

Federal Adaptation Community of Practice

BUILDING A CLIMATE RESILIENT NATIONAL CAPITAL REGION

A Federal – Regional Partnership to
Prepare Washington, DC to the Impacts of Climate Change



Presentation by
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National Capital Planning Commission

July 23, 2014

What is Resiliency?

Photo:: Washington Times



Example of Pile Foundation, Saco, ME. Image by P.A. Slovinsky, 12/2009.



the ability to anticipate, prepare for, and adapt to changing conditions

Photo:: Dept. of Homeland Security



Photo:: Upmagazine.com

... and withstand, respond to, and recover rapidly from disruptions.

Concurrent Regional Climate Resiliency Efforts in the National Capital Region

**Metropolitan
Washington
Council of
Governments
Adaptation
Activities**

**Lead:
Metropolitan
Washington COG**

Regional

**NCR Climate Risk
Assessment Pilot
(CEQ GreenGov
Spotlight
Communities)**

**Lead:
GSA**

**Federal Facilities
and Supply Chain**

**Monumental
Core Climate
Adaptation
Initiative**

**Lead:
NCPC**

**Federal, District
and Regional**

**Sustainable DC
Climate
Adaptation Plan**

**Lead:
District
Department of
the Environment**

**City/Local
Climate
Adaptation Plan**

Context: Federal Triangle Flood in June 2006



Context: Regional impacts of June 2006 Rain Event



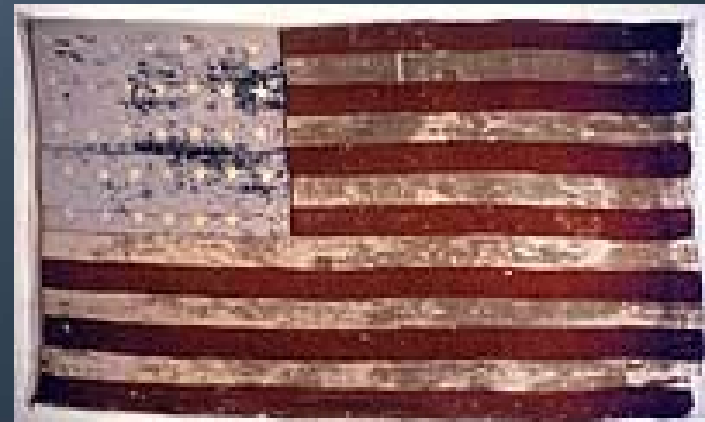
The only Da Vinci in the U.S. is housed in the National Gallery of Art

Extreme weather is also a threat to the country's historical and cultural treasures



The original Old Glory is displayed in the Smithsonian Museum of American History

The National Archives is steward to the Charters of Freedom



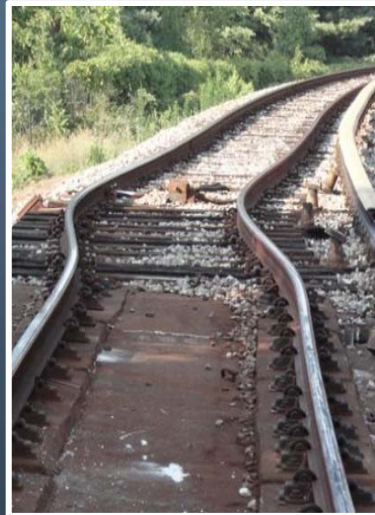
Climate change threats in the National Capital Region



