

CHAPTER 3

PLANNING PROCESS



The first two chapters of this guide explain why coastal managers need to begin planning for the effects of climate change in the coastal zone. This chapter discusses the framework for the planning process, focusing primarily on where to begin.

The framework presented here follows the steps of a traditional planning process. However, adaptation planning is neither purely linear nor cyclical in nature. While some tasks will need to be completed before others, it is important to build flexibility into the

Planning: The act or process of **making** or **carrying out** plans; specifically: the establishment of goals, policies, and procedures for a social or economic unit (Merriam-Webster).

Planning works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient, and attractive places for **present and future** generations (American Planning Association).



Planning is a partnership- and consensus-building exercise that requires a variety of skills and expertise.

process that will allow for accommodation of new data, perceptions, realizations, and vulnerabilities. The primary tasks associated with climate change adaptation planning as suggested in this guide are as follows:

- **Establish the Planning Process**
 - Step 1.1: Scope out Level of Effort and Responsibility
 - Step 1.2: Assess Resource Needs and Availability
 - Step 1.3: Assemble Planning Team and Establish Responsibilities
 - Step 1.4: Educate, Engage, and Involve Stakeholders
- **Assess Vulnerability**
 - Step 2.1: Identify Climate Change Phenomena
 - Step 2.2: Identify Climate Change Impacts and Consequences
 - Step 2.3: Assess Physical Characteristics and Exposure
 - Step 2.4: Consider Adaptive Capacities
 - Step 2.5: Develop Scenarios and Simulate Change
 - Step 2.6: Summarize Vulnerability and Identify Focus Areas

- **Create an Adaptation Strategy**
 - Step 3.1: Set Goals
 - Step 3.2: Identify Actions
 - Step 3.3: Evaluate, Select, and Prioritize Actions
 - Step 3.4: Write Action Plans
- **Design a Plan Implementation and Maintenance Process**
 - Step 4.1: Adopt the Plan
 - Step 4.2: Implement the Plan
 - Step 4.3: Integrate Plan Findings into Other State Planning Efforts and Programs
 - Step 4.4: Track, Evaluate, and Communicate Plan Progress
 - Step 4.5: Update the Plan

The rest of this chapter elaborates on establishing the planning process. The other steps are addressed in the chapters that follow.

STEP 1.1: SCOPE OUT LEVEL OF EFFORT AND RESPONSIBILITY

Before initiating planning activities, you will need to decide on the scope of your planning efforts. While this guide is written for coastal managers at the state level and focuses largely on activities for which they have responsibilities, your state may want to address adaptation at a larger scale. In that case, you may be the lead, or you may be one of many planning team members.

The process described in this guide can be scaled up to incorporate impacts, consequences, and sectors not discussed here (e.g., those not under the jurisdiction of the coastal management program) or can be scaled down to focus on a single impact, consequence, or region. Conducted on its own, a coastal adaptation plan could easily be integrated into larger planning efforts, which may or may not yet have begun.

Consider whether a stand-alone adaptation plan is really necessary. What other ongoing planning

Hazard mitigation is defined as “sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.” (FEMA n.d.). A hazard mitigation plan is a long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The Disaster Mitigation Act of 2000, an amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, requires states and local governments to develop hazard mitigation plans as a condition for receiving certain types of nonemergency disaster assistance, including funding for hazard mitigation projects. www.fema.gov/plan/mitplanning/

efforts is your state engaged in? Some states are including climate change adaptation planning along with climate change mitigation planning or in their hazard mitigation plans, which may give short shrift to ecological systems and needs. Others are including it in wildlife action plans, which, in turn, will likely exclude impacts on the built environment. Other plans that may relate to climate change adaptation include coastal management, watershed management, emergency operations, transportation, economic development, and growth plans. These plans are also excellent resources for the adaptation plan’s vulnerability assessment and adaptation strategy.

