



An Overview of EPA's *Climate Change Adaptation Plan*

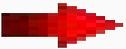
**Presentation to the
EPA Science Advisory Board**

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The Climate is Changing

It's changing at an increasingly rapid rate, outside the range to which society has adapted in the past.

 The past is no longer a good predictor of the future.



Climate Change and EPA's Mission

- Many of the outcomes EPA and its state partners are trying to attain (e.g., safe drinking water, clean air) are sensitive to changes in climate.
- Until now, EPA has been able to assume climate is relatively stable and future climate will mirror past climate
 - ➡ But the past is no longer a good predictor of the future.
- **EPA and its partners must adapt.** We must anticipate and plan for future changes in climate.



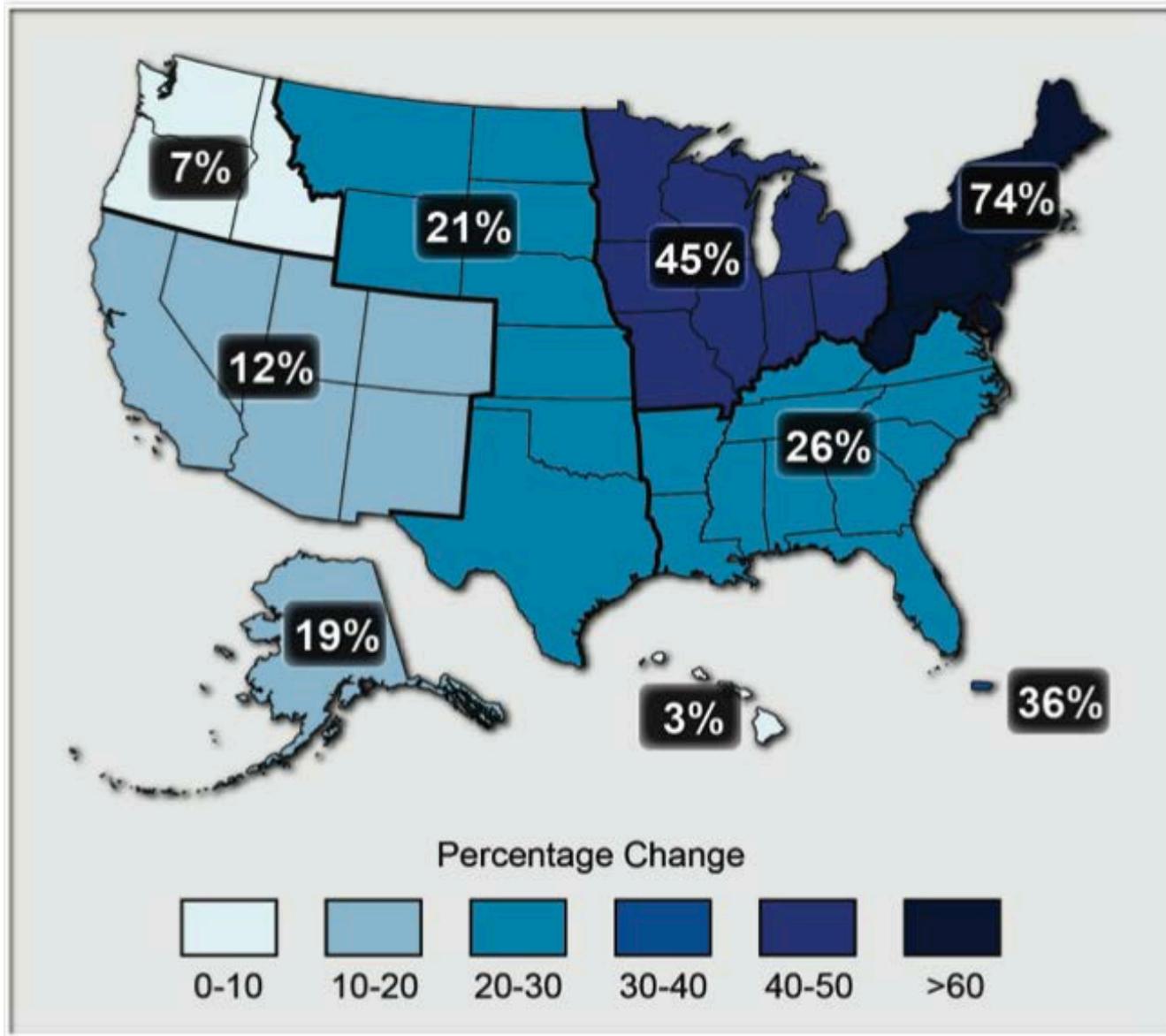
Examples of the Importance of Climate Adaptation for EPA's Mission

