EPA Climate Adaptation Webinar Series

State and Local Adaptation Planning Overview and Frameworks

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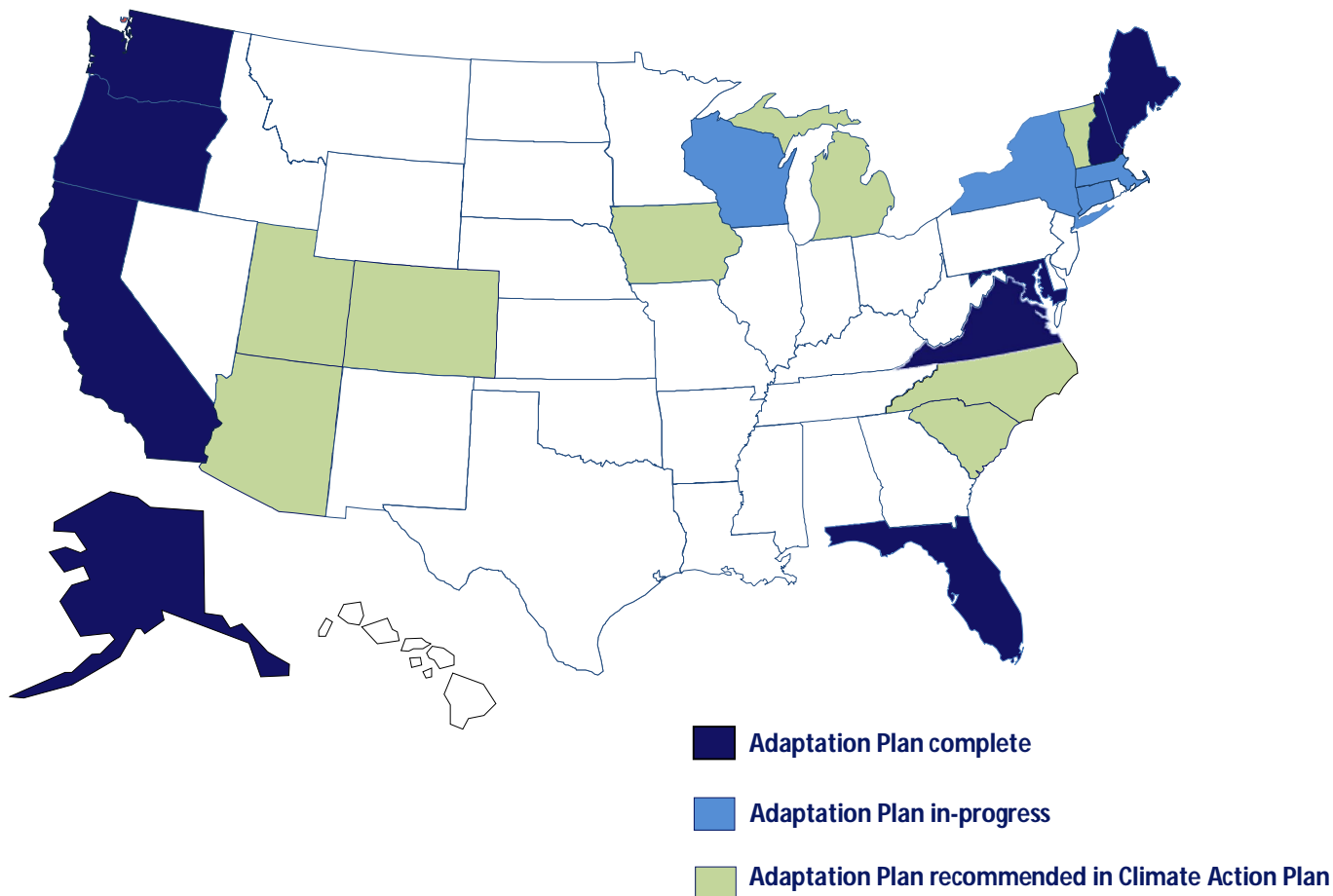
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"…adaptation to climate change calls for a new paradigm that takes into account a range of possible future climate conditions and associated changes in human and natural systems, instead of managing our resources based on previous experience and the historical range and variability of climate"

