

FACILITATED DISCUSSION: What does it mean to have a sea level rise adaptation plan and what do we need to move forward?

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Charge to the Group: As the Obama administration and Congress takes take their place in January, climate change will continue to be an important issue for the country. We will likely see legislation proposed again that calls for states to developed climate change adaptation plans. This two-hour session will provide us the opportunity to identify what key components should be included in climate change adaptation plans. The information collected here will provide coastal management programs an opportunity to get out in front and potentially influence future legislation through the Coastal States Organization. OCRM's Climate Change team will also use feedback from this discussion to inform our comments on future climate change legislation.

Below is a draft adaptation plan framework David Carter and Braxton Davis put together for their work on the CSO Climate Change Workgroup. They relied on proposed legislation which called for states to develop climate change adaptation plans as well as existing adaptation plans. Each breakout group should use this draft framework as a starting point to shape the discussion to their assigned question.

Each group will have 30 minutes to answer their discussion question. Each group is asked to focus on their "top ten" recommendations and prioritize if possible and relevant. After the 1st 30 minutes, the group will then move to a different table and respond to recommendations a another discussion group made.

Group 1: What is missing from the draft framework? What else should be included in the adaptation plans? Why?

Group 2: What are the most important elements for an adaptation plan? What should be common components to all plans?

Group 3: What included in the draft framework should not be included in all adaptation plans? What should be up to the individual states to decide? What could be troublesome? Unattainable? Unreasonable?

Group 4: What type of implementation mechanism would be most effective for adaptation plans? (e.g., guidance, legislation, other? Should it be at the a national or state level?)

Group 5: Identify what core data and resources would be needed to develop an adaptation plan? What partners should be brought in to facilitate plan development?

Draft Framework

- A) PLAN CONTENT – A plan developed with a grant under this section shall include the following:
- (i) Identification of public facilities and public services, coastal resources of national significance, coastal waters, energy facilities, or other land and water uses located in the coastal planning area;
 - (ii) Identification and prioritization of continuing research and data collection needs to support implementation and revision of state climate change adaptation plans including—
 - (a) Acquisition of high resolution coastal elevation and nearshore bathymetry data;
 - (b) Historic shoreline position maps, erosion rates, and inventories of shoreline features and structures;
 - (c) Measures and models of relative rates of sea level rise or lake level changes, including effects on flooding, storm surge, inundation, and coastal geological processes;
 - (d) Habitat loss, including projected losses of coastal wetlands and potentials for inland migration of natural shoreline habitats;
 - (e) Baseline data, vulnerabilities, and projected impacts related to economic, social and cultural resources in the coastal planning area;
 - (f) Social science research, including policy analyses, related to coastal vulnerabilities and adaptation alternatives;
 - (g) Changes in storm frequency, intensity, or rainfall patterns;
 - (h) Saltwater intrusion into coastal rivers and aquifers;
 - (i) Changes in chemical or physical characteristics of marine and estuarine systems;
 - (j) Increased harmful algal blooms;
 - (k) Spread of invasive species;
 - (l) Coastal species and ecosystem migrations, and changes in species population dynamics.

- (iii) Identification and prioritization of adaptive management strategies to respond or adapt to changing environmental conditions, including—
 - (a) Protecting, maintaining, and restoring coastal ecosystems, including the protection of biodiversity and establishment of habitat buffer zones, migration corridors, and climate refugia;
 - (b) Improved public infrastructure siting policies;
 - (c) Improved site-level, local, and regional project planning;
 - (d) Hazard mitigation strategies and retrofitting;
 - (e) Development of GIS-based decision-support and visualization tools;
 - (f) Description and analysis of proposed actions to address impacts including accommodating, protecting, or relocating affected communities and public infrastructure, such as at-risk stormwater and wastewater treatment systems, energy facilities, roads, causeways, ports, bridges, buildings, or other public facilities;
 - (g) Minimization or mitigation, to the maximum extent practicable, of the impacts of these actions on natural resources and the ecosystem services they provide;
 - (h) Incorporation, to the maximum extent practicable, of nature-based adaptation strategies, including the use of natural shorelines and buffer zones to mitigate risks and impacts;
 - (i) Strategic property acquisitions to discourage development in highly vulnerable locations or to allow the natural, inland migration of shoreline habitats and systems;
 - (j) Development of local-level coastal adaptation plans and ordinances;
 - (k) Other activities to reduce vulnerabilities to potential climate impacts;
- (iv) Requirements to initiate and maintain long-term monitoring of environmental and socioeconomic changes to assess coastal adaptation and to adjust when necessary adaptive management strategies and new planning guidelines to attain the policies, including—
 - (a) Targeted chemical, biological, and physical data collection efforts to track changing environmental conditions;
 - (b) Periodic collection and review of spatial data available through various remote sensing platforms;

- (c) Tracking of key socioeconomic indicators in relation to vulnerabilities identified in the adaptation plan;
- (d) Other information considered necessary by the Secretary to identify the full range of climate change impacts affecting coastal communities.
- (e) Performance measures to assess each state's progress toward reduced vulnerabilities to climate impacts addressed in the plan.

