

# 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 and impact residents and workers, real estate assets, business, government, and institutional operations, and natural resources. Further, Washington's core holds a unique concentration of federal buildings, irreplaceable cultural and historic treasures, and nationally significant monuments and landscapes.

Federal, regional, and local organizations now 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 land, building, transportation and infrastructure. However, no single entity can address all its climate change risks without working with other area organizations.

## Help Your Agency Prepare: Attend Upcoming Webinars and Workshops

Starting this fall, NCRP, GSA, NASA, MMECG, and the Smithsonian Institution are sponsoring free invitation-only webinars and workshops to assist your agency's climate adaptation planning and improve regional coordination.

### Webinars

- Agency point of contact orientation on scope and activities
- Climate science and expected regional climate change impacts

### Collaborative Workshops

- Series 1: Built Environment
- Series 2: Workforce, community, and the natural environment

### Participants will be equipped to:

- Understand built climate trends and risks to expect.
- Assess organizational impacts.
- Explore a range of adaptation responses/actions.
- Identify appropriate action and develop near- and long-term adaptation strategies.
- Incorporate climate criteria into existing workforce, built environment, and natural resources management plans.

### Participants will also:

- Learn from climate experts.
- Gather best practices in climate adaptation strategies.
- Learn how other organizations' climate adaptation efforts reduce to their own.
- Help identify needed information and available resources.

*"We've got to build smarter, more resilient infrastructure that can protect our people, our businesses, and withstand more powerful storms..."*

*"It's a partner with communities making help to prepare for drought and floods..."*

*"And we'll also open our climate data and NOAA climate imagery to the public..."*

*President Barack Obama, speech on climate change at Georgetown University, June 26, 2013*



Flooding in Washington's monumental park (above) and Old Town Alexandria (below). Damaged buildings, stranded motorists, and numerous substantial investments for repair and protection.



For more information visit: [www.nrcrp.gov/climate](http://www.nrcrp.gov/climate)



Building a Climate Resilient National Capital Region

# Characterize Risks Webinar – Built Systems

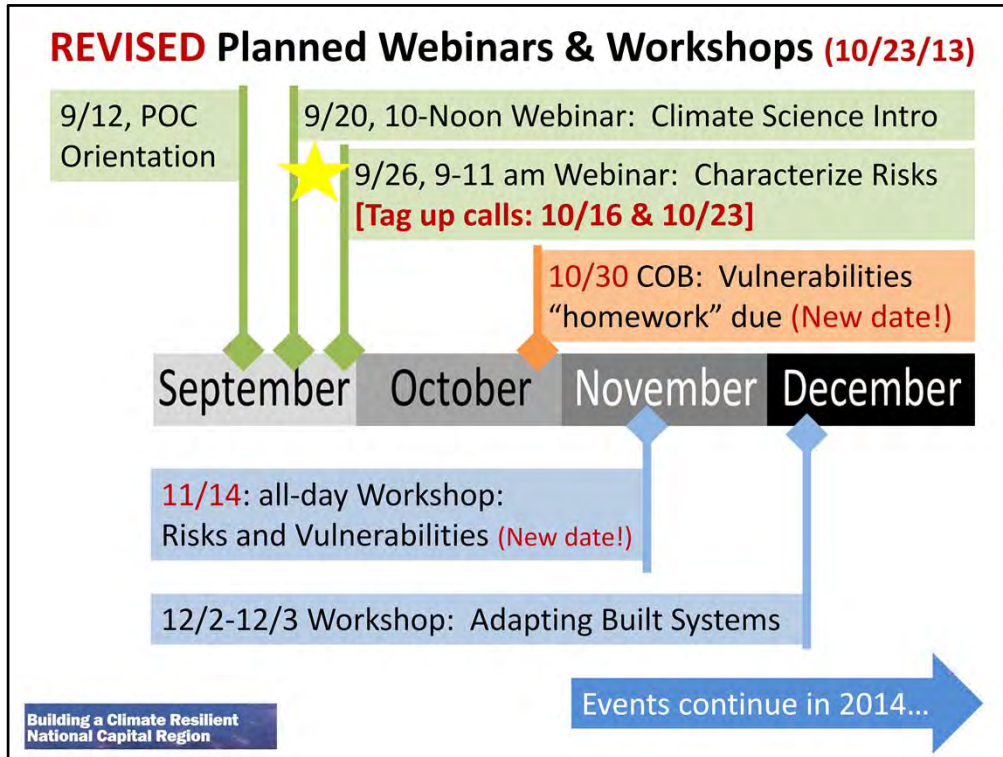
Ann Kosmal (GSA)  
Christina Hudson (SAIC/Leidos)

September 26, 2013  
(Revised October 23, 2013)

## Today's Agenda

- Webinar context
- A word from GSA
- Homework assignment for Built Systems:
  - Setting the stage
  - What do I need to provide?
  - When it is due? To whom?
  - Who can I turn to with questions?
- Answer questions

- Webinar context – Orientation Webinar presentation in pdf was sent to Webinar attendees.
- GSA is providing remarks as questions arose in Orientation Webinar regarding role for those Federal agencies that have office space in GSA buildings.
- Description of homework assignment due 10/30
- Answer questions



- Schedule chart presented during Orientation webinar (9/12) – gives overview of webinars and workshops
- Climate Science webinar (9/20) was recorded. We’re in the process of making it available.
- Focus in 2013 – Built Systems; in 2014 – Natural and People/Community systems (see Slide 13)

**\*\*\*\*NOTE: Update email sent to all on 10/9/13:**

We recognize that we are currently in a less than desirable situation with the government shutdown and many of our hard-working colleagues are unable to work at this time.

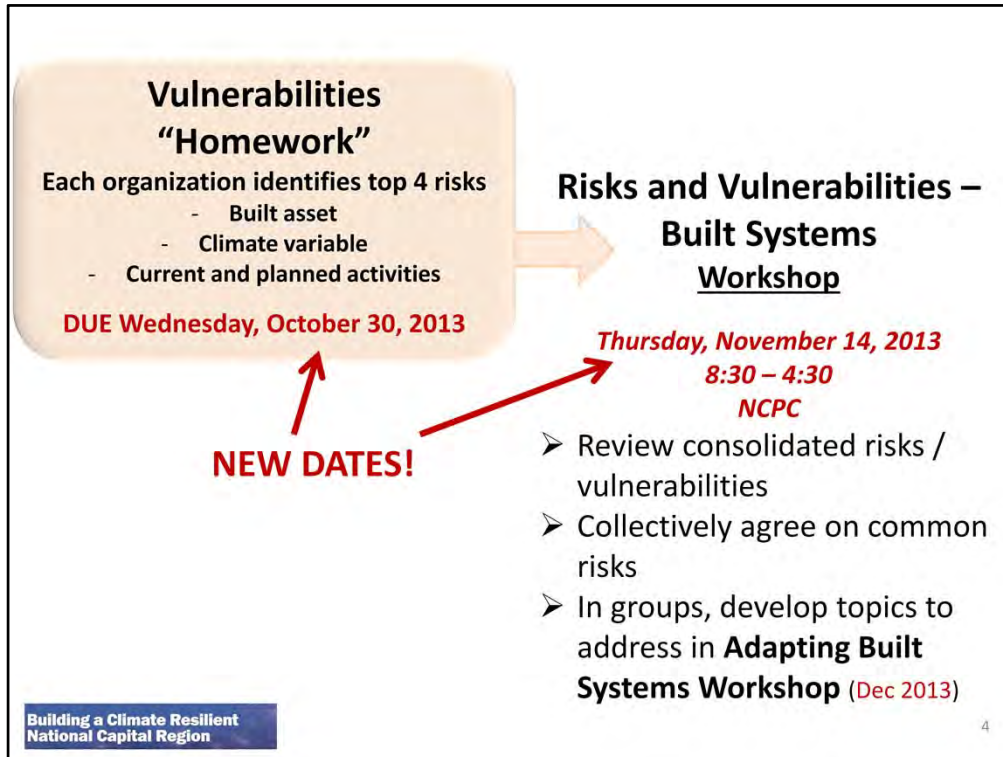
Despite these challenges, we would like to move forward as much as we can and provide information to everyone and in particular to those who can work during the shutdown.