- *National Academy of Sciences, Panel on Adapting to the Impacts of Climate Change, 2010*

State Adaptation Planning Efforts

33 states have completed climate action mitigation plans while 13 states have started or completed their first adaptation plan or framework.[1]

■ Adaptation Plan complete

■ Adaptation Plan in-progress

■ Adaptation Plan recommended in Climate Action Plan

Source: http://www.pewclimate.org/what_s_being_done/in_the_states/state_action_maps.cfm

Local Adaptation Planning Efforts

While many adaptation projects are occurring at local levels, these are some local governments that have initiated comprehensive adaptation planning efforts.[1]

Homer, AK	Chicago, IL
Phoenix, AZ	Keene, NH
Berkeley, CA	New York, NY
Los Angeles, CA	Salt Lake City, UT
San Francisco, CA	Alexandria, VA
San Rafael, CA	King County/Seattle, WA
Miami-Dade County, FL	Milwaukee, WI

Heinz Center: *A Survey of Climate Change Adaptation Planning, 2007*

Comparison Criteria	ICLEI		Clean Air	C-CIARN	Tyndall Centre	Australian Government	NZ Climate Change Office	UK Climate Impacts Programme	UNEP
Applicable to different levels of government and types of environmental challenges	✓✓	✓✓	✓	✓	✓	✓	✓✓	✓	
Sufficient detail for policy construction	✓✓			✓	✓	✓	✓		
Provides a decision-making framework	✓	✓		✓	✓✓	✓✓	✓✓	✓✓	
Includes means to assess sensitivity, adaptive capacity, vulnerability	✓		✓	✓	✓✓	✓✓		✓✓	
Suggests steps for adaptive actions	✓✓	✓✓	✓✓	✓	✓	✓✓		✓✓	
Covers implementation	✓	✓		✓✓		✓✓	✓	✓	
Provides links to additional resources	✓✓		✓	✓✓		✓	✓✓		
Includes stakeholders	✓✓	✓✓	✓✓	✓✓	✓	✓	✓✓	✓	

Legend: ✓✓ discussed in depth   ✓ discussed in some detail   none -- very little detail or not discussed

Planning and Decision-Making Frameworks: Recent Releases[2]

Planning Frameworks	Target Audience
Center for Climate Strategies *Climate Adaptation Guidebook, 2011*	State and regional governments
ICLEI *Adaptation Database and Planning Tool (ADAPT), 2010*	Local governments
NOAA Office of Ocean and Coastal Resource Management *Adapting to Climate Change: A Planning Guide for State Coastal Managers, 2010*	U.S. coastal managers
Drought-Ready Communities *A Guide to Community Drought Preparedness, 2010*	Local governments; local water resource managers

Decision Making Frameworks	Target Audience
UKCIP *Risk, Uncertainty and Decision-Making Framework, 2009*	UK country governments and local governments
Georgetown Climate Center *Adaptation Tool Kit:* *Sea Level Rise & Coastal Land Use, 2011*	State and local governments, coastal and land use managers

