

Climate Change Adaptation Resources

National Oceanic and Atmospheric Administration (NOAA)

NOAA Climate Services Portal

<http://www.climate.gov/>

Serves as the central website for NOAA's climate data, products, and services from NOAA's National Climatic Data Center, Coastal Services Center, Climate Prediction Center, and others.

Coastal Climate Adaptation

<http://community.csc.noaa.gov/climateadaptation>

Focuses on adaptation-related resources, such as local and state plans, new policies, case studies, risk and vulnerability assessments, and decision-support tools. Provides a forum where users can suggest new resources, engage in dialogue on the issues, and submit comments and questions.

National StormSmart Coasts Network

<http://stormsmartcoasts.org/>

A resource for coastal decision-makers looking for the latest and best information on how to protect their communities from weather and climate hazards. Massachusetts included, Rhode Island coming soon.

“Local Strategies for Addressing Climate Change”

<http://www.csc.noaa.gov/magazine/climatechangestrategies.pdf>

Illustrates examples of the tools, programs, and projects that coastal resource managers are already using that address both direct and indirect effects of climate change.

“Adapting to Climate Change: A Planning Guide for State Coastal Managers”

<http://coastalmanagement.noaa.gov/climate/adaptation.html>

Provides science-based information on climate change to set the context for adaptation planning and includes steps for setting up a planning process, assessing vulnerability, devising a strategy, and implementing the plan. Compiles information from a number of sources and includes techniques currently being used successfully by coastal managers to address other coastal management issues such as coastal hazards, habitat loss, and secondary and cumulative impacts.

“Summary of Coastal Program Initiatives that Address Sea Level Rise as a Result of Global Climate Change”

http://www.seagrant.noaa.gov/focus/documents/hrcc/slr_policies_summary_mar6_final.pdf

Summarizes policies and initiatives aimed specifically at addressing the effects of climate change and sea level rise being carried out by Coastal Management Programs, including Sea Grant programs and others.

“Good Morning, America! The Explosive U.S. Awakening to the Need for Adaptation”

<http://aquacomm.fcla.edu/3010/>

Provides an overview of the public, political, and scientific concern with adaptation to climate change in the United States. Identifies barriers to adaptation planning and policy development, and provides suggestions to enable effective adaptation while avoiding the dangers of insufficient preparation.

Risk and Vulnerability Assessment Tool (RVAT)

www.csc.noaa.gov/rvat

Provides a process for conducting hazard identification, social and environmental vulnerability, and mitigation opportunity analyses as well as a storm surge visualization tool.

Digital Coast Coastal Inundation Toolkit

www.csc.noaa.gov/digitalcoast/inundation

Walks communities through an approach for understanding and addressing coastal inundation issues. Covers understanding coastal inundation, identifying exposure and potential impacts, mapping potential inundation and impacts, assessing community risks and vulnerability, and communicating risk strategies to initiate change. Provides case studies of how other communities are addressing this issue.

SLOSH (Sea, Lake and Overland Surges from Hurricanes)

www.nhc.noaa.gov/HAW2/english/surge/slosh.shtml

Computerized model run by the National Hurricane Center to estimate storm surge heights and winds resulting from actual and possible hurricanes.

Sea Level Online

<http://tidesandcurrents.noaa.gov/sltrends/sltrends.shtml>

Environmental Protection Agency

EPA's Climate Change Website

<http://epa.gov/climatechange/index.html>

Information on climate change indicators, climate economics, regulatory initiatives for greenhouse gas emissions, science, U.S. climate policy, greenhouse gas emissions, and health and environmental effects.

EPA's Climate Ready Estuaries Program

<http://www.epa.gov/cre/>

Information on climate change impacts to different estuary regions, access to tools and resources to monitor changes, and information to help managers develop adaptation plans for estuaries and coastal communities.

“Synthesis of Adaptation Options for Coastal Areas”

<http://www.epa.gov/climatereadyestuaries/adaptationoptions.html>

Provides a brief introduction to key physical impacts of climate change on estuaries and a review of on-the-ground adaptation options available to coastal managers to reduce their systems' vulnerability to climate change impacts.

Water Resource Adaptation Program (WRAP)

<http://www.epa.gov/nrmrl/wswrd/wqm/wrap/index.html>

Provides water resource managers and decision-makers with the tools they need to adapt water resources (e.g., watersheds and infrastructure) to future climate change and demographic and economic development.

Climate Ready Water Utilities Toolbox

<http://www.epa.gov/safewater/watersecurity/climate/toolbox.htm>

A searchable database for water utilities to identify relevant climate change resources, including current federal, state, and association activities related to climate change impacts on water resources and utilities; grant programs that could support climate-related actions by utilities and municipalities; publications and reports; tools and models; and workshops and seminars.

Federal Emergency Management Agency (FEMA)

Planning and Preparing for Hazards

<http://www.fema.gov/plan/index.shtm>

Helps identify people, property, and resources that are at risk of injury, damage, or loss from hazardous incidents or natural hazards. Helps determine and prioritize the precautionary measures that can make a community more disaster-resistant.

HAZUS-MH

<http://haz.main.org/taxonomy/term/19/all>

Estimates physical damage, economic losses, and social impacts from floods, hurricane winds, and earthquakes.