Summary of Facilitated Discussion: The following captures the comments each small break out group made on flip charts and general full group discussion.

Group 1: What is missing from the draft framework? What else should be included in the adaptation plans? Why?

- Public Involvement
 - How will they participate?
 - Response group: Stakeholder involvement – lead to actual implementation because “bought into it” (won’t sit on shelf)
 - Give public tools -- actions
- Agriculture and forestry and other natural resources, industries
 - Impacts to marketable species (habitat loss due to sea level rise (SLR))
 - Saltwater intrusion
- Response group: Focus on SLR not so expansive – people and infrastructure focus rather than natural resources
- Scale was not mentioned – state level most appropriate
 - But local involvement so don’t disenfranchise locals
 - Enable regional planning approach for more than one municipality to work together
- Implementation/Funding Strategy (#1)
- Who should be involved in plan development
 - Forestry, agriculture, CZM, local governments, local health, emergency management, DOT, schools
- Data training to locals – free, easy access
 - Survey and construction industry
- Update Plan – no sooner than 5 years
- Require state plans developed into CZM Program for Federal Consistency
- Planning not just needed for adaption – mitigation too to decrease carbon footprint (Response Group: Not important for CZM, but CZM has involvement)
- Goals: What do we want to see as outcome(s) for the adaption planning effort?
- Stay at 2008 levels; adapt to 50% SLR???) (#2)
 - States should establish goals in their plans for how much to protect, adapt, prevent, etc.

- Public must be involved
- Response group: Reduced cost from climate related hazards (How do you identify what is climate related hazard?)

Group 2: What are the most important elements for an adaptation plan? What should be common components to all plans?

- Define what “adaptation” is – allow states to define
- Identify vulnerable infrastructure (2 checkmarks)
 - Transportation and evacuation Resources
 - Hospitals, sewage treatment
- Identify public resources (open space vs. built infrastructure)
- Economic analyses – estimates to implement, cost/benefit, costs of not doing something
- Data needs analyses?
- Risk analysis – vulnerability
- Outreach and education component --- available in other languages
- Identification of key agencies and partners for implementing the Plan

Response Group:

- Strategies – common responses/options
 - Do nothing, retreat, etc.
- Common scientific standards and level of certainty, how data is presented
- Identification of impacts due to various hazards – vulnerability analyses
- Planning timeframe and implementation – phased approach
- Common strategy for updating plans
 - Access to centralized information (federal)
- Consideration of federal investments
- Outreach strategy should include mechanism for information sharing across local communities
- Define goals
- Monitoring and evaluation

Group 3: What in the draft framework should not be included in all adaptation plans? What should be up to the individual states to decide? What could be troublesome? Unattainable? Unreasonable?

- States identify what is not relevant to them (e.g., salt water intrusion)
 - Fiscal realities
 - Higher & lower priorities
- Have policies drive data collection – get risk profiles (Response group – priorities drive data collection)
- Don’t strive for perfection in data – deadlines for plans and decisions

- Not just top-down process for determining policies and data collection (need local stakeholder input to drive – bottom up)
- Limited national level performance measures – should be more state/locally derived
- Specifics – harmful algal blooms & spread of invasive species probably less important than human health and safety

Response group

- Depends on specific goals – states prioritize, not everything equal
- Need some common elements, including data & tools, let states pick based on their priorities
- Troublesome – Trying to address too much – e.g., inland impacts of climate change on coast, secondary impacts on fisheries & commerce
- Priorities drive data collection

Group 4: What type of implementation mechanism would be most effective for adaptation plans? (e.g., Guidance, legislation, other?) Should it be at the national or state level?