USA: Combined sewer overflows



**1.2 trillion gal of sewage & stormwater a year
discharged during combined sewer overflows
– would keep Niagara Falls roaring for 18 days**

Percentage Change in Very Heavy Precipitation



1958-2011



Combined Sewer Overflow in the Great Lakes Region (EPA report released February 2008)

- Issue: There are 182 combined sewer systems in the Great Lakes Region. Billions of dollars are being spent redesigning and rebuilding these systems.
- Key Questions:
 - ✓ Does climate change matter to the redesign of combined sewer systems in the Great Lakes Region?
 - ✓ When the climate changes, how might CSO event frequency change, and in how many cases will the four CSO events per year threshold be exceeded?
- If combined sewer systems are designed to meet the EPA's CSO Control Policy design standard of 4 events per year, but fail to plan for climate change:
 - ✓ climate change may result in failure to meet the standard
 - ✓ **there could be an average of 237 events per year above the control policy's objectives across 182 communities**



Examples of the Importance of Climate Adaptation for EPA's Mission

- **Water:**
 - ✓ Increased risk of sewer overflows and wastewater bypasses
 - ✓ Integrity of coastal water infrastructure systems could be put at increased risk
 - ✓ Saltwater intrusion in surface water and ground water, placing increased demands on drinking water treatment
 - ✓ Increased pollutant loads to water bodies could increase annual POTW treatment costs
- **Air:**
 - ✓ Increased tropospheric ozone pollution in certain regions could make it more difficult to attain NAAQS for ozone in many areas with existing ozone problems
- **Clean-up of Contaminated Sites and Waste Management:**
 - ✓ Increased risk of contaminate release from EPA sites due to increasing heavy precipitation events, increasing risk of floods, and sea level rise
- **EPA Facilities and Operations:**
 - ✓ Increased risks to EPA facilities in coastal or flood-prone areas



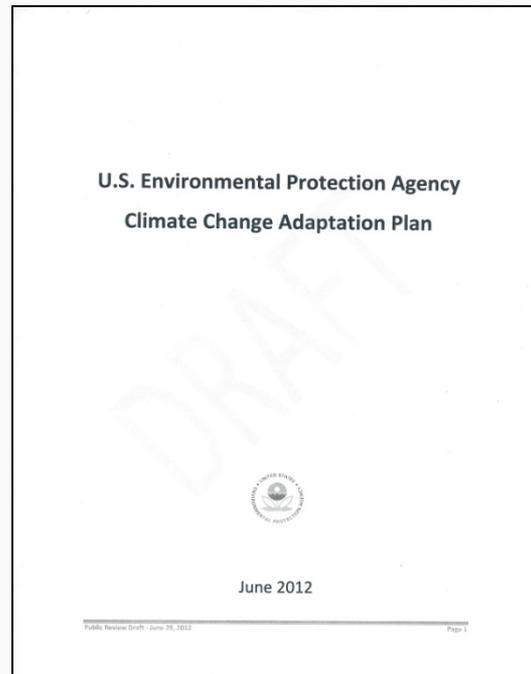
- Climate adaptation planning must be “mainstreamed” into EPA’s programs, policies, rules, and operations to ensure they remain effective under future climatic conditions.
- Climate adaptation helps ensure that investments (e.g., water infrastructure) made with scarce taxpayer dollars are effective even as the climate changes.



Cross-EPA Work Group on Climate Change Adaptation

- Established in January 2011
- Senior representatives from *all* National Environmental Program Offices, all 10 Regional Offices, and National Support Offices
- Responsible for development and implementation of EPA *Climate Change Adaptation Plan* and Program and Regional Office *Implementation Plans*
- 2012 National Honor Award: Work Group awarded an EPA Gold Medal for Exceptional Service.