Know what your state is thinking about climate change adaptation planning, both short and long term, and where your program best fits into the process. Also, look into how adaptation planning is being handled at the local level in your state and consider how to incorporate existing efforts into your plan and/or how your plan can be used to guide and support local planning.

A new state law or executive order authorizing the climate change adaptation planning process would help ensure it has adequate resources, support, and legitimacy. This may require educating elected officials,

Learning from others...Connecticut Integrates Adaptation into Hazards Mitigation

Connecticut’s Department of Environmental Protection included climate change in the 2007-2010 update to the state’s “Natural Hazards Mitigation Plan.” The issue of climate change is addressed throughout, and a special section is dedicated to the potential impacts from climate change and sea level rise. One of the plan’s three goals is to “increase research and planning activities for natural hazards mitigation on a state and local level particularly with regard to climate change and associated adaptation strategies.” Related activities include enhanced climate change research and adaptation planning. www.ct.gov/dep/cwp/view.asp?a=2720&q=325652&depNav_GID=1654

Learning from others...Washington Executive Order and Law Call for Action on Climate Change

In Washington State, the governor signed an executive order (95-05) on climate change that includes a charge to state agencies to protect the state’s vulnerable coastal areas. Specifically, it tasks the director of the Department of Ecology, in collaboration with the Washington State Association of Counties and the Association of Washington Cities, with evaluating the potential impacts of sea level rise on the state’s shoreline and developing recommendations for addressing them. A complementary state law (SB 5560) directs the departments of ecology; agriculture; community, trade, and economic development; fish and wildlife; natural resources; and transportation (in consultation with other stakeholders as specified) to develop an integrated climate change response strategy. It calls for the Department of Ecology to compile a strategy, based on a range of scenarios, summarizing climate change impacts to Washington, assessing Washington’s vulnerability to those impacts, prioritizing solutions, and identifying funding and technical resources to support implementation. The law also encourages state agencies to consider the strategy when planning and designing new policies and programs. www.ecy.wa.gov/climatechange/laws.htm

which should be done early in the planning process. See the discussion beginning on page 23 about educating, engaging, and involving stakeholders.

STEP 1.2: ASSESS RESOURCE NEEDS AND AVAILABILITY

After reading through this guide, you will have a good understanding of what it will take to develop and implement an adaptation plan. Once you know what the scope of your plan will be, you can begin to assess resource availability. Planning efforts will require three primary types of resources:

- **Human resources**—This category includes anyone who will help with plan development and implementation. This is a planning team effort, as is described in the next step, and responsibilities should be distributed across participants and other stakeholders. By engaging multiple agencies, sectors, and levels of government, the plan will become less of a burden on any one entity and will benefit from access to more information and points of view, as well as financial and technical resources and greater acceptance and buy-in to the idea of climate change adaptation and the climate change adaptation plan.
- **Technical resources**—Climate change adaptation planning and implementation will require a lot of technical data and know-how. Much of the expertise can be secured when building the planning team. You will need people who understand and track the science as well as people who can take the science and state-specific data and help decipher what it may mean for your coastal areas. This will likely require information technology ranging from basic geographic information systems (GIS) to sophisticated modeling programs. Understand

the limitations of your state's computing capacity before acquiring the latter. If you do not have access to the technical expertise or the necessary computing capacity, you may want to consider contracting with a university, consulting firm, or other technical partner. Finally, you will likely need to involve social scientists and technical experts (e.g., engineers, biologists, geologists) when you identify and implement adaptation actions.

- **Financial resources**—You will need financial resources to support both human and technical resources as well as general planning activities (e.g., public meeting notices, meeting space, office supplies, etc.). A number of federal agencies provide grants for planning and implementation activities, most of which, at this point in time, indirectly support climate change adaptation. A list of possible federal funding sources can be found in Appendix A. Other sources of funding may include private foundations and nonprofit organizations.