General Steps in Adaptation Planning Frameworks

- Executive / Legislative Action to Establish Mandate

- Identify Climate Impacts

- Select Priority Areas

- Set Goals

- Conduct Vulnerability and Risk Assessments

- Identify and Select Adaptive Options

- Implement Recommended Actions

- Monitoring / Performance Reporting

- Plan Update

Authorizing Mechanisms for Existing State Adaptation Planning Processes
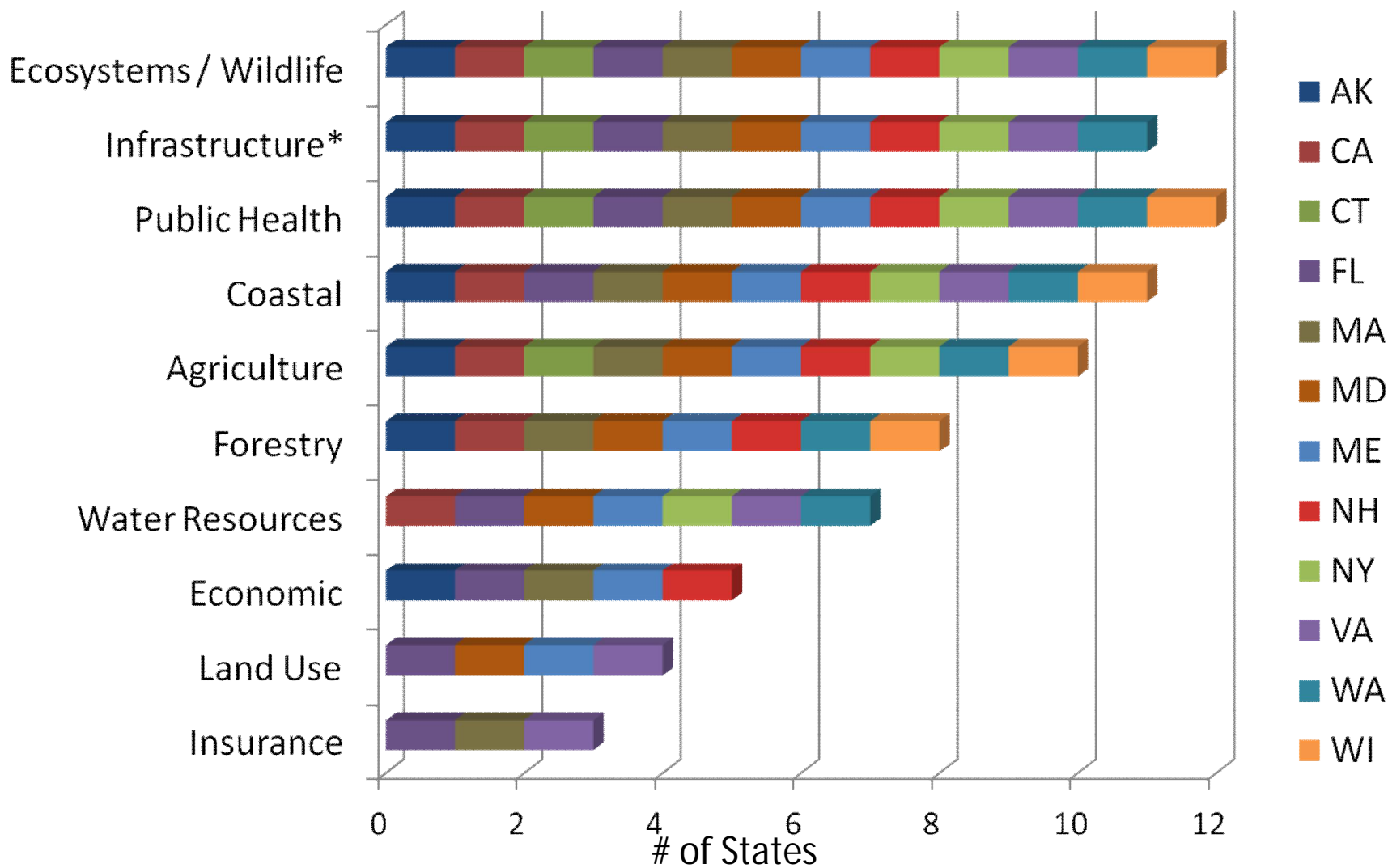
Executive Order	Legislation
Alaska	Connecticut
California	Maine
Florida	Massachusetts
Maryland	Oregon
New Hampshire	Wisconsin
New York	
Virginia	
Washington	

Whether through an executive order or legislation, leadership is critical to authorizing and enabling the planning process including the timeframe, scope, oversight entity, and working groups.