Here is the latest in terms of upcoming events - all of which are related to Built Systems:

- Homework assignment - should be distributed by COB October 11<sup>th</sup> with initial due date of October 23<sup>rd</sup> (Now 10/30) recognizing that others may need more time
- Information and Q&A teleconferences/webexes will be set up for Wednesday, October 16<sup>th</sup> and 23<sup>rd</sup>, for 1 hour starting at 10 am to answer questions relative to the homework assignment
- The Risks and Vulnerabilities – Built Systems - Workshop, currently scheduled for Wednesday, October 30<sup>th</sup>, may be rescheduled for November 13 or 14, 2013 – **NOW**

rescheduled for 11/14)

- The Adapting Built Systems Workshop remains scheduled for December 2-3, 2013
- MWCOG is finalizing a website to host information and files associated with this series of events - that link will be distributed with the Homework assignment



- Important to remember: “Homework” yields important information for Risks & Vulnerabilities - Built Systems - Workshop on 11/14; efforts during that workshop leads to the starting material for Adapting Built Systems Workshop in December.

## Adapting Built Systems

### Workshop

*1-2 days - December 2 - 3, 2013*

*GSA*

#### **Participant Focus: Built asset topics identified by groups at Risks & Vulnerabilities Workshop**

- What are adaptation strategies for long-term sustainability?
- How can we invest wisely together?
- What are the priority activities that should take place:
  - immediately?
  - by the end of 2016?
  - by the end of 2030?Both for your agency/org and with the other participant orgs?

**GOAL: Collective long range infrastructure planning and methods to convey/inform an imperative for action – if needed – to national decision makers as this site is the nation's capital.**

Building a Climate Resilient  
National Capital Region

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- Focusing on how we develop strategies for the long- term; focus is on long-term sustainability of the mission.
- What do we need to do immediately? What do we need to do by the end of 2016? By the end of 2030?
- No one entity is going to solve this alone. Need to have all involved to save this place with special meaning.

GSA's customers must execute  
their missions in a **changing  
climate.**

A. Kosmal (GSA):

GSA is providing remarks as questions arose in Orientation Webinar regarding role for those Federal agencies that have office space in GSA buildings.

So, what does all this mean in relation to GSA's services ?

# PARTNERSHIP

Enable **fit for purpose** throughout lifetime and contribute to **long-term value** for money in public expenditure terms.

GSA is providing remarks as questions arose in Orientation Webinar regarding role for those Federal agencies that have office space in GSA buildings.

A. Kosmal (GSA):

- GSA supplies real estate services and supply acquisition services.
- Really important to understand what we're all working for as a partnership.
- GSA needs input from its customers to have the impetus for getting funding to address the most important issues.
- GSA cannot do this alone!





GSA is providing remarks as questions arose in Orientation Webinar regarding role for those Federal agencies that have office space in GSA buildings.

A. Kosmal (GSA):

- Want to be Future Ready and **AVOID OBSOLESCENCE**
- This is good management as it is adjusting to a changing climate to reduce negative effects and take advantage of new opportunities.
- Looking for the sweet spot of mission, climate, and budget.

THE PRESIDENT'S PLAN WILL  
**PREPARE THE U.S. FOR THE IMPACTS OF CLIMATE CHANGE**  
**WE'VE MADE GREAT PROGRESS**

**PROGRESS:** In 2010, federal agencies released Climate Change Resilience plans for the first time, identifying strategies to protect their operations, interests, and programs from the impacts of climate change.

**PROGRESS:** The US Global Change Research Program, NCEM, ECCC, and FEMA developed and released inventories on how our water and ecosystems are being affected by climate change and how to adapt.

**THERE'S MORE WORK TO DO**  
 Moving forward, the Obama Administration will help states, cities, and towns build stronger communities and infrastructure, protect critical sectors of our economy and natural resources, and use science to better understand and manage climate impacts.

**SUPPORT CLIMATE-RESILIENT INVESTMENTS**  
 At the community level by removing policy barriers, modernizing programs, and establishing a checkmate task force of state, local, and tribal officials to address key actions the federal government can take to support local and state efforts to prepare for climate change.

**REBUILD AND LEARN FROM SUPERSTORM SANDY**  
 By getting innovative strategies in the Superstorm Sandy-affected region to strengthen communities against future extreme weather and other climate threats and building on a new, consensus-based risk reduction standard established for the Sandy-affected region, agencies will update the Federal risk reduction standards for all federally-funded projects.

**LAUNCH AN EFFORT TO CREATE SUSTAINABLE AND RESILIENT HOSPITALS**  
 In the face of climate change through a public-private partnership with the healthcare industry.

**MAINTAIN AGRICULTURAL PRODUCTIVITY**  
 By drawing on the best, science-based knowledge to farmers, ranchers, and forest landowners to help them understand and prepare for the impacts of climate change.

**PROVIDE TOOLS FOR CLIMATE RESILIENCE**  
 Including working and ready developed climate preparedness to state and information that state, local, and private sector leaders need to more quickly transition.

[www.whitehouse.gov/share/climate-action-plan](http://www.whitehouse.gov/share/climate-action-plan)

President's  
 Climate  
 Change  
 Action  
 Plan  
 June 2013

GSA is providing remarks as questions arose in Orientation Webinar regarding role for those Federal agencies that have office space in GSA buildings.

A. Kosmal (GSA):

- Federal agencies were already required to complete a high-level risk assessment. Many other local and regional agencies and governments have also been working on climate change adaptation.
- Should be able to use this information going into these workshops.
- Recognize that organizations may not have done so.

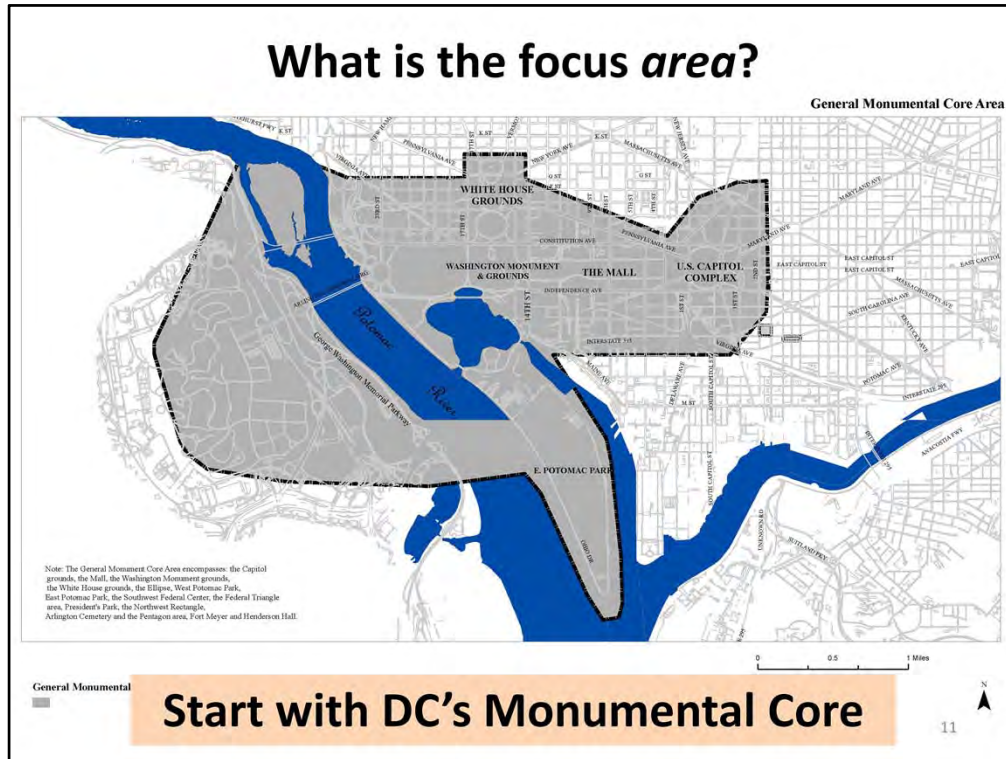
## Homework Assignment - Setting the Stage

- What is the focus *area*?
- What's the *scope*?
- What *level* of risk or vulnerability assessment are we expected to do?
- What *climate variables* are we looking at?