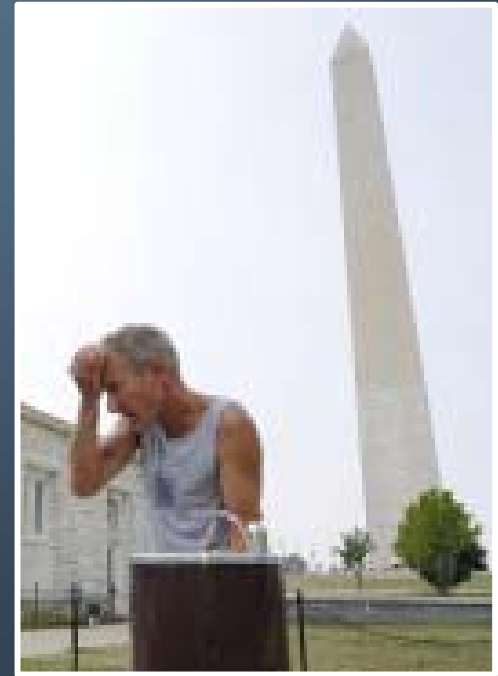
Wikimedia commons



National Park Service



Washingtonpost.com



StreetSense.org

Context: Regional Coordination in Federal Policies

E.O. 13514

Federal Leadership in Environmental, Energy and Economic Performance

E.O. 13653

Preparing the United States for the Impacts of Climate Change

GAO-13-283, 2013 Report on High Risk Areas

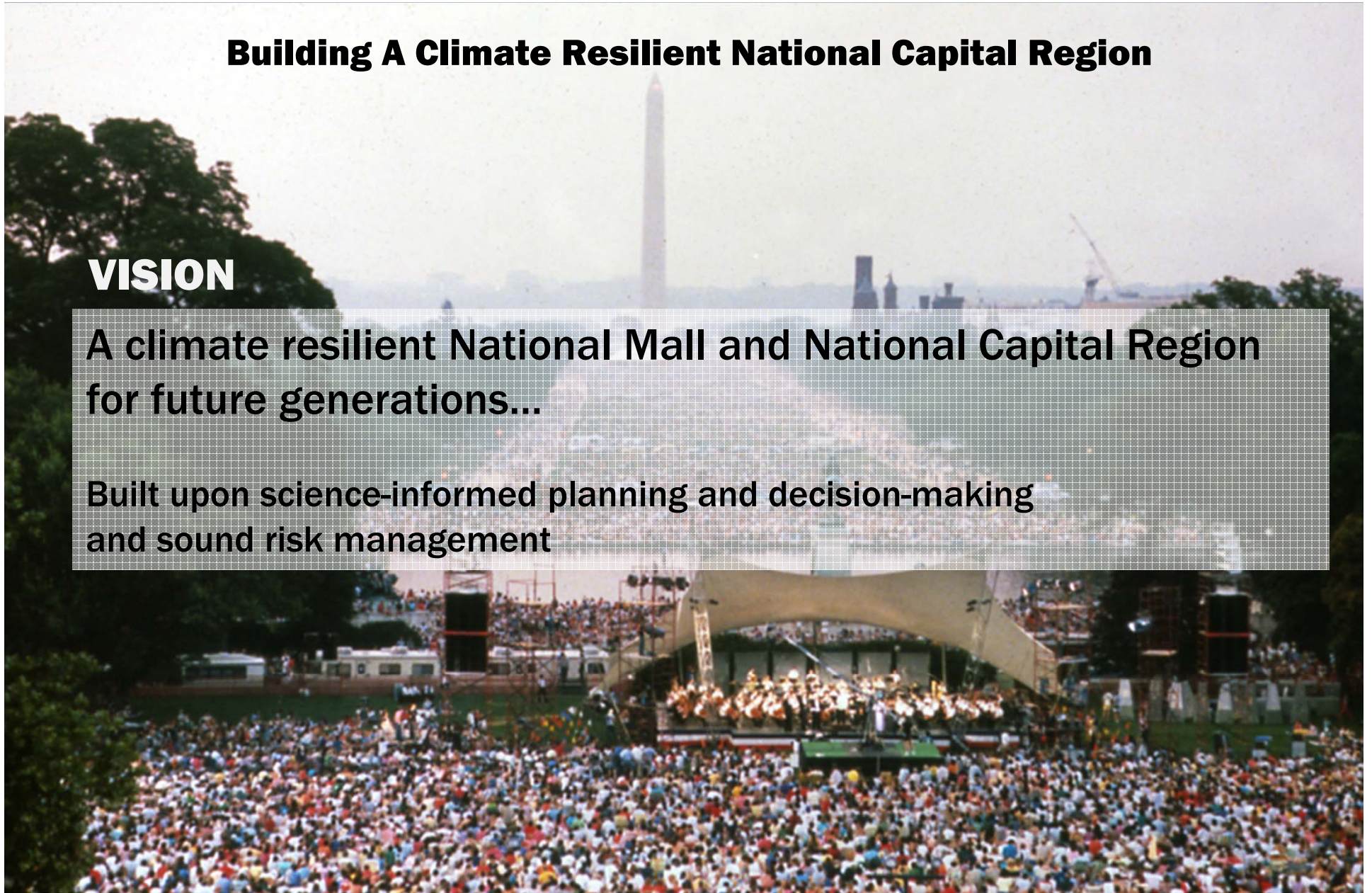
“The federal government would be better positioned to respond to the risks posed by climate change if federal efforts were more coordinated and directed toward common goals.”