Implementation

- Implemented by states and partner with municipalities – based on existing state structure

Authority

- Enabling legislation
 - Start with national legislation
 - State legislation
 - Will be implemented differently by each state

Funding

- Funding mechanism

Structure

- Through CZM program – consistent with program operation
- Pull in hazards network from other state agencies
- Planning for new policies
- Mapping
- Vulnerability assessment/strategy as part of implementation (at local level)
- Planning for new policies
- Maps/predictions influence implementation
- States get resources for local implementation (maps, etc.)
- Improve local capacity if model is to implement at local level
- Opportunities for areas of growth (development and economy)
- Joint venture model – FWS state NGOs, CELCP plans incorporate sea level rise concerns
 - Place-based
 - Regional
 - Federal and state funds

- Science-based; debated/transparent
- State with most vulnerable area/assets
 - Public infrastructure
- Support for local implementation – setback, valuation
- Risk assessment; insurance as participant
- Regional Ocean Council role
- State direction to local/regional entities

- Funding
 - Infrastructure planning (DOT)
 - Risk and vulnerability
- Enabling legislation to states at national scale
- Required in local comp. plans (or similar)

Response group

- Re-evaluate, reassess at various timeframes (e.g., 5 years)
- Coordinate with emergency management
- Federal level of implementation to slow; states need feds to give authority to states
- Federal coordination of coastal activities/programs
 - Ocean Commission recommendations
- Tools specific to local government
- Political will easier at state level
- State responsible for data, consistent across communities
- Incentives/penalties for local compliance
 - State enforcement and federal enforcement (NFIP) (DPT)
 - Enforceable policy
- NOAA
 - Champion for funding
 - Story to Congress
- Funding – DOC
 - POAs
 - Habitat
 - Economic development
 - OCS oil & gas revenues
- Important to have regional approach or common method (“Economies of Scale”)
- Windows/timeframes for pieces of plan (benchmark & targets)
- Performance measures

Group 5: What key core data and resources would be needed to develop an adaptation plan? What partners should be brought in to facilitate plan development?

- Need guidance of what we're adapting to? Common understanding of scenario we're responding to? Goal for plan
- National model or selection of models to use. Accepted by FEMA. What is available? What makes sense to us in this geography.
- What tools do we have to implement change?
- Natural resource change, migration, change to habitats, food chain

Data needs:

- Legally defensible regulations, policies, ordinances that have been tested
- What are existing governance frameworks that can be used with climate lens (sp?)
- Existing educational tools and products to adapt to state for use
- Perception data
- Money
- LIDAR
- Sample plans, model, case study
- What existing data do we have access to/available state by state
- Lots of gaps
- Standard for new data and acquisition and existing data
 - Shareable, interoperable, accessible
- National (and regional) GIS coordination
- Keep it simple

Partners to include:

- "SWAT Team" (ACE, USGS, CSC, SG) to assist states /regions and ongoing POC
- FEMA, USDA, DOT, EPA, DOI
- Local communities in Northeast (or whatever scale makes sense for geography)
- TNC (The Nature Conservancy?)
- Save the Bay (state-level leaders)
- Insurance – IBHS (Institute for Building and Home Safety)
- National Wildlife Federation
- Realtors and building inspectors, developers
- Universities
- Emergency management agency for state and other regulatory agencies
- NOAA, NHC, NWS
- Journalists and media
- Water Suppliers, DPW
- Dept of Health
- Community Development
- Utilities
- General public
- Legislators
- Lobbyists
- Governor's office

- Needs to be federal lead (NOAA)
- Regional ocean governance initiatives (NROC, mid-Atlantic forum)

Summary of Key Points -- Presentations/Entire Group Discussion/Wrap Up

Key Components of a Plan

- Consistency – all states
- Agreement with draft framework
- Define “adaption” and goals of strategies
- Establish timeframe – and updating
- Identify vulnerabilities
- Risk Analysis
- Outreach/education
- Implementation
- Identify impacts
- Need level of certainty/scientific standards – credibility
- Identify stakeholders
- Federal goals, initiatives, etc.

Missing in Plan

- Scale – just sea level rise or infrastructure?
- Local government and public involvement -- stakeholders
- Training
- Mitigation

Do Not Include

- Be flexible – up to states to identify priorities
- What is “driver”? – Priorities? Data?
- Risk Assessments
- Horizontal?
- Human health and safety?
- Science drive policy?
- National goals – make state specific

Key Core Data

- Existing government frameworks
- Work from same “platform”
- Common understanding of what reacting to
- What are models?
- Sample plans
- Standards for new data
- Law/precedent
- Planners – feds, state, local

Implementation

- Model – CZM programs
- Money key – use NOAA
 - Risk/vulnerability
 - Infrastructure
- State agencies – responsible departments
- Staged Implementation (timeframes, reassess benchmarks in 5 years)
- Incentives/penalties
- State structure
 - Regional approach -- economies of scale

NOTE: Develop plans and implement at same time

Develop plan or revise existing coastal management plans --- with different focus