

Additional Resources for Understanding Climate Change Impacts on Water Resources

Below are course-related resources, related training sources, and other web resources meant to provide additional details and information beyond what is provided in the course.

Course-Related Resources

Climate Change 101

<http://www.epa.gov/climatechange/basics/#happening>

Climate Change 101

<http://www.epa.gov/climatechange/science/causes.html>

<http://www.epa.gov/climatechange/basics/>

What is causing climate change?

<http://www.epa.gov/climatechange/science/causes.html>

What is causing this rise in greenhouse gases?

<http://www.epa.gov/climatechange/ghgemissions/>

<http://www.epa.gov/climatechange/basics/#responsible>

What are the indicators of climate change?

<http://www.epa.gov/climatechange/science/indicators/>

What are the observed and projected changes in the U.S.?

<http://www.epa.gov/climatechange/science/future.html>

<http://www.epa.gov/climatechange/adaptation/>

The Water Cycle

<http://www.epa.gov/climatechange/impacts/water.html#watercycles>

Vulnerability of Water Resources to Climate Change

<http://www.epa.gov/climatechange/impacts/water.html>

<http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm>

The EPA National Water Program

<http://www.epa.gov/climate-change-water-sector>

Changes to Water Supplies

<http://www.epa.gov/climatechange/impacts/water.html#waterquality>

<http://www.epa.gov/climatechange/impacts/water.html#watercycles>

U.S. EPA Office of Water Climate Change Adaptation Implementation Plan (March 2014),
<http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm>

EPA National Water Program Highlight - WaterSense

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

Local Case Study – Colorado Springs Utilities, CO

Colorado Springs Utility Press Release: Colorado Springs Utilities wins 2014 WaterSense Partner of the Year Award: <https://www.csu.org/Pages/news10092014.aspx>

US EPA Press Release: EPA recognizes Colorado Springs Utilities as WaterSense Partner of the Year:
<http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/5baecc8fe51f1c5185257a8d0071b687!OpenDocument>

Local Case Study – Tuolumne Utilities District, Sonora, CA

Tuolumne Utilities District; TUD Teams Up with EPA on Drought Resilience Project:
<http://www.tudwater.com/tud-teams-epa-drought-resilience-project/>

Increased Water Pollution

<http://www.epa.gov/climatechange/adaptation/overview.html>

U.S. EPA Office of Water Climate Change Adaptation Implementation Plan (March 2014),
<http://water.epa.gov/scitech/climatechange/2012-National-Water-Program-Strategy.cfm>

EPA National Water Program Highlight – Green Infrastructure

U.S. EPA; Green Infrastructure for Climate Resiliency -
<http://www.epa.gov/green-infrastructure/green-infrastructure-climate-resiliency>

Local Case Study – Kansas City, MO

<https://www.kcwaterservices.org/programs/ocp/>

<https://www.kcwaterservices.org/wp-content/uploads/2013/09/Roadshow-Website-Version.pdf>

Stormwater Management Model – Climate Adjustment Tool:
<http://www.epa.gov/water-research/storm-water-management-model-swmm>

National Stormwater Calculator - Climate Assessment Tool:
<http://www.epa.gov/water-research/national-stormwater-calculator>

Local Case Study – Southfork Nooksack River, WA

U.S. EPA; EPA Region 10 Climate Change and TMDL Pilot Project -
<http://nepis.epa.gov/Exe/ZyNET.exe/P100G6H8.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000006%5CP100G6H8.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

U.S. EPA; EPA Region 10 Climate Change and TMDL Pilot -
http://www.epa.gov/wed/pages/KleinWorkshop/Klein_ProjectOverview_Day1.pdf

Quantitative Assessment of Temperature Sensitivity of the South Fork Nooksack River under Future Climates using QUAL2Kw - http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=288533

U.S. EPA; EPA Region 10 Climate Change and TMDL Pilot Project – South Fork Nooksack River, Washington - http://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=307432

Risks to Infrastructure and Operations

<http://www.epa.gov/climatechange/science/future.html#Precipitation>

U.S. EPA Office of Water Climate Change Adaptation Implementation Plan (May 2014) -
<http://www.epa.gov/sites/production/files/2015-03/documents/ow-climate-change-adaptation-plan.pdf>

<http://www.epa.gov/climatechange/impacts/coasts.html>

EPA National Water Program Highlight – Climate Ready Water Utilities

U.S. EPA; Climate Ready Water Utilities (CRWU) - <http://www.epa.gov/crwu>

U.S. EPA; Water Infrastructure: Moving Toward Sustainability -
http://www.epa.gov/sites/production/files/2015-04/documents/sustainable_practices_utilities_roadmap_crwu.pdf

Local Case Study – South Monmouth, NJ

One Water Ohio; EPA’s Climate Resilience Evaluation and Awareness Tool (CREAT) -
http://www.onewaterohio.org/docs/1300_EPAs_Climate_Resilience_Evaluation_and_Awareness.pdf

Federal Emergency Management Agency; South Monmouth Regional Sewerage Authority Unique Mitigation (Video) - <https://www.fema.gov/media-library/assets/videos/86134>

Federal Emergency Management Agency; Sewerage Authority Mitigation Plan Reduce Risk of Environmental Disaster - <https://www.fema.gov/news-release/2013/11/21/sewerage-authority-mitigation-plan-reduces-risk-environmental-disaster>

Local Case Study – Wailuku-Kahului Wastewater Reclamation Facility, HI

Department of Land and Natural Resources - State of Hawaii;
<http://files.hawaii.gov/dlnr/meeting/submittals/140411/K-2.pdf>