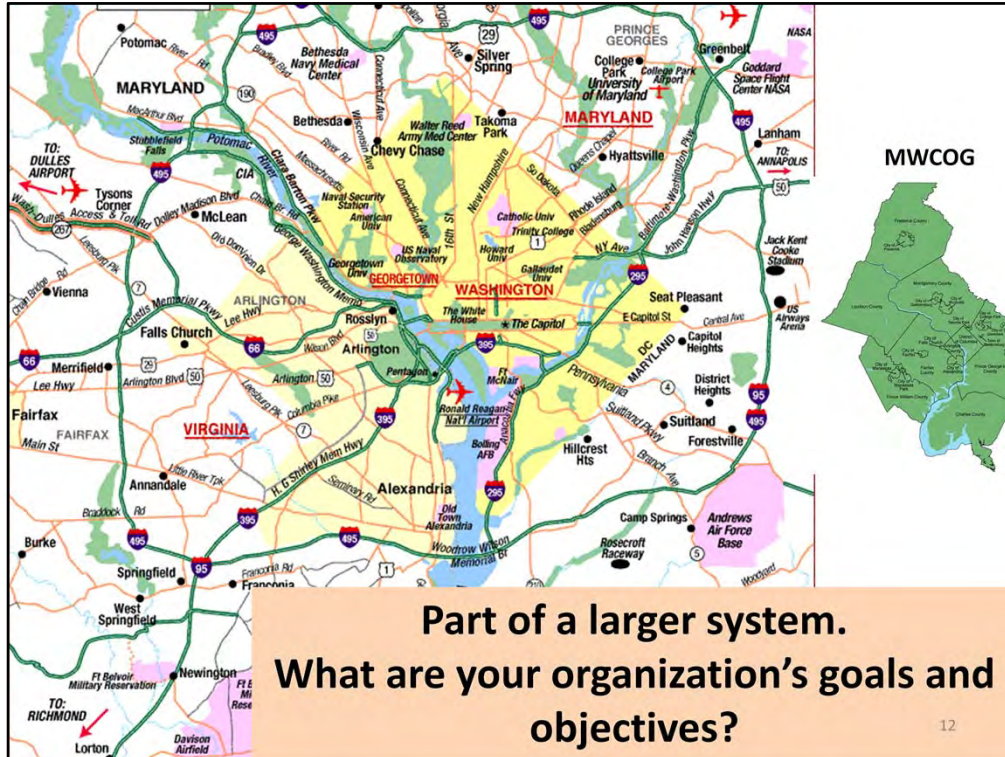
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- These are the questions we're addressing relative to the homework

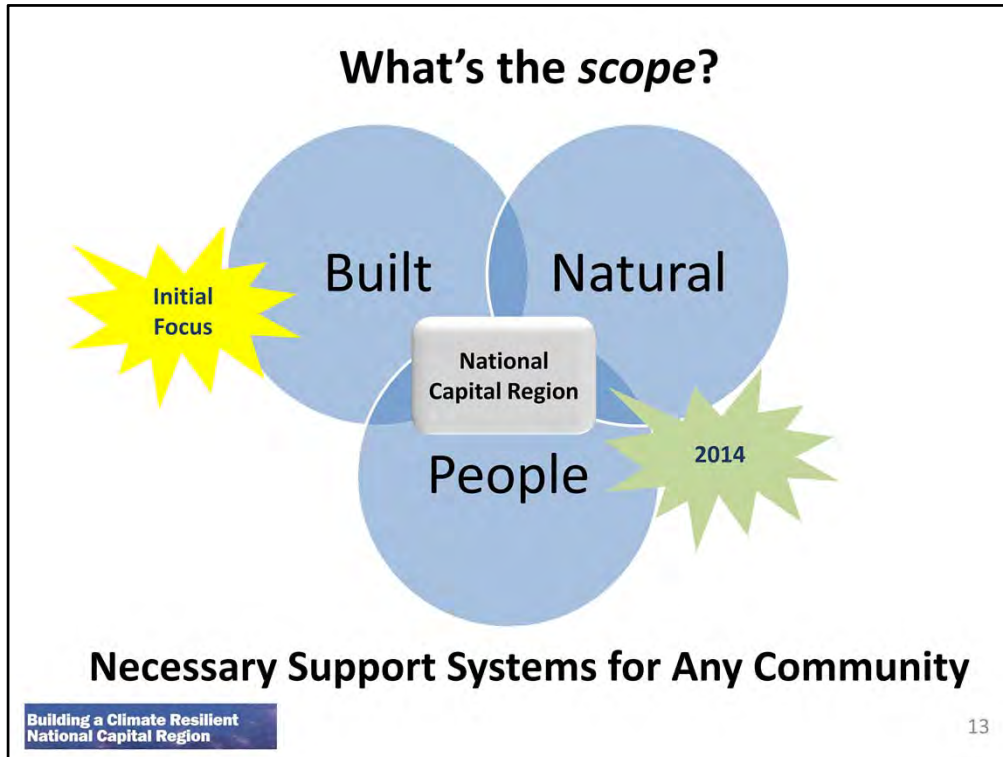
## What is the focus *area*?



- Focus area can start with the Monumental Core pictured on this map. It's not a neat little rectangle.
- This monumental core is part of a larger context – see next slide.



- Here's a graphic of the larger system, of which the Monumental Core is a part.
- Note that the MwCOG area goes well beyond.
- Important to keep in mind ---- you understand your organization's goals and objectives -- -- which of the built systems your organization needs or relies upon might be affected by climate?



- All of these systems are necessary for your organization to perform its mission, goals, and/or objectives.
- Core Planning Team thought it best to 'divide and conquer' these systems while we're "building capacity" in the DC region.
- Initial focus on the built environment; the other two will be addressed together in 2014.



## Built System Examples

- Buildings
  - Office
  - Museum
  - Residential
  - Laboratory
- Utility systems
  - Electricity
  - Water
  - Wastewater
  - Natural gas
  - HVAC
  - Steam
  - Telecomm
- Transportation systems
  - Roads / bridges
  - Rail / Metro
  - Air travel
  - Water travel
- Government services
  - Solid waste

### Additional considerations:

- How do you influence the built environment?
- What are the assets you need to perform your org's services?
- Do you control transactions / approvals over built systems?

- Here are some examples of built systems.
- Comment from GSA (A. Kosmal): while GSA may be the building owner of many agencies on the call, you still have a vested interest in the building and other assets you need to perform your work ---- you need the internet, phones, data storage, etc. See next slide.

# Telecomm

Internet  
Land Lines  
Cellular Service  
Data Centers  
VPN & Telework  
“The Cloud”  
Network Drives  
Multiple Providers



- Additional examples of Telecomm portion of built systems.



**What *level* of risk or vulnerability assessment are we expected to do?**



➤ Screening level?

➤ More detailed level?

**Reminder: Objectives of the Resilient National Capital Effort**

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

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- Looking for a screening level vulnerability assessment.
- Need to remember the three goals for this effort
- We are in the Nation's Capital, which has rich cultural value.
- Let's figure out how we can work together to start adaptation planning. We're not going to get everything figured out, but let's figure out how we can work on this together.
- Some of you may already have more detailed assessments for various assets – that's great; others may have less information – that's fine too.