STEP 1.3: ASSEMBLE PLANNING TEAM AND ESTABLISH RESPONSIBILITIES

There are numerous agencies and organizations with vested interest in climate change adaptation, and others who may have technical and human resources to support it. Coordination and collaboration with these entities is vital to the success of the adaptation plan. You may prefer to conduct your vulnerability assessment before you build the planning team, but having the team in place first means more resources, and likely better information, are available for the assessment.

Note: The Coastal Zone Enhancement Program conducted under Section 309 of the Coastal Zone

Planning is a time and resource consuming endeavor. Think about where you may be able to get graduate students to help, particularly with collecting data for the vulnerability assessment. Or, consider hiring a NOAA Coastal Services Center Fellow. The Coastal Management Fellowship program matches postgraduate students with state coastal management programs for two years to work on projects proposed by the state, which may include climate change adaptation. www.csc.noaa.gov/fellowships/

Management Act provides a mechanism to convene a climate change adaptation planning team backed by federal funding to conduct operations.

Who you invite to participate on the planning team, and who you choose to involve in more of a supporting role, will depend on state-specific needs and circumstances. Nevertheless, involvement of a diverse set of stakeholders will be critical to the process. More information about how to involve stakeholders, including the general public, who may not be directly involved as part of the planning team, is presented in the next section. Most of the state and federal partners on the planning team will likely already be aware of the need to adapt to climate change impacts. If not, be sure to educate them as you would other stakeholders as discussed in the next step.

Planning is a partnership- and consensus-building exercise that requires a variety of skills and expertise. It will allow coordination and integration of activities across agencies, organizations, and jurisdictions, capitalizing on human, technical, and financial resources and avoiding unnecessary redundancies. It should be an inclusive process that allows diverse concerns to be addressed, considered, and incorporated. And, it will also require creativity and compromise.

Your climate change adaptation planning team will be responsible for overseeing, coordinating, and advocating climate change adaptation from planning through implementation and beyond. Ideally, members of the planning team will be engaged in climate change issues or be willing to become so, be able to provide needed input to the process, and have the support of their employers.

It may be necessary to have a formal invitation process, which could include asking agency and department heads (or other figures of authority) to designate appropriate representatives to serve on the planning team. This can help ensure the representative has some level of authority to act on behalf of the organization. Such a request could be sent as a letter explaining the need for the plan,

the planning process, and the role of planning team members, which could include:

- Participating in planning meetings
- Providing input and information for the vulnerability assessment
- Participating in goal setting
- Identifying adaptation actions for the plan
- Reviewing and commenting on plan drafts
- Assisting with outreach activities
- Monitoring implementation of activities specific to their organizations
- Contributing to plan review and updating activities
- Working to mainstream climate change adaptation into other agency activities

Your climate change adaptation planning team will cross levels of government and sectors. Inclusion of a wide variety of partners will result in a coast better prepared for the impacts of climate change. As you structure the planning team, some of the questions for consideration include:

- What entities engage in activities that might impact or stress coastal systems and activities managed by the coastal management program?
- What other agencies and organizations have investments or management responsibilities in the coastal zone?



Coordination and collaboration with agencies and organizations with vested interest in climate change adaptation, and others who may have technical and human resources to support it, is vital to successful adaptation planning.

Learning from others...Maryland Climate Action Plan Benefits from Diversity of Interests and Expertise

In August 2008, the Maryland Commission on Climate Change released the state's Climate Action Plan. Formed in 2007 by executive order, the commission, made up of 16 state agency heads and six members of the general assembly, was charged with developing a plan addressing both climate change mitigation and adaptation. The commission was supported by three working groups—Scientific and Technical, Greenhouse Gas and Carbon Mitigation, and Adaptation and Response—which were supported by technical work groups. Chaired by the secretary of the Department of Natural Resources, the Adaptation and Response Working Group was supported by four technical work groups: Existing Built Environment and Infrastructure; Human Health, Safety and Welfare; Future Built Environment and Infrastructure; and Resources and Resource-Based Industries. Together, the commission and the groups that supported it represented diverse stakeholder interests and lent broad perspective and expertise to the project. www.mde.state.md.us/Air/climatechange/

- Who is already, or planning to be, engaged in planning for climate change adaptation, directly or indirectly?
- Who is involved in climate change mitigation?
- What kind of experience and expertise is needed on the planning team?
- Who might be able to provide additional human or technical resources?