Watershed Degradation

<http://www.epa.gov/climatechange/impacts/ecosystems.html>

U.S. EPA Office of Water Climate Change Adaptation Implementation Plan (May 2014),
<http://epa.gov/climatechange/Downloads/OW-climate-change-adaptation-plan.pdf>

EPA National Water Program Highlight – Healthy Watersheds, Recovery Potential Screening, Watershed Index Online

U.S. EPA; Healthy Watersheds - <http://water.epa.gov/polwaste/nps/watershed/>

U.S. EPA; Recovery Potential Screening - <http://www.epa.gov/rps>

U.S. EPA; Watershed Index Online - <http://gispub.epa.gov/wsio/>

Local Case Study – Taunton River Watershed, MA

Taunton River Watershed Climate Change Adaptation Plan (May 2013) -
https://www.manomet.org/sites/default/files/publications_and_tools/Taunton_Watershed%205-13.pdf

Manomet Center for Conservation Sciences; Moving from Vulnerability to Resilience: Sustaining Ecosystem Services in the Face of Climate Change -
<kresge.org/sites/default/files/Uploaded%20Docs/Manomet%20CCS.pdf>

Coastal Impacts

National Climate Assessment; Coastal Zone Development and Ecosystems -
<http://www.epa.gov/climatechange/impacts/coasts.html>

U.S. EPA Office of Water Climate Change Adaptation Implementation Plan (May 2014),
<http://www.epa.gov/sites/production/files/2015-03/documents/ow-climate-change-adaptation-plan.pdf>

EPA National Water Program Highlight – Climate Ready Estuaries

U.S. EPA; Climate Ready Estuaries - <http://www.epa.gov/cre>

U.S. EPA; *Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans* -
<http://www.epa.gov/cre/being-prepared-climate-change-workbook-developing-risk-based-adaptation-plans>

U.S. EPA; Climate Change Risk Management: CRE Adaptation Projects and the Risk Management Process - <http://www.epa.gov/cre/climate-change-risk-management-cre-adaptation-projects-and-risk-management-process>

U.S. EPA; Rolling Easements Primer - <http://www.epa.gov/sites/production/files/documents/rollingeasementsprimer.pdf>

U.S. EPA; King Tides Fact Sheet - <http://www.epa.gov/cre/king-tides-fact-sheet>

Local Case Study – San Juan Bay Estuary Program, PR

U.S. EPA; San Juan Bay Information - http://water.epa.gov/type/oceb/nep/programs_sjb.cfm

Estuary Program of San Juan Bay - <http://www.estuario.org/>

U.S. EPA; National Estuary Program Coastal Condition Report - <http://www.epa.gov/national-aquatic-resource-surveys/national-coastal-condition-assessment>

Ocean Acidification: The *Other* CO₂ Problem

National Climate Assessment; Ocean Acidification - <http://nca2014.globalchange.gov/report/our-changing-climate/ocean-acidification>

EPA National Water Program Highlight – Marine Ecosystem Valuation, Modeling and Monitoring

<http://nca2014.globalchange.gov/report/our-changing-climate/ocean-acidification>

Local Case Study – Casco Bay National Estuary Program, ME

www.cascobayestuary.org

Climate Change Impacts in the U.S. - Temperature

<http://www.epa.gov/climatechange/science/future.html#Temperature>

Climate Change Impacts in the U.S. - Precipitation

<http://www.epa.gov/climatechange/science/future.html#Precipitation>

Climate Change Impacts in the U.S. - Weather

<http://www.epa.gov/climatechange/science/future.html#Precipitation>

Climate Change Impacts in the U.S. – Sea Level

<http://www.epa.gov/climatechange/science/future.html#sealevel>

Climate Change Impacts in the U.S. – Ocean Environment

<http://www.epa.gov/climatechange/impacts/water.html>

Related Training

U.S. EPA:

- Local Government Climate Adaptation Training - www.epa.gov/localadaptationtraining
- U.S. EPA's YouTube Video Playlist for Climate Change - <https://www.youtube.com/playlist?list=PLBhfkkujnoRB2-MJKSMN9SL0jZOjXz8Am>
- U.S. Climate Resilience Toolkit Training Course - <http://toolkit.climate.gov/training-courses>

National Oceanic and Atmospheric Administration:

- <http://climate.gov/teaching>
- <https://www.youtube.com/user/NOAAClimate/videos>

U.S. Global Change Research Program:

- <http://www.globalchange.gov/browse/educators>

National Aeronautics and Space Administration:

- http://climate.nasa.gov/climate_resource_center/interactives/quizzes

U.S. Department of Agriculture Forest Service:

- <http://www.fs.usda.gov/ccrc/>

U.S. Department of Agriculture Natural Resources Conservation Service:

- http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/climatechange/resources/?cid=stelp_rdb1048146

Additional Web Resources

To understand more about climate change impacts and adaptation, visit:

<http://nca2014.globalchange.gov/>

To learn more about climate change impacts on water resources, visit:

<http://www.epa.gov/climatechange/impacts/water.html>

To find more about information about what EPA is doing to reduce greenhouse gases, visit:

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

To read other federal adaptation and implementation resources, visit:

<http://www.globalchange.gov/resources/federal-agency-adaptation-planning-resources>

To view the President's Climate Action Plan, visit:

<https://www.whitehouse.gov/administration/eop/ceq/initiatives/resilience>

To access the Climate Resilience Toolkit, visit:

<https://toolkit.climate.gov/>