Digital Flood Mapping Products

http://www.fema.gov/plan/prevent/fhm/dfm_dfhm.shtm

Information about the FEMA requirements for Digital Flood Insurance Rate Maps (DFIRM) and DFIRM Database components.

ICLEI- Local Governments for Sustainability

“Climate Change Outreach and Communications Guide”

<http://www.icleiusa.org/action-center/engaging-your-community/outreach-and-communications-guide>

Helps local governments effectively communicate climate information to their constituencies.

Contains an array of steps and methodologies for communication and outreach efforts as well as a compilation of best practices from around the United States.

“Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments”

<http://www.cses.washington.edu/db/pdf/snoveretalgb574.pdf>

Clean Air Partnership

“Cities Preparing for Climate Change: A Study of Six Urban Regions”

http://adaptation.nrcan.gc.ca/projdb/pdf/171e_e.pdf

Section 3.1 of this report on urban and regional adaptation planning efforts has review of community engagement and awareness-building approaches taken by the six cities, as well as the effectiveness of these approaches.

U.S. Agency for International Development (USAID)

“Adapting to Coastal Climate Change: A Guidebook for Development Planners”

[http://www.usaid.gov/our_work/cross-](http://www.usaid.gov/our_work/cross-cutting_programs/water/docs/coastal_adaptation/adapting_to_coastal_climate_change.pdf)

[cutting_programs/water/docs/coastal_adaptation/adapting_to_coastal_climate_change.pdf](http://www.usaid.gov/our_work/cross-cutting_programs/water/docs/coastal_adaptation/adapting_to_coastal_climate_change.pdf)

An approach to assess vulnerability to climate change and climate variability, develop and implement adaptation options, and integrate options into programs, development plans, and projects at the national and local levels.

US Geological Survey

USGS Online Flood Information

<http://waterdata.usgs.gov/nwis/>

Map that tracks flood conditions in the United States. Real-time water monitoring that is part of a continuing effort by the USGS to assist the National Weather Service (NWS) in making accurate and timely flood forecasts. Information for surface and ground water from 1.5 million sites across the United States.

Intergovernmental Panel on Climate Change (IPCC)

<http://www.ipcc.ch/index.htm>

The leading intergovernmental, scientific body for the assessment of climate change, providing the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences.

PEW Center on Global Climate Change

Climate Change 101: Understanding and Responding to Global Climate Change

http://www.pewclimate.org/global-warming-basics/climate_change_101

A series of reports covering climate science and impacts, technological solutions, business solutions, international action, recent action in the U.S. states, and action taken by local governments.

Climate Adaptation Knowledge Exchange (CAKE)

<http://www.cakex.org/>

Aimed at building a shared knowledge base for managing natural systems in the face of rapid climate change. Consists principally of four interlinked components: Virtual Library, Case Studies, Directory, and Tools, as well as community forums for the discussion of current issues in conservation in a changing climate.

Regional/State

New England Integrated Sciences and Assessment

Indicators of Climate Change in the Northeast

<http://www.neisa.unh.edu/Climate/index.html>

View and download climate data for over 150 stations in the Northeast. View options such as: About NEISA, Climate, Air Quality and Health, Research and Products, Presentations, Publications, Calendar, New England Links and Data and Team Resources.

Union of Concerned Scientists

Northeast Climate Impacts Assessment (NECIA)

A collaboration between the Union of Concerned Scientists (UCS) and a team of more than fifty independent experts to develop and communicate a new assessment of climate change, impacts on climate sensitive sectors, and solutions in the northeastern United States.

“Climate Change in the U.S. Northeast”

http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf

“Rhode Island: Confronting Climate Change in the U.S. Northeast”

http://www.climatechoices.org/assets/documents/climatechoices/rhode-island_necia.pdf

Fact sheet based on: *Confronting Climate Change in the U.S. Northeast. Impacts and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA).

Brown University Center for Environmental Studies

“Preliminary Assessment of Rhode Island's Vulnerability to Climate Change and its Options for Adaptation Action”

<http://envstudies.brown.edu/Summary-RIClimateChangeAdaptation.pdf>

“Trees and the Urban Heat Island Effect: a Case from Providence, RI”

Release pending.

RI Coastal Resources Management Council

CRMC Sea Level Rise Regulations

http://www.crmc.ri.gov/regulations_adopted/2008-03-04_RICRMP_Section_145.pdf

Section 145 of the RICRMP: Climate Change and Sea Level Rise.

University of Rhode Island

“Literature Review of the U.S. Northeast Coastal Community: Management of Coastal Ecosystems and Natural Hazards.”

http://www.crc.uri.edu/download/Northeast_Literature_Review.pdf

Discusses priority issues of the primary audience in the northeast region, management of coastal ecosystems, coastal hazards resilience, and cross-cutting issues of data and information access and usability.

“Global Climate Change Induced Inundation Modeling of South Kingstown, RI”

http://www.ci.uri.edu/ciip/projects/gccinri/Thompson_MESM_SK&GCC.pdf

RI Department of Environmental Management

Climate Change and Rhode Island

www.dem.ri.gov/climate

Fact sheet series covering potential impacts on RI's coastal areas, drinking water, energy supply, economy, and health as a result of climate change.

Environmental Council of Rhode Island

“Global Warming in Rhode Island: Warning Signs, Winning Solutions”

<http://www.environmentcouncilri.org/pdf/global06.pdf>