Following is a list of entities from which potential climate change adaptation planning team members may be recruited. Based on the number of people you plan to include on the team, as well as the issues and sectors you choose to address, you may decide to create workgroups to handle individual tasks and issues. Some of the entities listed below may serve the planning team better in a supporting role (e.g., providing resources, expertise, and experience) rather than in a decision-making role as a team member.

State Agencies/Departments

Environment and Agriculture

- Agriculture
- Coastal Management
- Environmental Protection
- Fish and Wildlife
- Forestry
- Geological Survey
- Marine Resources
- Natural Resources
- Parks and Recreation
- State Climatologist
- State Lands and Public Trust Area Trustee

Planning and Public Safety

- Building Code
- Emergency Management
- Fire
- Flood Control
- Hazard Mitigation
- Homeland Security
- Local Affairs
- National Guard
- Planning
- Public Health

Housing and Infrastructure

- Energy
- Engineering
- Housing
- Public Works
- Stormwater Management
- Transportation
- Utilities
- Water Resources

Economic Development

- Commerce
- Economic Development
- Insurance

Other

- Education
- Historic Preservation
- Tourism

Federal Agencies/Departments

- U.S. Department of Commerce
 - Economic Development Administration
 - National Oceanic and Atmospheric Administration
 - National Environmental Satellite, Data, and Information Service
 - National Marine Fisheries Service
 - National Ocean Service
 - National Weather Service
 - Office of Oceanic and Atmospheric Research
- U.S. Department of Agriculture
 - Animal and Plant Health Inspection Service
 - National Institute of Food and Agriculture
 - National Resources Conservation Service
 - U.S. Forest Service
- U.S. Department of Defense
 - U.S. Army
 - U.S. Army Corps of Engineers
 - U.S. Air Force
 - U.S. Marine Corps
 - U.S. Navy
- U.S. Department of Energy
 - Office of Electricity Delivery and Energy Reliability
- U.S. Department of Homeland Security
 - Federal Emergency Management Agency
 - U.S. Coast Guard
- U.S. Department of the Interior
 - Bureau of Indian Affairs
 - Bureau of Water Reclamation
 - National Park Service
 - U.S. Bureau of Land Management
 - U.S. Fish and Wildlife Service
 - U.S. Geological Survey
- U.S. Department of Housing and Urban Development
 - Community Planning and Development
 - Housing
 - Public and Indian Housing
- U.S. Department of Transportation
 - Federal Highway Administration
 - Pipeline and Hazardous Materials Safety Administration
- U.S. Environmental Protection Agency
 - Office of Air and Radiation
 - Office of Policy, Economics, and Innovation
 - Office of Water

Other

- Elected officials
- Universities/research institutions
- Regional governments/organizations/programs
- Local governments, coastal management programs in particular
- Regional planning organizations
- Native American tribal organizations
- Nonprofit organizations and associations
- Civic groups
- Neighboring states
- Infrastructure managers
- Industries
- Contractors/engineers
- Developers
- General public

The planning team, as well as the entire planning process, should be flexible. As the planning progresses, additional team members may be needed as new issues and questions arise.