## Good work already done

Executive Order 11988 – Flood Plain Management  
Federal Triangle Drainage Study and Actions  
GSA Flooding Study  
GSA Interior Drainage Analysis

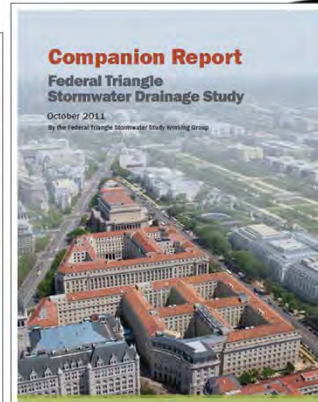


### Flood Mitigation and Prevention

Volume II of II

Final Submission

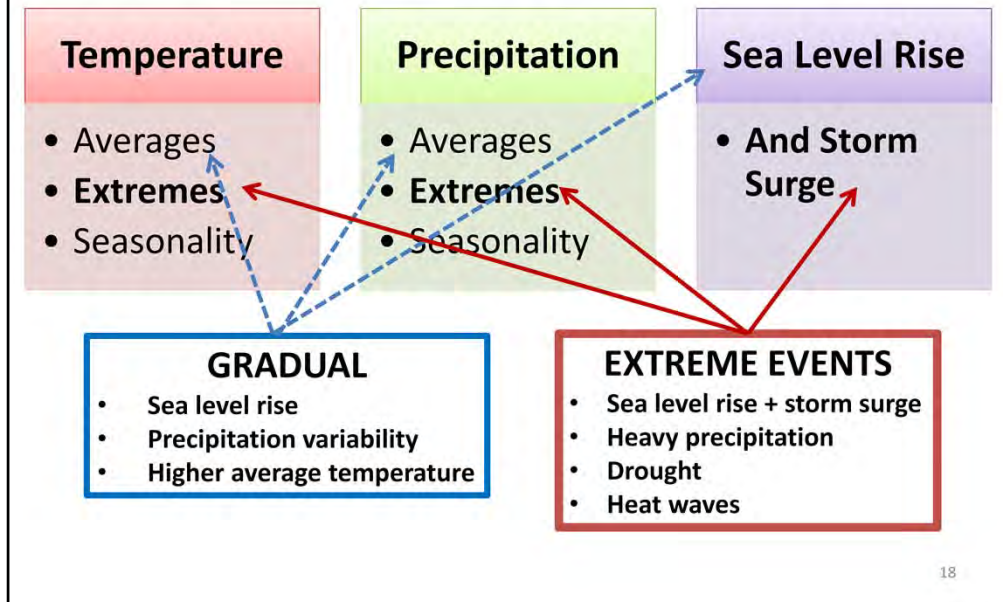
GSA FEDERAL TRIANGLE BUILDINGS  
WASHINGTON, DC  
INTERNAL REVENUE SERVICE



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- Lots of good work already done. Here are some examples.
- Lots of treasures damaged in the 2006 flood.
- We want to use these resources in our work going forward. We're not starting from Ground Zero.

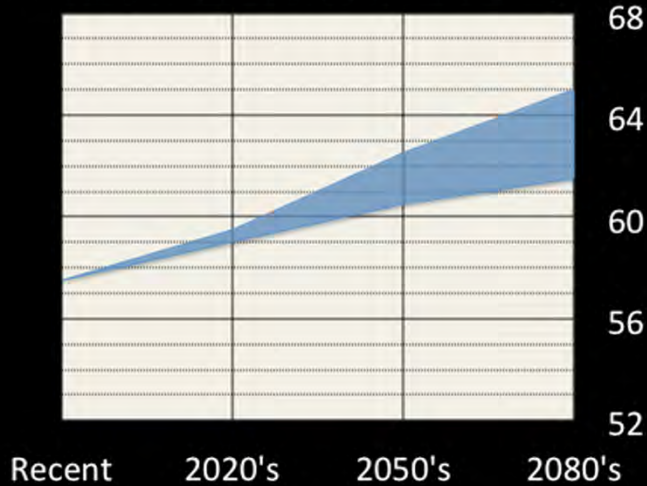
## What *climate variables* are we looking at?



- We're looking at 3 climate variables during this process – temperature, precipitation and sea level rise (combined with storm surge)
- Information about Temperature and Precipitation often comes in 3 forms – annual averages; likelihood of extreme events; and seasonal changes. [The current NASA climate information handout contains all but seasonal change information.]
- We're requesting information in the Homework Assignment relative to the impacts on built systems from Gradual changes (See Slide 30):
  - Sea level rise
  - Increased precipitation
  - Higher average temperature
- We're also requesting information in the Homework Assignment relative to the impacts on built systems of Extreme Events (See Slide 30):
  - SLR + storm surge (18.1' is the storm surge height to use for this exercise)
  - Heavy precipitation (precipitation in any form)
  - Drought
  - Heat waves

## What is projected locally?

### Average Annual Temperature (°F)



*Average temperatures are projected to rise*

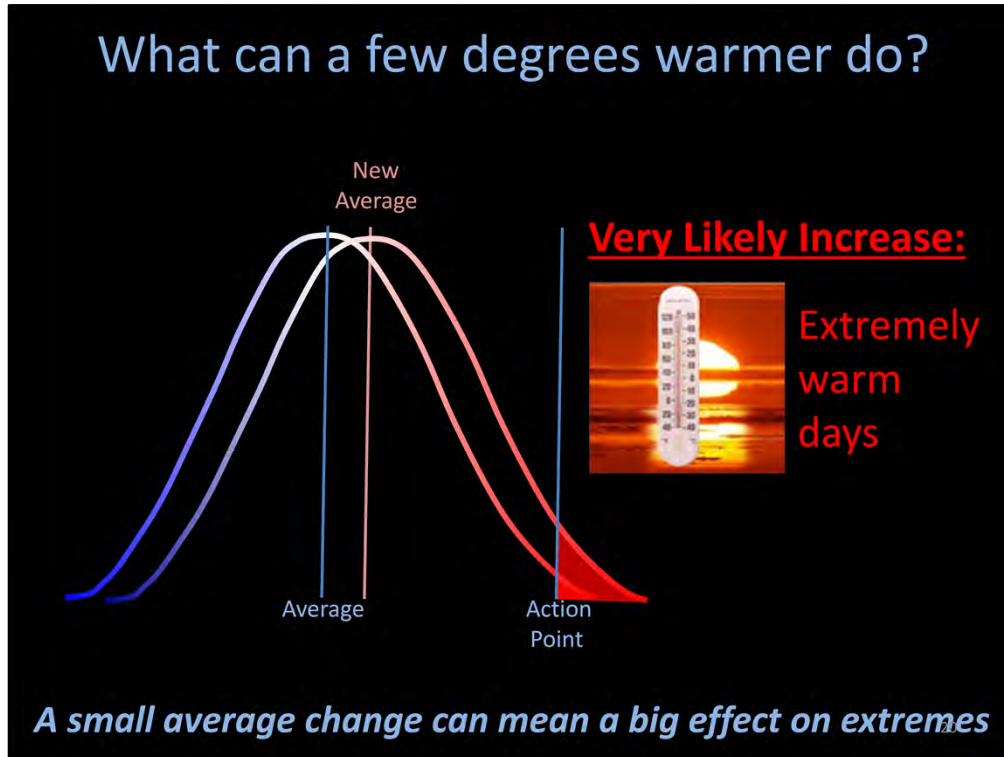
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From Climate Science Introduction Webinar (9/20/13). Information is in the NASA Washington Metro Area Climate Change Information Handout

(<http://www.ncpc.gov/climate/>)

- Average annual temperature projections indicate a faster rise than in the twentieth century.
- Based on 16 Global Climate Models (GCMs) and 3 emissions scenarios. Data is for the Reagan National Airport, Washington DC. Based on the middle 67% of values from model-based probabilities.
- Source: NASA projections for the Washington DC area using a format inspired by a 10 September 2012 NY Times article.
- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.