Priority Focus Areas

- Adaptation planning efforts are typically initiated in parallel with mitigation planning efforts (e.g. AK, CT, FL, MD, MA, NH, NY, OR, VA)

- Technical working groups are assigned to focus on sectors impacted by climate change. TWGs may have one or more sectors.

- Priority planning areas are informed by vulnerabilities, risks, resources, time and political climate.

- Dual adaptation planning initiatives occur (e.g. AK, CA, NY) to accommodate distinct objectives (i.e., near- vs. long-term outcomes)

Sectors Included in State Plans

MD and NY plans are limited to sectors and areas affected by the impacts from sea-level rise; does not include MD's 2nd adaptation planning effort currently underway.

* May include infrastructure in sectors such as energy, transportation, and water

Conducting Vulnerability and Risk Assessments

Evaluate how climate change could affect sectors, resources, populations.

Exposure: Conduct an inventory of resources (human, built, natural) that could be lost, injured or damaged. And, where possible, the cost of these impacts.

Identify where adaptation to climate may be required.

Sensitivity: Identify the degree to which these resources are or will be directly or indirectly affected by climate change.
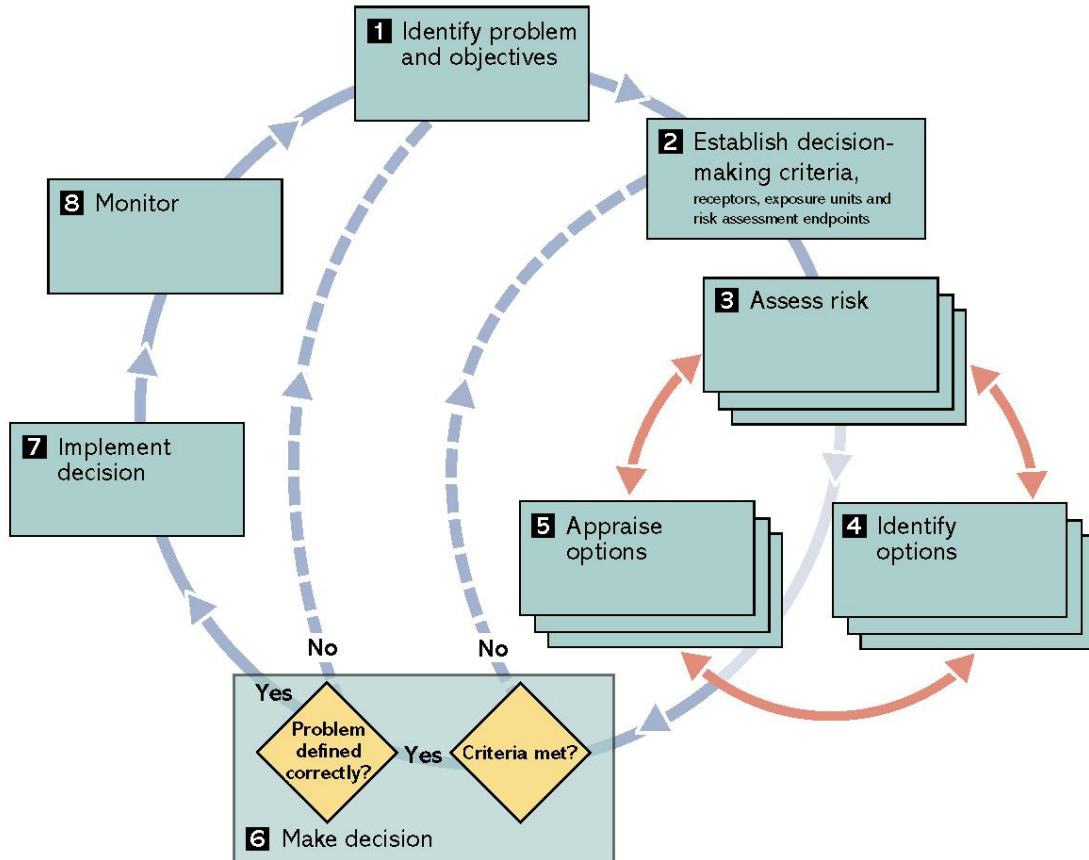
Adaptive Capacity: Understand the ability of these systems to adjust to the changes.

