perhaps piloting a fisheries section in the Pacific islands.
- Pacific Regional Ocean Partnership (PROP)
- Secretariat of the Pacific Community
- South Pacific Regional Environment Programme (SPREP)