## What can a few degrees warmer do?



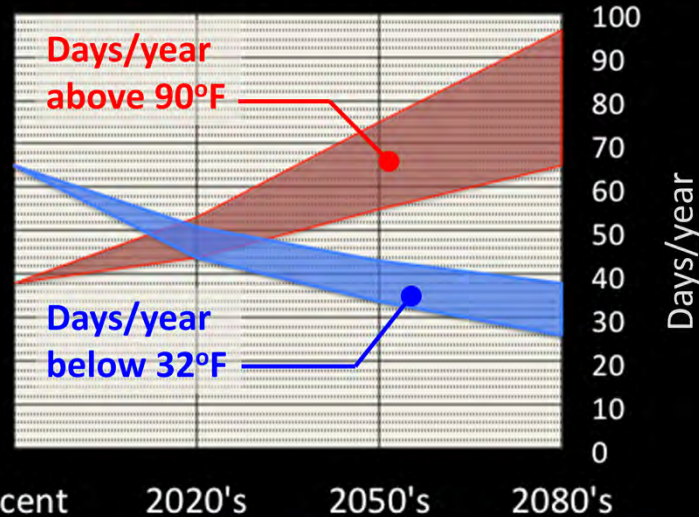
From Climate Science Introduction Webinar (9/20/13). Information is in the NASA Washington Metro Area Climate Change Information Handout (<http://www.ncpc.gov/climate/>)

- A modest change in average temperature might not seem very important to institutional stewards, but the change may result in a big change on the number of days above or below extreme temperatures.
- The term “action point” ties to how an organization operates. One example action point is the temperature at which outdoor work is curtailed; another is the point at which air conditioning or heating is needed.
- Maybe the action point is when tracks start to buckle, when planes get stuck on the tarmac. Point at which you cannot work outside.
- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.



# What can a few degrees warmer do?

## Extreme Temperature Events



*Extremes can change much faster than averages.*

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From Climate Science Introduction Webinar (9/20/13). Information is in the NASA Washington Metro Area Climate Change Information Handout (<http://www.ncpc.gov/climate/>)

- Compared with recent averages, the number of days over 90 degrees is projected to roughly double by the 2080's.
- On the other hand, the number of days it freezes is projected to be reduced by half in that same timeframe.
- Based on 16GCMs and 3 emissions scenarios. Data is from BCSD dataset.
- Source: NASA projections for the Washington DC area projections using a format inspired by a 10 September 2012 NYTimes article.
- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.

# Intense Rainfall is Likely to Increase

## Likely Increase



Intense  
rainfall  
events

## Likely Decrease



Snowfall  
frequency  
& amount

## More likely than not

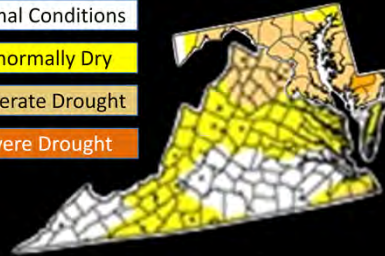
Increases in  
drought events

Normal Conditions

Abnormally Dry

Moderate Drought

Severe Drought

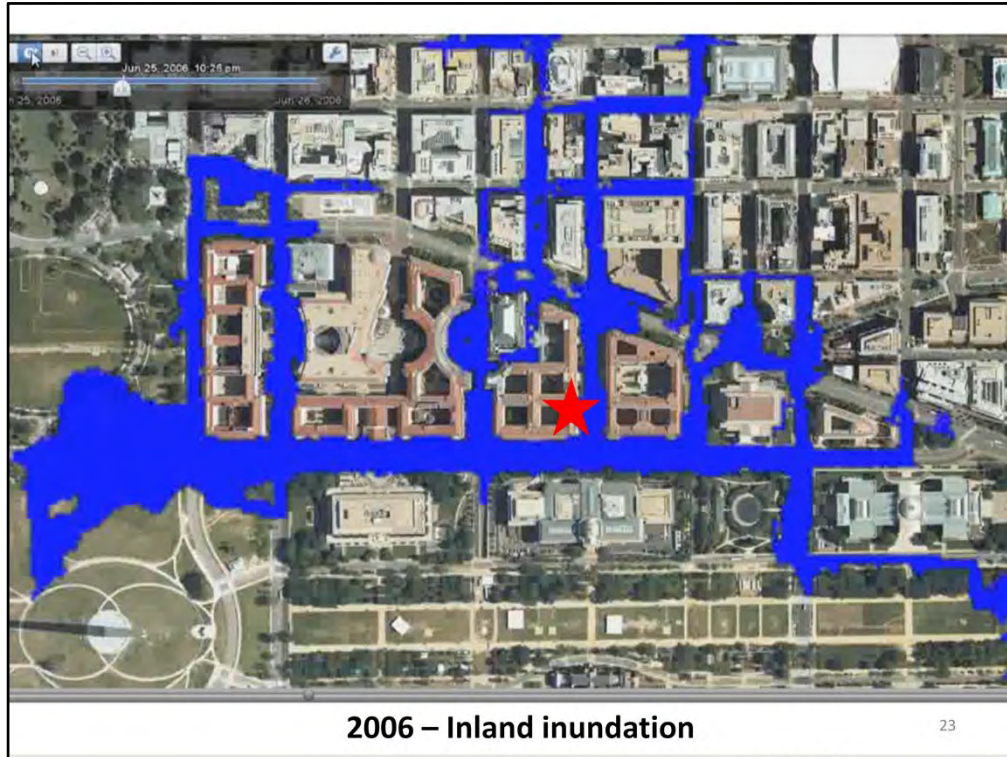


*There's more to consider than averages*

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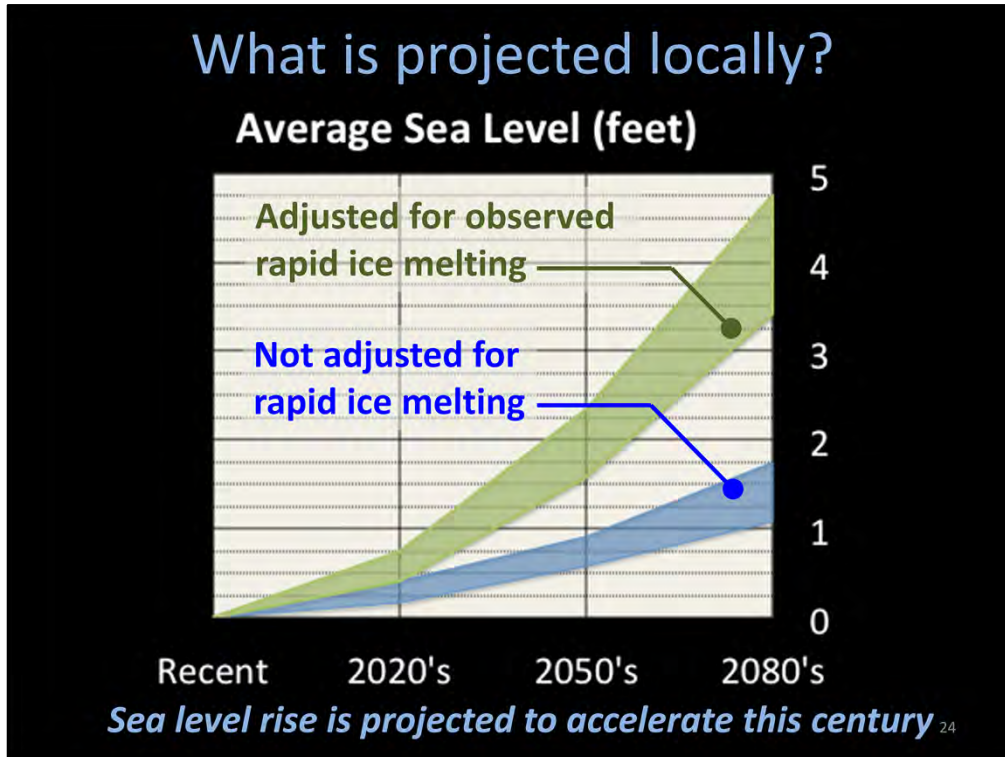
From Climate Science Introduction Webinar (9/20/13). Information is in the NASA Washington Metro Area Climate Change Information Handout (<http://www.ncpc.gov/climate/>)

- This slide rounds out the qualitative projections in order of likelihood.
- Droughts and floods likely in the future.
- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.



