

# Climate Savvy Fisheries Management



# Proposed Scope of Work

- **Working Group:** Build a working group of key players to build concepts, content, and writing teams. The first working group meeting will convene during the National Adaptation Forum in Denver, CO April 3, 2013
- **Vulnerability Assessment:** Conduct a vulnerability assessment with NOAA Fisheries Service- to identify, quantify, and prioritize the fisheries and fish stocks vulnerabilities to climate change.
- **Funding and Implementation Plan:** Develop a funding and implementation plan along with working group members and partners.
- **Fish Managers Guide (the product):** Along with working group members, field experts, and editors develop the guide's outline and assign writing assignments.
- **Online Platform:** Create an online platform, as a module on the Climate Adaptation Knowledge Exchange (CAKEx.org), for content allowing full access to relevant case studies, literature, tools, and people, while also allowing a discrete landing page for those desiring specific content on fisheries management and climate change.
- **Training module and Outreach:** Develop training materials and curriculum to support a program of capacity-building workshops (subject of subsequent proposal) for fisheries leaders and managers.



# Draft Outline

- **Introduction- Climate Change Impacts to Fish and Fish Stocks**
  - Why we need information about fish stocks, fisheries, and climate change?
  - Direct and indirect effects; interactions between climate change and other stressors
  - Introduce idea of costs and benefits of action/inaction, opportunities, and benefits of early action (even if you can't remove vulnerability, competitive advantage in being first to adapt)
- **Section 1: How is Climate Change (and related changes) affecting fisheries**
  - Overview of impacts to fishery type and biome and management system (commercial versus subsistence, and industrial versus traditional)
  - Critical roles of observations, observation systems, long term monitoring, assessments, etc...
- **Intermission 1: How to integrate climate change vulnerability assessment into your work; is my fishery vulnerable?**



# Draft Outline cont.

- **Section 2: Assessing vulnerability of fish stocks and fisheries in changing climate**
  - Review of vulnerability and risk assessments
  - Overview of vulnerabilities on population dynamics, community structure, distribution, range shifts, and spawning aggregations
  - Review of vulnerabilities of current fisheries management practices including essential fish habitat, marine reserves, aquaculture/hatcheries, fisheries closures, and individual fishing quotas.
- **Intermission 2: How to integrate adaptation into your work, can my fishery adapt?**
- **Section 3: Climate Ready Fisheries Management?**
  - Scenario planning, tools, and examples
  - Managing for ongoing change including range shifts, changing fecundity, recruitment, survival, life history, and changing carrying capacity.
  - Managing for episodic stresses such as anoxia, upwelling shut down, disease outbreak, and HABs
  - Managing for specific changes; ocean acidification and invasive species
  - Managing aquaculture needs.