Building A Climate Resilient National Capital Region

VISION

A climate resilient National Mall and National Capital Region for future generations...

Built upon science-informed planning and decision-making and sound risk management



Building A Climate Resilient National Capital Region



OBJECTIVES

1. Build capacity, capability and confidence
2. Create networks and partnerships
3. Encourage proactive adaptation planning

Participants

3 Utility Companies

Alex Renew
District of Columbia Water and Sewer
Authority (DC Water)
PEPCO

8 Local/City Agencies

Arlington County
City of Alexandria
District of Columbia
DC Air Quality Agency (part of DDOE)
DC Department of the Environment
DC Department of General Services
DC Office of Planning
DC Department of Consumer and
Regulatory Affairs
DC Homeland Security and Emergency
Management Agency

3 Regional/State Organizations

Metropolitan Washington Council of
Governments
University of Michigan (AAA Fellow)
Washington Metropolitan Area Transit
Authority

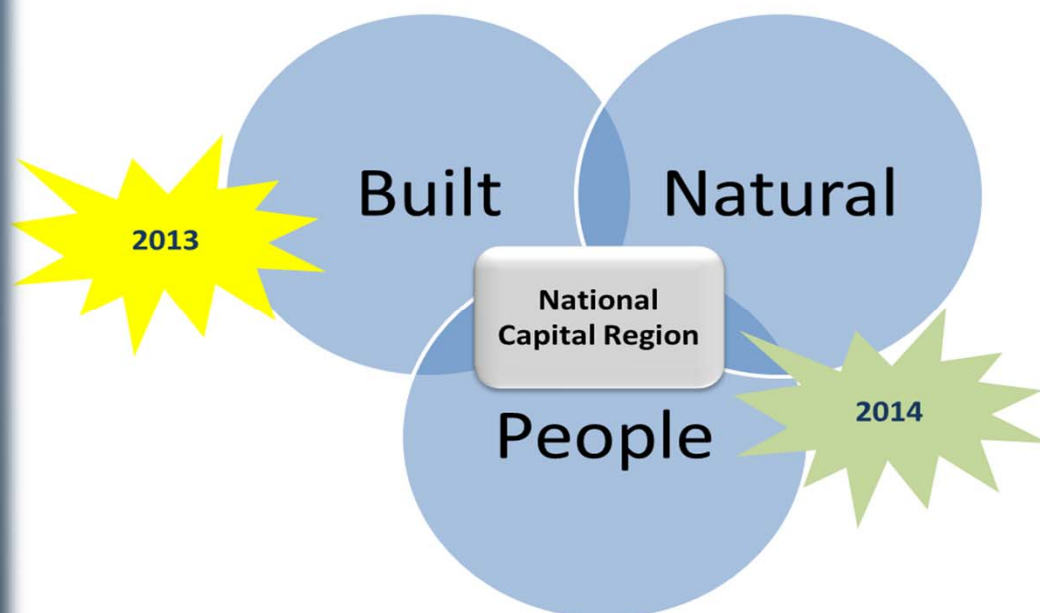
7 Non-Governmental Organizations

Center for Clean Air Policy
Downtown Business Improvement District
Global Cool Cities Alliance
Greater Washington Board of Trade
National Geographic
National Wildlife Federation
Smithsonian Institution

19 Federal Agencies

Building A Climate Resilient National Capital Region

What's the *scope*?