Prioritize adaptation options that could best accommodate the expected impacts

Conduct a risk assessment to ascertain the probability of impacts occurring and the magnitude or consequence should they occur.

Evaluating Adaptation Options - Decision Making Framework

- UK Climate Impacts Programme

- Utilizing the Risk Assessment process to evaluate options against predetermined criteria.

Key Elements of the Frameworks

- Maintain an adaptation <u>oversight</u> group from planning and assessment through implementation and monitoring

- Identify climate <u>impacts</u>, assess exposure to the hazards, evaluate <u>vulnerability and risk</u>

- Build political support and educate the <u>public</u> during the planning and implementation process

- Establish climate change adaptation <u>goals and evaluation criteria</u>

- Use qualitative and quantitative analysis to determine appropriate <u>policy options</u>, including finance options

- Measure and <u>monitor</u> adaptive actions to ensure effectiveness and efficiency and minimize unanticipated consequences

Mainstreaming Adaptation

Incorporating climate change risks and vulnerability into existing policies, programs, plans and actions

- Why is mainstreaming important?
  - Increases institutional awareness and expertise of climate change and impacts
  - Builds on and recognizes existing agency or organizational knowledge, resources, expertise and authorities
  - Leverages existing local, state, regional and federal level networks

- Used independently:
  - Creates a leaders and laggards problem with some agencies failing to meet their public responsibility.
  - Risks and strategies remain siloed

- Use as one directive or an interim step within a comprehensive strategy, and with centralized oversight.

Examples of Mainstreaming

- Coastal / Shoreline Management

- Drought Plans

- Emergency Management (e.g. Flood Evac Plans)

- Hazard Mitigation Plan

- Land Use

- Public Health (e.g. Heat Event Plans)

- Transportation Plans
  - 2060 Florida Transportation Plan (2010)
  - Climate Change and Transportation in Maine (2009)
  - Vermont Vtrans Climate Change Action Plan (2008)

- Water Resource Management Plans
  - City of Phoenix Water Resources Plan (and Update)
  - California Water Plan Update 2009 – Integrated Water Management

- Wildlife Action Plan
  - Virginia's Strategy for Safeguarding Species of Greatest Conservation Need from the Effects of Climate Change (supplement to WAP)

"…uncertainty is not the same thing as ignorance or lack of information – it simply means that there is more than one possible outcome as a result of climate change."

- *CCSP, Preliminary Report of Adaptation Options for Climate-Sensitive Ecosystems and Resources, 2008*

References

1. Adaptation Plans

For overviews and links to state and city adaptation plans, please visit the Georgetown Climate Center adaptation page at:
http://www.georgetownclimate.org/adaptation/adaptation-plans.php

2. Adaptation Planning and Decision-Making Frameworks

Center for Climate Strategies
www.climatestrategies.us

Center for Science in the Earth System (CIG), University of Washington; and King County, WA, *Planning for Climate Change: A Guidebook for Local, Regional, and State Governments*,
http://cses.washington.edu/cig/fpt/guidebook.shtml

ICLEI, Climate Resilient Communities 5-Step Adaptation Framework and ADAPT can be found at:
http://www.icleiusa.org/programs/climate/Climate_Adaptation/climate-resilient-communities-program

NOAA, Office of Coastal Resources Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers*, 2010.
http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf

UKCIP, Decision-Making Framework,
http://www.ukcip.org.uk/index.php?option=com_content&task=view&id=63&Itemid=9

Georgetown Climate Center
http://www.georgetownclimate.org/

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