

Adaptation Options at the Municipal Level

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Adapting to Climate Change in the Mid-Atlantic
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Northern Virginia Regional Commission

IPCC Report, 2005

Coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution. Population growth and the rising value of infrastructure in coastal areas increase vulnerability to climate variability and future climate change, with losses projected to increase if the intensity of tropical storms increases. Current adaptation is uneven and readiness for increased exposure is low. *** N [14.2, 14.4]

Pew Center, Climate Change 101

SUCCESSFUL APPROACHES TO ADAPTATION

Adaptation services are emerging as governments, businesses, and communities worldwide are recognizing the need to address current and potential climate change impacts (see Box 3: *Adaptation Planning Resources for U.S. State and Local Action*). Common elements in terms of methodology, or processes, for confronting climate change impacts include, but are not limited to:

Recognize that adaptation must happen at local and regional levels. Climate changes and their associated impacts vary greatly from location to location. Although national and international action is essential, many important decisions about how best to manage systems affected by climate change are made at local and regional levels. For example, states and localities have authority over land use planning decisions, including zoning and building codes, as well as transportation infrastructure. In some cases, state authority is extending to provide insurance coverage where the private market is retreating, exposing these states to larger financial risks. In exercising these authorities, managers, planners, and policy makers need to account for the potential outcomes of climate change. Yet systems such as water resources and species span city, county, and state lines. As a result, adaptation also requires planners from government, the private sector, and others to coordinate their activities across jurisdictions. Those engaged in planning need to share information, plan together, and collaboratively modify existing policies and procedures to ensure efficient and effective solutions. The exchange of information, resources, best practices, and lessons learned across jurisdictional lines and among different groups of stakeholders is a key element of successful adaptation planning.

Most U.S. Organizations Not Adapting to Climate Change

The report, "The Climate Crisis and the Adaptation Myth," is published by the Yale School of Forestry & Environmental Studies and is available at www.environment.yale.edu/publication-series/climate_change/.

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New Haven, Conn.-Organizations in the United States that are at the highest risk of sustaining damage from climate change are not adapting enough to the dangers posed by rising temperatures, according to a Yale report.

"Despite a half century of climate change that has already significantly affected temperature and precipitation patterns and has already had widespread ecological and hydrological impacts, and despite a near certainty that the United States will experience at least as much climate change in the coming decades just as a result of current atmospheric concentrations of greenhouse gases, little adaptation has occurred," says Robert Repetto, author of "The Climate Crisis and the Adaptation Myth" and a senior fellow of the United Nations Foundation...



Photo courtesy of Fairfax County Police Department



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Photo courtesy of Fairfax County Police Department



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Local Government Responsibilities

Health
Safety
Welfare





Thames Barrier, London England
Photo credit: Marc Pinter (flickr.com)