- This is a depiction of what flooding due to precipitation (not storm surge) can cause – from 2006. map based upon flooding levels as shown on planter.
- While important, this area of the DC was studied at great length after this event (See Slide 18 for some examples)





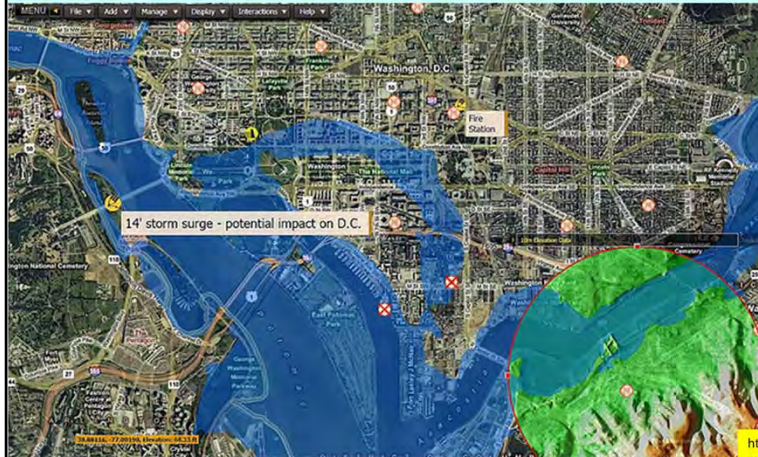
From Climate Science Introduction Webinar (9/20/13) Information is in the NASA Washington Metro Area Climate Change Information Handout (<http://www.ncpc.gov/climate/>)

- Sea level rise is expected to continue. Observations of polar ice melting indicate a faster rate of sea level rise, so it's wise to consider this possibility when evaluating impacts.
- Based on 7 GCMs and 3 emissions scenarios. Baseline (recent) is 2000 to 2004. Rapid ice-melt scenario is based on acceleration of recent rates of ice melt in the Greenland and West Antarctic ice sheets and paleoclimate studies. Projections based on the Washington Ship Channel tide gage.
- Note: NASA's internal planning guidance is to plan for the Rapid Ice Melt lower range. In this case, the 3-3.5 feet level.
- Source: NASA projections for the Washington DC area projected sea levels using a format inspired by a 10 September 2012 NYTimes article.
- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.

## What about Storm Surge?

For the purposes of this effort,  
using the Category III level: 18.1 feet (see Slide 27)

Historical 1933 storm surge 11.3 feet; 100-year floodplain 13.5 feet



### Washington, DC Storm Surge

In 1933, the Chesapeake-Potomac Hurricane sent a 11.3-foot storm surge into the heart of Washington, DC. If a 14-foot surge were to happen today, this is what it could look like.

See page 302;  
[http://www.nps.gov/nationalmallplan/Documents/FEIS/Volume%201/5\\_The\\_Affected\\_Environment.pdf](http://www.nps.gov/nationalmallplan/Documents/FEIS/Volume%201/5_The_Affected_Environment.pdf)

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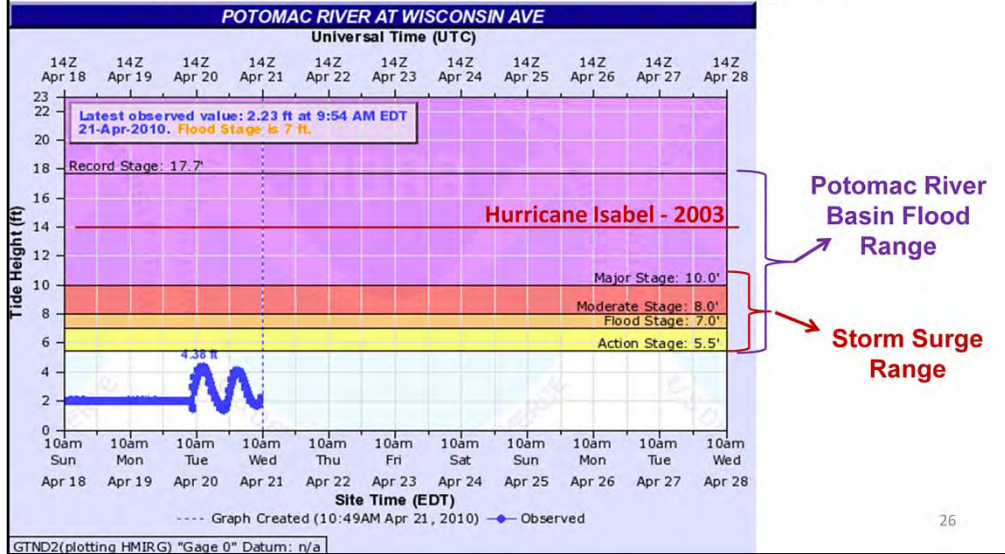
Lots of information relative to storm surge (page 1 of 3).

- This is info from National Park Service EIS and depicts impact of 14' on DC.
- Historical storm – 1933: storm surge 11.3 feet

## Additional Information on Storm Surge

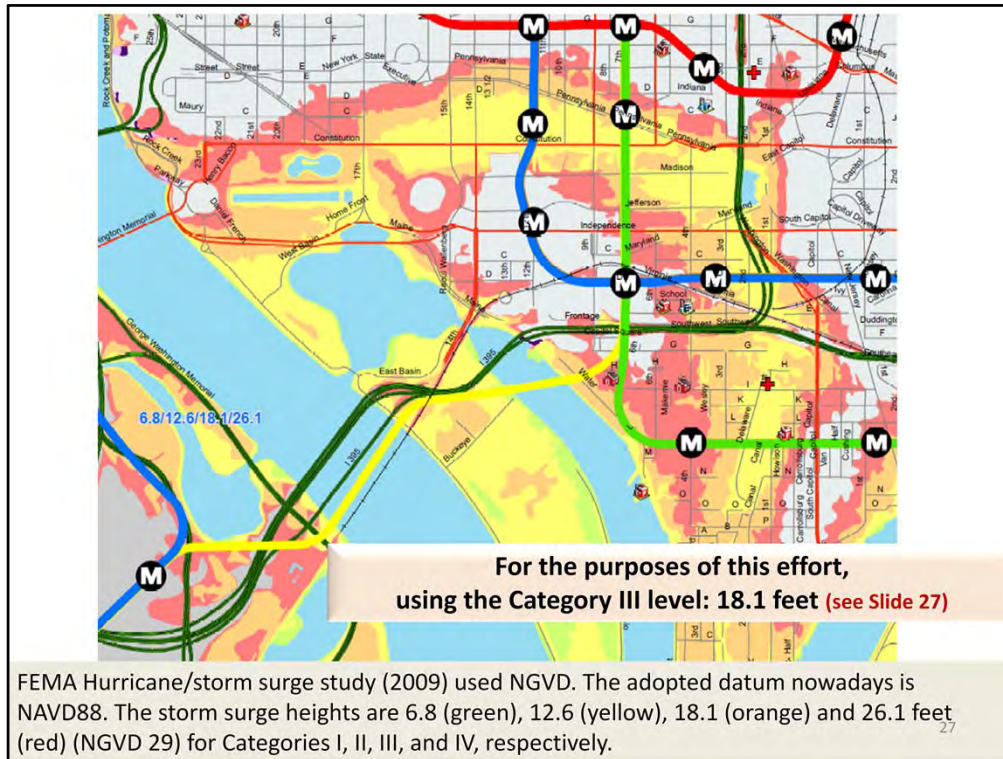
For the purposes of this effort,  
using the Category III level: 18.1 feet (see Slide 27)

### Range of Peak Water Level Events at Georgetown



Lots of information relative to storm surge (page 2 of 3).