Once planning team members are identified, consider holding a kick-off meeting(s) to:

- Designate a planning team leader/leadership team
- Identify a climate science advisor
- Create a common understanding of climate change
- Communicate process goals and parameters (e.g., scope and planning timeframe)
- Create workgroups and designate leaders
- Establish roles and responsibilities and set expectations
- Set a schedule

Learning from others...Issue Identification Workshop Launched Planning Process in Delaware

To kickoff the planning process for Delaware's "Statewide Sea Level Rise Adaptation Plan," the Delaware Coastal Program hosted an issue identification workshop that attracted approximately 100 stakeholders, including representatives from all levels of government, nonprofit organizations, academia, and business interests. The goals of the workshop were to raise awareness about how sea level rise may impact Delaware and to initiate a dialog about these impacts among stakeholders. Workshop participants identified and described sea level rise issues for the purpose of establishing the plan's priority issues and determining data gaps and strategies for management and adaptation to sea level rise. Results from the workshop also served as the basis for the formation of a coordination committee, technical working groups, and research and monitoring projects. www.swc.dnrec.delaware.gov/coastal/Pages/SeaLevelRiseAdaptation.aspx

STEP 1.4: EDUCATE, ENGAGE, AND INVOLVE STAKEHOLDERS

Central to a successful planning effort is a well-crafted plan to educate, engage, and involve stakeholders. Stakeholders include individuals who can effect change, have relevant knowledge or skills, represent the interests of particular groups, and/or will be affected by climate change. They will include the members of the planning team, elected officials (state and local), coastal landowners, the general public, educators, the media, and everyone else identified in the previous step.

These efforts will be ongoing and may be quite challenging. For a more thorough discussion of how to integrate stakeholder participation, a number of useful Key Resources are suggested at the end of this chapter. Additionally, you may find it beneficial to seek

out planning partners with expertise in communication and participatory planning.

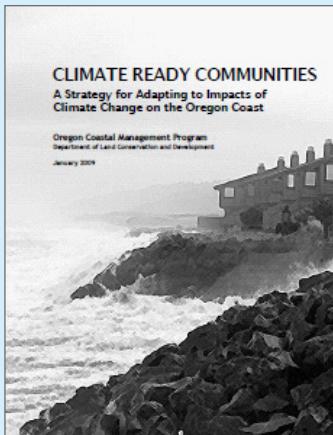
You are encouraged to identify stakeholders and bring them into the process early to get them interested in the idea of climate change adaptation and secure their support. Efforts to adapt to climate change will be more effective the better stakeholders are educated, prepared, and committed to the cause. Think about what vehicles are already being used by planning team members and their organizations to reach out to stakeholders. For more information about outreach and education, see Chapter 5.

Each step in the planning process provides opportunities for stakeholder participation, and there are many methods and techniques that can be used to facilitate this critical part of the planning effort; examples include, but are not limited to, charrettes,

According to the NOAA Coastal Services Center's *Introduction to Stakeholder Participation*, including stakeholders in the planning process can help (NOAA 2007a):

- Produce better outcomes or decisions
- Garner public support for agencies and their decisions
- Bring to light important local knowledge about natural resources
- Increase public understanding of natural resource issues or management decisions
- Reduce or resolve conflicts between stakeholders
- Ensure implementation of new programs or policies
- Increase compliance with new laws and regulations
- Help agencies understand flaws in existing management strategies
- Create new relationships among stakeholders

www.csc.noaa.gov/stakeholder/



Learning from others...Oregon Assists Local Adaptation through Strategy Guidance

"Climate Ready Communities: A Strategy for Adapting to Impacts of Climate Change on the Oregon Coast" from the Oregon Coastal Management Program was created to help coastal decision makers, legislators, and the public prepare for climate change. Specifically, the document makes a case for adaptation, looks at the likely effects of climate change on Oregon coasts, and promotes a strategy that consists of coordinated planning and action by coastal cities and counties, state agencies, businesses, individuals, and nongovernmental organizations, framing the basic steps needed to prepare adaptation plans and to implement them over time. www.oregon.gov/LCD/OCMP/

focus groups, open houses, workshops, and public meetings. There is no "one size fits all" solution for stakeholder participation. You will need to review and choose those methods and techniques that are most likely to result in effective and efficient stakeholder participation in your state (NOAA 2007a).