Necessary Support Systems for Any Community

Building A Climate Resilient National Capital Region

Webinar 1: Orientation

**Webinar 2: Climate Variables and
Homework Instructions**

**Workshop 1: Vulnerability
Assessment**

Workshop 2: Adaptation Strategies

Homework

1. identify their **top 4 priority risks** and the associated climate variables,
2. rate the impacts of each risk to their built assets, workforce or community systems for 3 **time periods**: present, 2020s and 2050s,
3. describe the **critical threshold** of their system,
4. describe the **impacts of each climate variable** to their system, and
5. identify **current responses** (work-arounds) and **planned responses**

Climate Variables

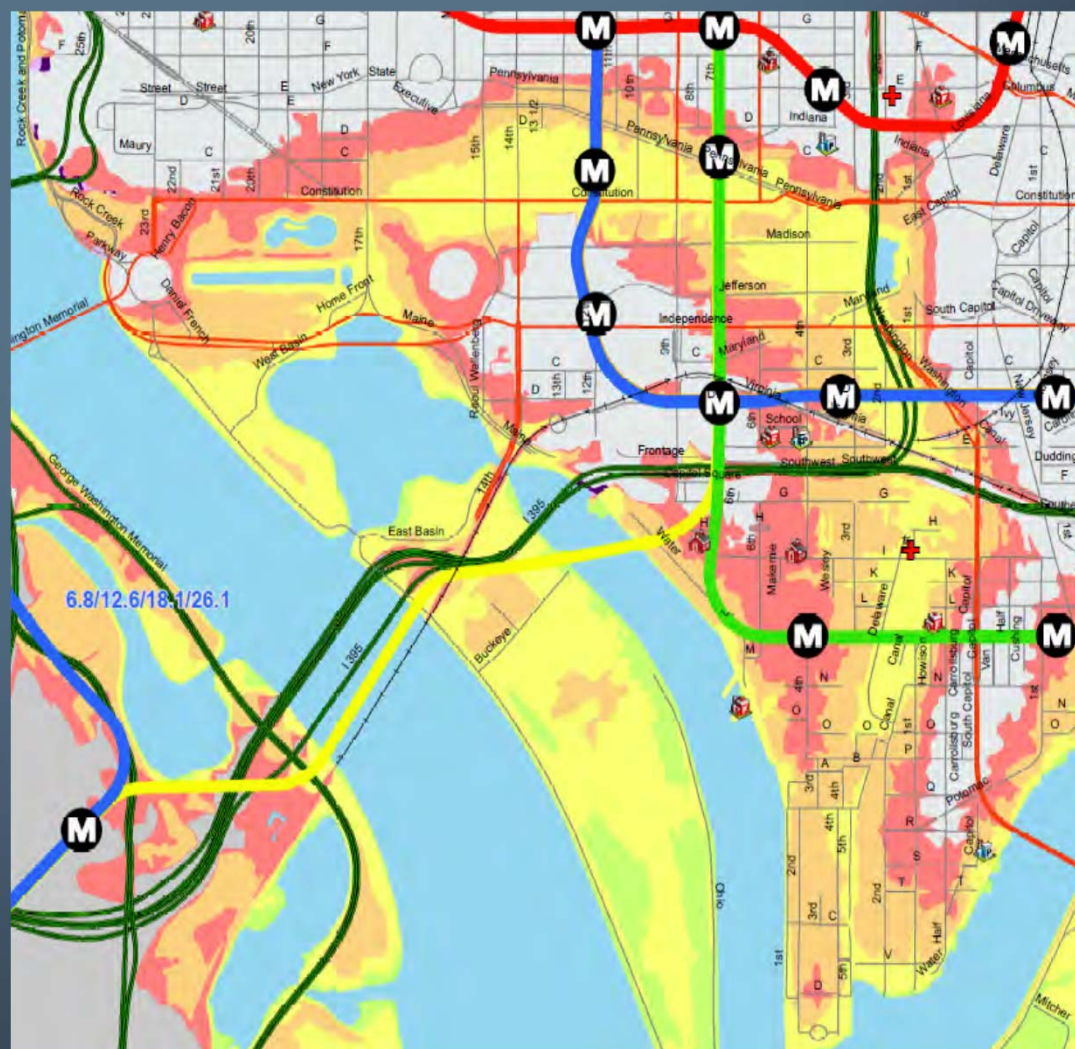
CLIMATE VARIABLES

Gradual

- Sea Level Rise
- Precipitation Variability
- Higher Average Temperature

Extreme Events

- SLR + Storm Surge
- Heavy Precipitation
- Drought
- Heat Waves



2009 Storm Surge Map for Washington, DC

Vulnerability Workshops

Built System (Types of Assets at Risk)

- Buildings
- Electrical Systems
- IT/Telecomm Infrastructure
- Regional Transportation System
- Navigational Aids
- Airplanes & Ground Fleet Vehicles
- Air Traffic Control Tower
- Wastewater Treatment Plants
- Sewer Pump Stations
- Drinking Water Pump Station
- Historic form of the city (Cultural Landscapes)