Draft EPA *Climate Change Adaptation Plan*



<http://epa.gov/climatechange/pdfs/EPA-climate-change-adaptation-plan-final-for-public-comment-2-7-13.pdf>



Central Element of EPA's Efforts: Building Adaptive Capacity

EPA will mainstream climate adaptation planning by:

- Building and strengthening the “adaptive capacity” of its **staff** and its partners in the **states, tribes, and local communities**
- Supporting their efforts to integrate climate adaptation into the work they do by:
 - ✓ increasing awareness of ways climate change may affect their ability to implement effective programs
 - ✓ providing necessary data, information and tools



Empower communities through partnerships!



EPA Climate Change Adaptation Plan

- Part 1: Vision of the Future EPA
- Part 2: **Identifies known Vulnerabilities** to EPA's Mission from Climate Change
- Part 3: Mainstreaming Climate Change Adaptation in EPA: **Agency-wide priorities**
- Part 4: Measuring and Evaluating Performance



Agency-wide Priorities

1. Fulfill Strategic Measures in FY 2011-2015 EPA *Strategic Plan*
2. Protect Agency facilities and operations
3. Factor legal considerations into adaptation efforts
4. Strengthen adaptive capacity of EPA staff and partners through training
5. Develop decision-support tools that enable EPA staff and partners to integrate climate adaptation planning into their work
6. Identify cross-EPA science needs related to climate adaptation
7. Partner with tribes to increase adaptive capacity
8. Focus on most vulnerable people and places
9. Measure and evaluate performance
10. Develop Program and Regional Office *Implementation Plans*

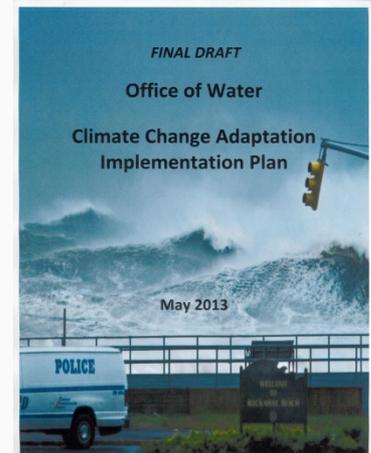


Public Review and Comment

- Draft EPA *Climate Change Adaptation Plan* released for public review and comment on February 8, 2013.
- 60-day comment period (ended April 9, 2013)
- Final *Plan* to be released soon.

<http://epa.gov/climatechange/impacts-adaptation/fed-programs.html>

Implementation Plans



- Draft Climate Change Adaptation *Implementation Plans* developed by every National Environmental Program Office and all 10 Regional Offices
- Purpose: To provide more detail on the work they will do to address the Agency-wide priorities on climate adaptation
- **60-day public review and comment period ends January 3, 2014.**

Examples of Priority Commitments in EPA Implementation Plans

- State Revolving Loan Funds: EPA's National Water Program will recognize and encourage climate change consideration in the management of Clean Water and Drinking Water State Revolving Loan Funds.
- Brownfield Grants: The EPA Office of Solid Waste and Emergency Response will require brownfield grant recipients to take potential changing climate conditions into consideration when evaluating cleanup alternatives.
- Climate Ready Water Utilities Program: Work with water suppliers to assess risks from climate change and explore how to prepare.
- EPA Region 2: Work with stakeholders to build climate resiliency into Hurricane Sandy recovery activities.
- EPA Region 5: Will integrate consideration of climate impacts and adaptation into Great Lakes Restoration Initiative-funded projects.
- EPA Region 8: Work with regulated federal facilities to ensure they are designed to manage stormwater to help limit pollution loads in local water bodies.



Decision Support Tools and Resources

EPA has been producing data, information, and tools
that are already available
to inform adaptive management decisions.



Climate Resilience Evaluation & Awareness Tool (CREAT)





THE PRESIDENT'S CLIMATE ACTION PLAN

Executive Office of the President

June 2013





EPA and the President's *Climate Action Plan*: Adaptation

- All EPA commitments contained in the President's Plan are drawn from the Agency's *Climate Change Adaptation Plan* and the Program and Regional Office *Implementation Plans*.



Executive Order on “Preparing the United States for the Impacts of Climate Change”

November 1, 2013



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