Adaptation Approach

Built Environment

Existing Development

Future Development

Natural Environment

Health, Safety, and
Awareness

Protect

Accommodate

Retreat

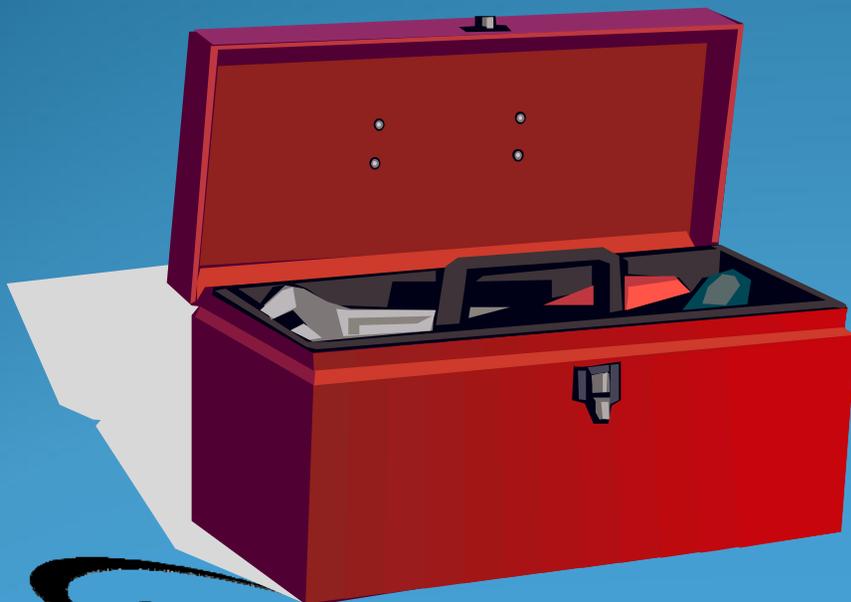


Existing Toolbox

Public Health
Programs

Hazard Mitigation
Planning

Comprehensive
Planning



Public Health Programs

 AIR QUALITY ACTION GUIDE Your "how to" guide for cleaner air	
Air Quality Rating	Steps to Protect Your Health and Our Environment
GOOD 0-50	Enjoy the great outdoors
MODERATE 51-100	Some Pollution - poses risk to the highly sensitive <ul style="list-style-type: none">• Carpool, use public transit, bike, or walk• Limit driving, consolidate trips• Reduce car idling
UNHEALTHY for Sensitive Groups 101-150	Pollution levels harmful to children, the elderly, and anyone with respiratory or heart conditions - limit activity outdoors <ul style="list-style-type: none">• Follow all action steps above• Refuel after dusk, use fuel-efficient vehicles• Avoid driving, use transit, telework• Avoid using aerosol products
UNHEALTHY 151-200	Pollution levels harmful to all - sensitive groups should avoid outdoor activities, others should limit outdoor exertion <ul style="list-style-type: none">• Follow all action steps above• Avoid using any gas-powered equipment• Wait to paint until air quality improves
VERY UNHEALTHY 201-300	Pollution levels very unhealthy for everyone - avoid any physical activity outdoors

- Awareness & Alerts
 - Air Quality
- Immunizations & Vaccinations
- Pollution Prevention
- Pest Control



Hazard Mitigation Planning

- Natural Hazards
 - Flooding
 - Winter Storms
 - Drought
 - Wildfires
- Mitigation Goals & Objectives
- Implementation Strategy



Land Use Planning

- Comprehensive Plan
 - Floodplain Management
 - Shoreline Management
 - Zoning Ordinances
 - Overlay Districts
 - Subdivision Ordinances
 - Wetlands Ordinances
 - Open Space & Recreation
 - Chesapeake Bay Preservation
- Master Plans
 - Public Space
 - Waterfront/Shoreline
 - Watershed
- Local Initiatives
 - Eco-City Charters
 - Smart Growth
 - Cool Counties
 - Cool Cities



Challenges to Implementation

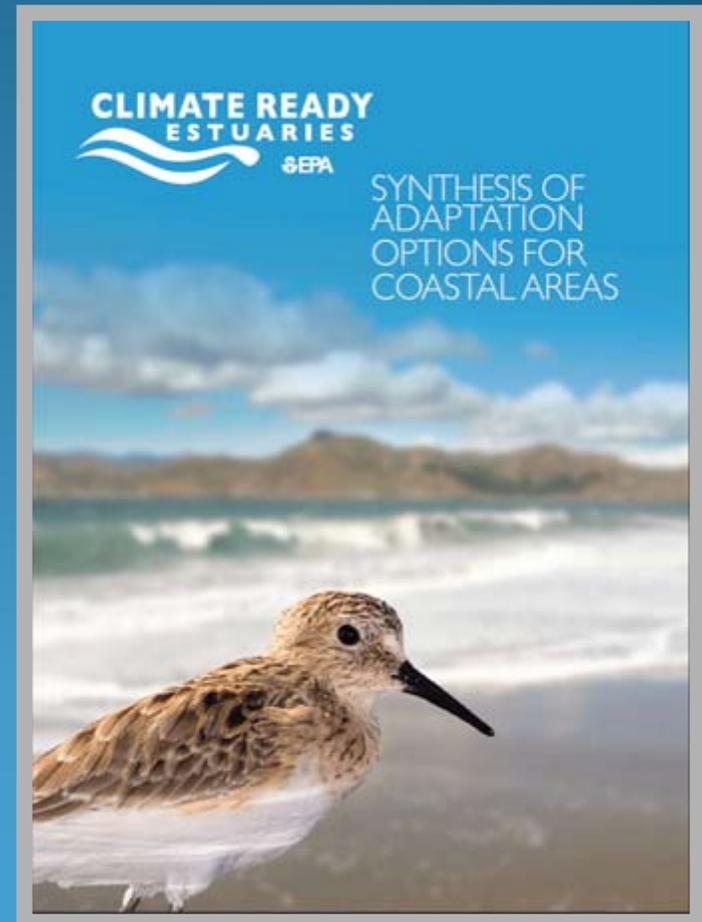
- “Climategate” & Skeptics
- Enabling Authority
- Private Land Rights
- Land Use Nomenclature
- Maintenance & Service Politics
- Funds

One size does not fit all.



Specific Strategies & Resources

- Education & outreach
- Integrating vulnerability assessment and adaptation options into HazMit planning processes
- Increasing freeboard and setback requirements
- Encouraging the transfer of development rights
- Creating rolling easements



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Thank you!

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