As the plan takes shape, ask for stakeholder input on the vulnerability assessment (stakeholders may have knowledge about past events and exposure and have opinions about which community assets should be protected), brief them on the vulnerability assessment findings and invite comment, involve them in goal setting and action selection, get their feedback on the final plan, and engage them in implementation and monitoring activities, as appropriate.



Stakeholders play an important role in adaptation planning and should be identified and brought into the process early.

Learning from others...Maryland Uses Role Playing to Engage Stakeholders on Climate Change

When Maryland launched its Coast-Smart Communities Initiative, it did so with an interactive summit jointly created by the Maryland Department of Natural Resources (DNR), the Consensus Building Institute, and the Massachusetts Institute of Technology–U.S. Geological Survey Science Impact Collaborative. Over 170 participants, including state and local elected officials, city planners, emergency managers, and other community stakeholders, gathered to work through a simulated consensus-building exercise. Climate change adaptation measures were debated using a scorecard based on real-world actions that Maryland's coastal communities can take to protect their people, infrastructure, and investments from future risk. The DNR encourages communities in Maryland and across the country to use the simulation to raise awareness about the challenges local governments face from a changing climate and to demonstrate the value of a facilitated negotiation. Materials are available free online. <http://maryland.coastsmart.org/>

KEY RESOURCES

Publications and Web Sites

- Adapting to Coastal Climate Change: A Guidebook for Development Planners, U.S. Agency for International Development. www.crc.uri.edu/index.php?actid=366
- Best Practice Approaches for Characterizing, Communicating, and Incorporating Scientific Uncertainty in Decisionmaking, U.S. Climate Change Science Program. www.globalchange.gov/publications/reports/scientific-assessments/saps
- Building Public Support for Floodplain Management, Association of State Floodplain Managers. www.floods.org/ace-files/documentlibrary/Publications/BPS_Guidebook_2_1_10.pdf
- Climate Literacy—The Essential Principles of Climate Science: A Guide for Communities and Individuals, U.S. Climate Change Science Program. www.globalchange.gov/resources/educators/climate-literacy
- Engaging Stakeholders in the Adaptation Process (from Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures), United Nations Development Programme. www.undp.org/gef/documents/publications/apf-technical-paper02.pdf
- Getting Started: Building Support for [Hazard] Mitigation Planning, FEMA. www.fema.gov/plan/mitplanning/resources.shtm
- Introduction to Stakeholder Participation, NOAA Coastal Services Center. www.csc.noaa.gov/stakeholder/
- Multi-Hazard Mitigation Planning, FEMA. www.fema.gov/plan/mitplanning/
- Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments, ICLEI—Local Governments for Sustainability. www.icleiusa.org/action-center/planning/adaptation-guidebook/
- Seven Cardinal Rules of Communication, U.S. Environmental Protection Agency. www.epa.gov/CARE/library/7_cardinal_rules.pdf
- Voluntary Guidance for States to Incorporate Climate Change into State Wildlife Action Plans & Other Management Plans, Association of Fish and Wildlife Agencies. www.fishwildlife.org/pdfs/ClimateChangeGuidance%20Document_Final_December2009.pdf

Training

- Coastal Training Program, National Estuarine Research Reserve System. www.nerrs.noaa.gov/Training.aspx
- Education and Outreach Training, U.S. Fish and Wildlife Service National Conservation Training Center. <http://nctc.fws.gov/>
- Introduction to Hazard Mitigation (online), FEMA. <http://training.fema.gov/EMIWeb/IS/>
- Negotiating for Coastal Resources, NOAA Coastal Services Center. www.csc.noaa.gov/cms/cls/negotiating_coastal.html
- Public Issues and Conflict Management, NOAA Coastal Services Center. www.csc.noaa.gov/cms/cls/public_issues_conflict.html