Workforce, Community & Natural Systems

- Workforce commuting
- Workforce and family health
- Working conditions
- Impacts on agricultural research
- Work load, other factors affecting productivity
- Water quality
- Drinking water

Adaptation Strategies Workshops

BUILT SYSTEMS

Transportation

Energy/IT/Telecom

**Stormwater/
Wastewater**

**Geographic/
Historic Areas**

Governance

WORKFORCE, COMMUNITY AND NATURAL SYSTEMS

Terrestrial –

designed landscapes, forested areas,
and other managed green areas

Community Vitality

**Stormwater/
Wastewater**

Workforce Productivity



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BUILT SYSTEMS	CLIMATE VARIABLE	TITLE OF ADAPTATION STRATEGY
Transportation	Primary - Flooding, Heavy Precipitation, SLR plus storm surge; Secondary – heat stress, power	Create and Implement a Regional Climate Transportation Resiliency Action Plan, guided by a regional advisory body.
Energy/IT/Telecom	Primary - Higher average temperature; Secondary – SLR and Storm Surge, Heavy Precipitation	Ensure a Reliable Overarching Electrical Grid/Supply System Across the NCR in Response to a Changing Climate
Stormwater/Wastewater	Heavy Precipitation/ Flooding	By 2030, implement a wastewater and stormwater management program to accommodate anticipated precipitation events in 2080 to protect people and infrastructure
Geographic/Historic Areas	SLR with storm surge, Heavy Precipitation/ Flooding	Flood Resilience in the Monumental Core
Governance	N/A	<ul style="list-style-type: none"> A. Develop joint funding for large-scale, cross boundary, multi-jurisdictional adaptation strategies B. Create an interagency body to address climate adaptation activities



United States
Global Change
Research Program



WORKFORCE, COMMUNITY AND NATURAL SYSTEMS	CLIMATE VARIABLE	TITLE OF ADAPTATION STRATEGY
Terrestrial – designed landscapes, forested areas, and other managed green areas	Heavy Precipitation / Wind, Droughts, Precipitation Variability, Higher Average Temperatures	Protect and increase green systems in DC
Community Vitality	Heat Waves/ Higher Average Temperature	Enhance community vitality and heat resiliency with multi-purpose indoor/outdoor centers of activity and cooling
Stormwater/ Wastewater	Heavy Precipitation/ Flooding	By 2030, implement a wastewater and stormwater management program to accommodate anticipated precipitation events in 2080 to protect people and infrastructure
Workforce Productivity	Heat Waves and Variability	Achieving optimal worker productivity in the face of more frequent extreme heat events

Climate Adaptation Strategies Exercise

Major Steps

Type of
Strategy

Lead
Implementer

Major
Stakeholders

Estimated Cost
(if known)