- Depicts height of Hurricane Isabel in 2003 in Georgetown – about 11 feet



Lots of information relative to storm surge (page 3 of 3).

- This is a 2009 FEMA Hurricane/storm surge study with 3 different storm surge heights.
- For the purposes of this effort, we are going to use the Category III level: 18.1 feet (orange level shown on the map.)
- Let's explore our vulnerabilities for planning purposes at this level.
- Comment during the call: DC is designing their seawall at 17 feet. 14 flood plus 3 feet SLR.



# For more information...

National Aeronautics and Space Administration

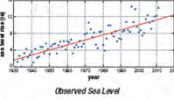


<http://www.mwcog.org/environment/climate/resilience.a>

## ADAPTING Federal Agency

### What we're seeing now

Weather and climate are changing. Over 100 years of data collected from the area tell the story: the average annual temperature has risen about 4°, an increase in Bethesda, MD. Sea level, measured in the District of Columbia, has risen about 15 inches over the past 60 years.



Scientists project that these trends will continue, and even accelerate, this century. Furthermore, the warming is driving changes in the frequency and severity of extreme weather events. Changes in extreme events include more downpours, more drought, and more heat waves. At facilities vulnerable to coastal storms, rising sea levels magnify the effect of intense storms, producing serious potential impacts from storm surge and flooding.



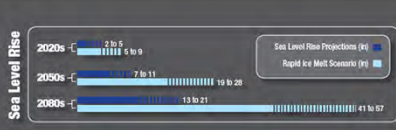
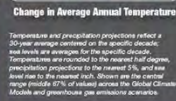
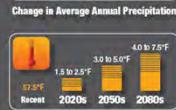
Washington, DC has experienced several extreme weather events in recent years, with three days of intense tropical downpours in June 2005 exceeding the observation. A cluster of tornadoes in April 2011 put the city on edge. Hurricane Lee in September 2011 produced 7 inches of rain in 24 hours in some parts of the region. A string of days over 100 degrees in July 2012 broke the tracks of a Metro rail, leaving many commuters stranded. And DC residents learned a new word this year – derecho – a widespread and long-lived wind storm that accompanies rapidly moving showers and thunderstorms. The June 20<sup>th</sup> derecho caused massive tree damage and flooding in the area, power outages across the District disrupted life for several days.

### What scientists project

Climate scientists from NASA's Goddard Institute of Space Studies used site-specific climate data from the DC area, combined with climate model outputs, to generate temperature and sea level rise projections for the area. The projections indicate continued rise in temperature and sea levels in the area. Sea levels may rise considerably faster if land-based ice melts faster than most current models project. (See the Rapid Ice Melt projection below).

Average temperatures and sea levels are projected to rise, but most people are more likely to notice the increases in some kinds of extreme events. Changes in the number of hot days and cold days may affect energy usage patterns, health (e.g., asthma), plant and animal habitats, and infrastructure function (e.g., buckling of concrete roads).

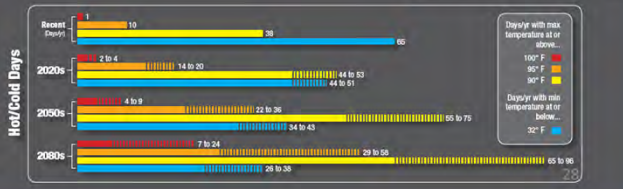
### What might the Metro DC area's future look like?



### Extreme Event Changes This Century

Event	Direction of Change	Likelihood
Heat Waves	↑	Very Likely
Threatening and Severe Thunderstorms	↑	Likely
Extreme Precipitation Events	↑	Likely
Drought	↓	More Likely than Not
Sea Level Raising	↑	More Likely than Not

Based on global climate model simulations, published literature, and expert judgement. Source: NOAA OIG (2010) and NOAA (2010). Very likely, 90% to 99% likely; likely, 66% to 90% likely; more likely than not, 33% to 66% likely; not likely, 16% to 33% likely; not likely, 16% to 33% likely.



From Climate Science Introduction Webinar (9/20/13).

- Cover of NASA handout and core science info

<http://www.mwcog.org/environment/climate/resilience.asp>

- A NASA Climate Adaptation Mobile App with this information will be released this fall, and will be updated as new science becomes available.

## What do I need to Provide?

### Your Top 4 Risks – Built Systems

- Name or type of built system
- Scale of impact
- Current and planned responses (work-arounds)
- Any other information you feel would be useful for 11/14 Workshop (**New date!**)

Microsoft Excel template

**DUE: Wednesday, 10/30 (New date!)**

**TO:** Sarah Lynagh, Leidos

#### Direct Questions:

- Ann Kosmal, GSA
- Christina Hudson, Leidos

Climate Variable	Timeframe / Scale of Impact		
	Today	2020s	2050s
Gradual			
Sea level rise	minor	minor	moderate
Increased average precipitation	minor	minor	minor
Higher average temperature	minor	minor	minor
Extreme Events			
SLR + storm surge	major	major	major
Heavy precipitation	minor	minor	minor
Drought	minor	minor	moderate
Heat waves	minor	minor	minor
	Major risk		
	Moderate risk		
	Minor risk		

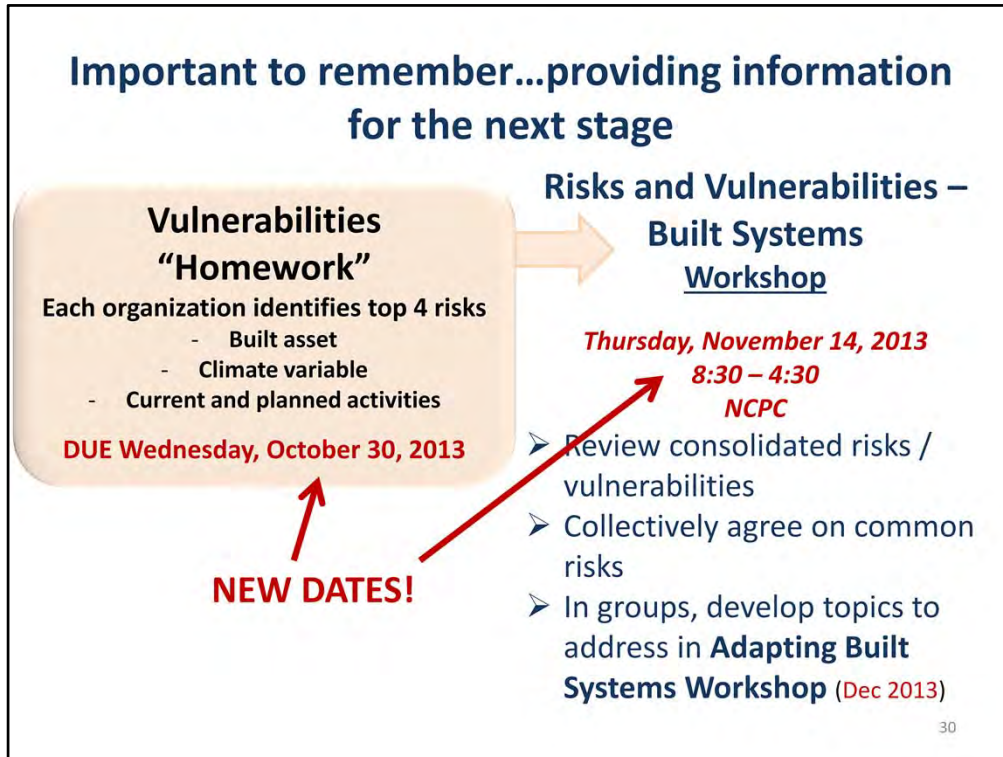
Derived from: NYC Special Initiative for Rebuilding and Resiliency (SIRR) <http://www.nyc.gov/html/sirr/html/home/home.shtml> <sup>29</sup>

What the Homework really is

- A description of the top 4 most climate-vulnerable built systems that are critical to carrying out your organization's goals and objectives; how they are impacted; and current and planned responses.