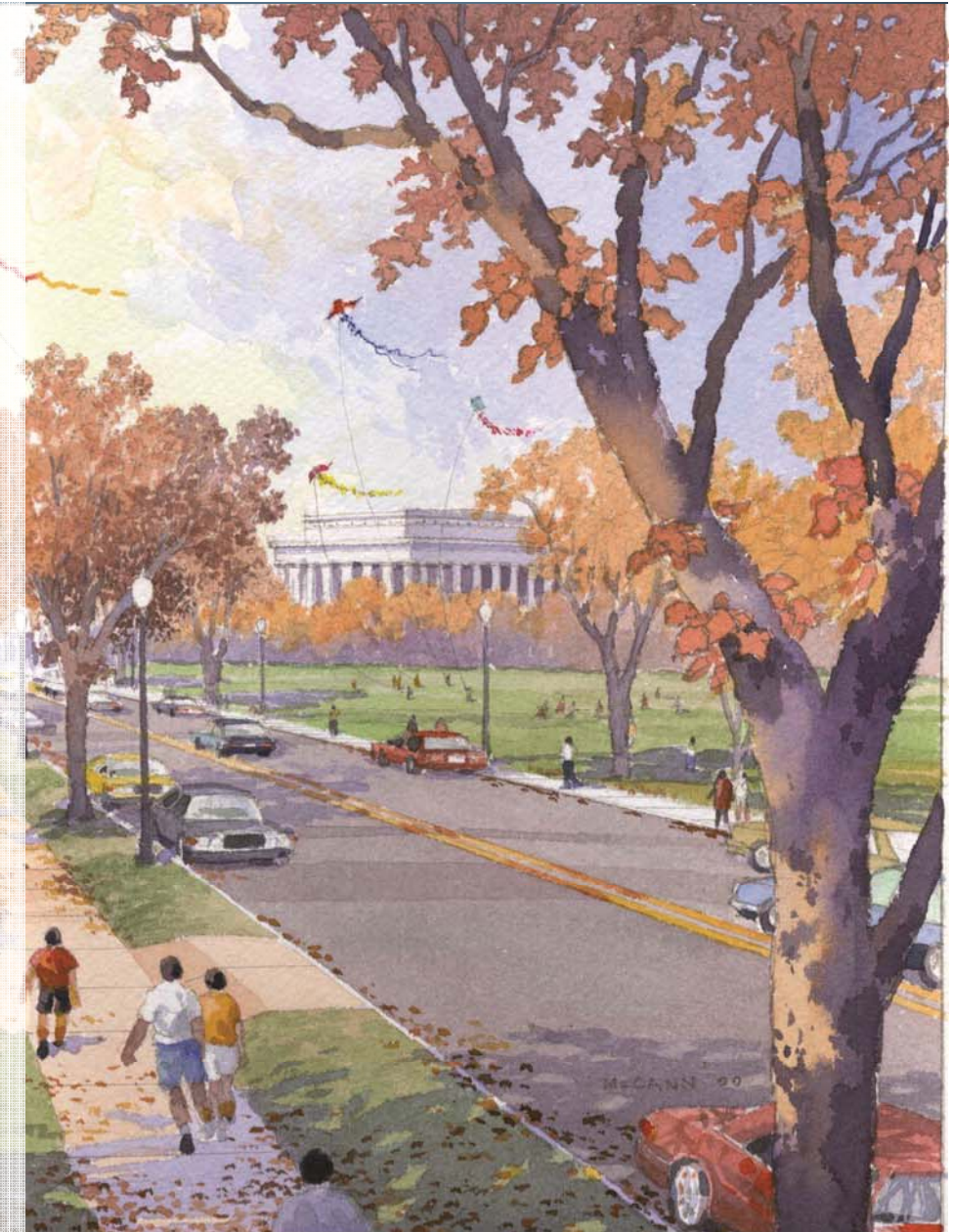
Potential
Funding
Sources

Partnerships
that can be
leveraged

Timeframe for
Implementation

CONCLUSIONS

1. Educate and inform our constituencies about climate risks
2. Coordinate adaptation efforts for maximum benefits and no regrets
3. Decide our risk tolerance and priority actions
4. “Mainstream” our adaptation strategies using risk management model
5. Fund system-wide adaptation actions through partnerships
6. Encourage grassroots initiatives alongside government actions



Next Steps

- Identify potential short term actions and longer term ones through the existing interagency working groups and committees
- Finalize the “Building A Climate Resilient National Capital Region” report
- Continue to share “Lessons Learned” and results with interested groups



Thank You

Building A Climate Resilient National Capital Region



Outcomes

- Learned how to communicate climate change issues to leaders
- Developed a multi-agency perspective on the region's vulnerability to climate change
- internal coordination among departments *within* federal agencies
- Crosscutting discussions broadened understanding of interdependencies and synergies among agencies, the infrastructure systems, and regional resources
- Increased awareness of economic risks and regional resiliency





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19 Federal

Architect of the Capitol

Department of Agriculture

Department of Defense, Washington Headquarter Services (Pentagon)

Department of Health and Human Services

Department of the Interior

Department of Justice

Department of Transportation

Department of the Treasury

Environmental Protection Agency

Federal Aviation Administration (Dept. of Transportation)

Federal Emergency Management Agency (Dept. of Homeland Security)

General Services Administration

Internal Revenue Service (Dept. of the Treasury)

National Aeronautics and Space Administration

National Archives and Records Administration

National Capital Planning Commission

National Park Service (Dept. of the Interior)

Naval Facilities Engineering Command (Department of Defense)

U.S. Global Change Research Program

Stakeholder Outreach and Participant Resources

June 10, 2014

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Metropolitan Washington Council of Governments

One Region Moving Forward

- Transportation
- Environment
- Housing & Planning
- Health & Human Services
- Homeland Security & Public Safety
- Cooperative Purchasing
- Information & Publications
- Events Calendar
- Committee Business
- News Room

Environment

[Home](#) > [Environment](#) > [Climate Change](#) > [Adaptation](#) > [Building Resilience](#)

Building Resilience

Starting in fall, 2013, NCPC, GSA, NASA, MWCOG, US Global Change Research Program, and the Smithsonian Institution are sponsoring free invitation-only webinars and workshops to assist your agency's climate adaptation planning and improve regional coordination. MWCOG is hosting this site on behalf of the [Core Planning Team](#).

Building a Climate Resilient National Capital Region

Preparing for Climate Change Requires Regional Coordination

The Washington, DC area is already experiencing the effects of climate change, including more frequent extreme weather events, rising temperatures, and recurring flooding. Climate scientists project that these changes will continue. Impacts will affect residents and workers; real estate assets, business, government, and institutional operations; and natural resources. Further, this area holds a unique concentration of federal buildings, irreplaceable cultural and historic treasures, nationally significant monuments and landscapes, and diverse communities.

Federal, regional, and local organizations have an opportunity to work together, share technical information, and collaborate on climate adaptation strategies tailored to the National Capital Region. Stewardship of the region's resources requires coordinating policy, tools, information, and expertise with others. Many federal, regional, and local agencies are individually exploring climate adaptation strategies for their buildings, infrastructure, workforce, and landscapes. However, no single entity can address all its climate change risks without working with other area organizations.

Help Your Agency or Organization Prepare: Attend Upcoming Webinars and Workshops

Continuing the information-sharing and partnership-building activities that started in the autumn of 2013 and focused on built systems, NCPC, GSA, NASA, MWCOG, the Smithsonian Institution, and USGCRP are sponsoring a second series of free invitation-only webinars and workshops. The 2014 activities are focused on workforce, communities, and natural systems and are intended to assist your agency's climate adaptation planning and improve regional coordination.

Series 1: Built Systems (Completed in 2013)

Series 2: Workforce, Communities, & Natural Systems Webinars

- Orientation on scope, activities, and expectations (2/12/2014)
- Climate science & projected impacts (2/13/2014)
- Characterizing Climate Risks & Vulnerabilities (2/19/2014)

Collaborative Workshops

- Shared Risks & Vulnerabilities (4/1/2014)
- Adapting Workforce, Communities & Natural Systems (4/29-30/2014)

Participants will be equipped to:

- Understand what climate trends and risks to expect
- Assess organizational impacts
- Explore a range of adaptation responses/actions
- Prioritize appropriate action and develop adaptation strategies
- Incorporate climate criteria into existing plans

Participants will also:

- Learn from and ask questions of climate experts
- Gather best practices in climate adaptation strategies
- Learn how other organizations' climate adaptation efforts relate to their own
- Help identify needed information and available resources
- Develop partnerships for addressing shared risks

For more information, visit [mwco.gov/environment/climate/resilience.asp](#)

- Overview
- About the COG Program
- Climate Change 101
- Climate Impacts and Adaptation
- Climate Change Public Comment
- What is Being Done?
- What Can You Do?
- Climate & Energy Awards
- Additional Resources
- Related COG Programs
- Staff

Additional Information

- [Copy of Announcement Letter - Built Systems](#) (Including List of Invited Agencies)
- [Copy of Announcement Letter - Workforce, Communities, & Natural Systems](#)
- [Workshop and Webinar Schedule as of 1/23/14](#)
- [Link to Additional Resources and Documents](#)

Risks and Vulnerability Workshop - Matrix

Buildings				Building Components (e.g., IT, Telecom, structural elements (roof))				Energy				Wastewater			
SLR+SS	HP	D	HW	SLR+SS	HP	D	HW	SLR+SS	HP	D	HW	SLR+SS	HP	D	HW
												maj	mod	min	mod
maj	min	min	min												
	min														
maj	min	min	min												
												maj	min	min	
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maj	maj		maj	maj	maj	maj	maj	maj	maj			maj	maj		
maj	min	mod					mod	mod							
				maj	min		mod	mod				mod	mod		
				maj	min		mod	mod				mod	mod		
min	min	NA	Mod								Mod				