Questions:

- How are your organization's goals & objectives vulnerable in a light of a changing climate?
- Which 4 built systems are most at risk of impeding your goals and objectives now and in the future?
- Information:
  - Name or type of built system
  - Your organization's current and planned responses (or work-arounds)
  - Any other information you feel would be useful for those at 11/14 Risks & Vulnerabilities – Built Systems - Workshop
- For each of the top 4 risks, what is the scale of the impact relative to the Gradual and Extreme Events categories listed in the example – today, in the 2020s and the 2050s. Label each minor, moderate or major.
- We'll send info to help you capture the information about your top risks.
- Given security sensitivities, you don't need to provide a specific building address, you can provide a TYPE of building.
- Contact information: located on last 2 slides.



- Once the Homework is submitted, the Core Planning Team will consolidate the information in preparation for the 11/14/13 Risk & Vulnerabilities – Built Systems - Workshop.
- During that workshop, will work together to agree on what should be the focus of the December Adapting Built Systems Workshop
  - On 11/14, once several topics/issues are chosen, workshop participants will work in smaller groups to develop the background document for each topic/issue for the December workshop – what is the ‘challenge statement’? What is the issue? What is currently being done? What are the planned activities?

## Our Assumptions – Range of Possibilities

- Your organization has already identified a number of DC-based risks – you need to choose Top 4 risks for Built systems
- Your organization has not done this
  - We can provide a Workbook similar to one NASA and GSA have used
  - Don't have to have all the answers to do this
- We don't need to know how you chose the Top 4
- By listing in Top 4, we know they are important to your organization

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Core Planning Team recognizes that there are a range of possibilities facing the organizations invited to this effort:

- Some may be faced with the challenge of naming only four out of the many you have already identified.
- Some may not have had the opportunity to think about your organization in the face of a changing climate. Now's your chance!
- Your organization may already have a process for identifying vulnerabilities and risks that you wish to use.
- We will post a Reference Document, "Resilience & Adaptation to Climate Risks Workbook," that some might find useful should their organization not have an existing method of identifying vulnerabilities and risks. The Workbook outlines the 8-step process utilized by both NASA and GSA during their respective workshop activities, which can be executed outside of a formal workshop setting.

The Workbook comprises several documents:

- PDF containing:
  - A. Characterize Risk of Climate Variables on Systems / Assets / Capabilities section
  - B. Develop Potential Adaptation Strategies section
  - C. Integration & Implementation Approaches section
  - D. Excel Spreadsheet used to document information from Section A – Characterize Risk



- E. Example - completed Characterize Risk spreadsheet
  - F. Excel Spreadsheet used to document information from Section B – Adaptation Strategies
  - G. Example - completed Adaptation Strategies spreadsheet
  - H. Word document used to document information from Section C – Integration
  - I. Examples – completed Integration documents
- Excel spreadsheets for Sections A and B
  - Word document for Section C

## **“Definition of Biggest Risk”?**

- Up to each organization or agency
- Can be based:
  - on a time issue (something you’re facing right now)
  - serious catastrophic failure sometime in the future,
  - some particular mission-critical asset
  - cultural / historical significance

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Recognition that Top 4 risks from each organization will reflect their perspective and that there are no right or wrong answers

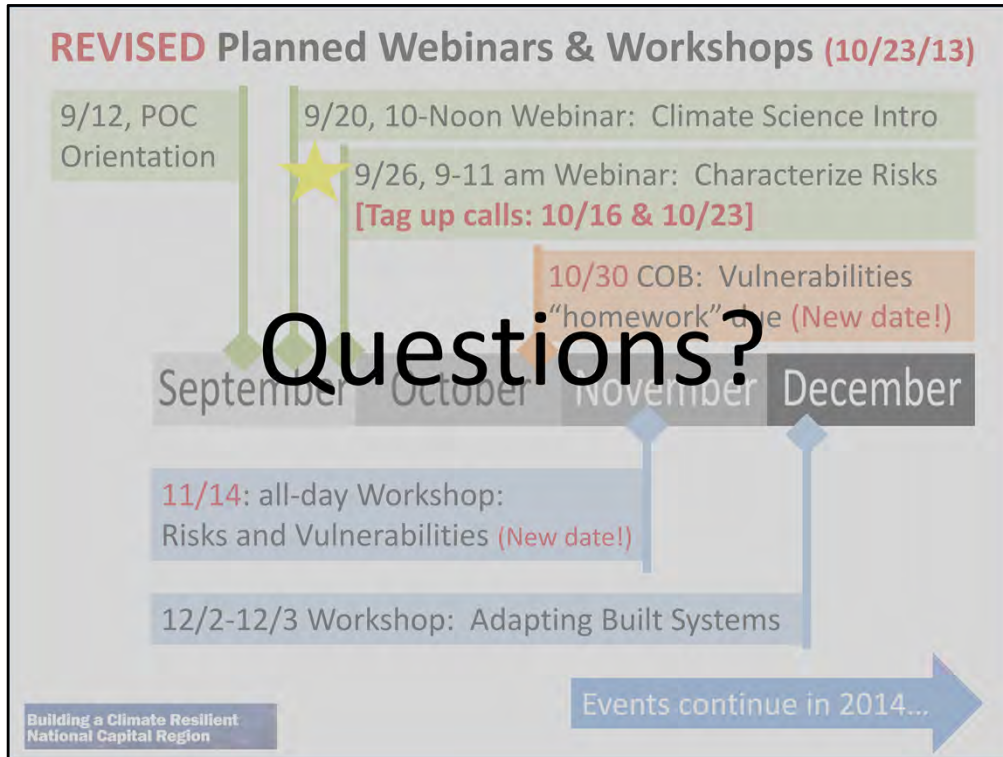
## What's going to happen next? (Updated 10/23/13) Core Planning Team

- Send and post
  - Webinar briefing with notes
  - Excel Homework template
  - Reference Workbook
- Hold tag ups on Wed – 10/16 and 10/23, 10-11 am

**Remember – Focus now is  
BUILT SYSTEMS**

### Organization and Agency Points of Contact

- Complete the Homework templates by COB Wed, **10/30**, and submit to Sarah Lynagh [sarah.b.lynagh@leidos.com](mailto:sarah.b.lynagh@leidos.com)
- Based upon your Top 4 risks, identify 2-3 participants for **11/14** Workshop (room capacity = 90)
- Submit **11/14** Workshop participant names to Sarah Lynagh, [sarah.b.lynagh@leidos.com](mailto:sarah.b.lynagh@leidos.com) by **10/30**
- Save the date notice will be sent as Outlook Invite
- Put Workshop dates on your calendar, if you should attend



- Schedule chart presented during Orientation webinar (9/12) – gives overview of webinars and workshops
- Climate Science webinar (9/20) was recorded. We’re in the process of making it available.
- Focus in 2013 – Built Systems; in 2014 – Natural and People/Community systems (see Slide 13)

**\*\*\*\*NOTE: Update email sent to all on 10/9/13:**

We recognize that we are currently in a less than desirable situation with the government shutdown and many of our hard-working colleagues are unable to work at this time.

Despite these challenges, we would like to move forward as much as we can and provide information to everyone and in particular to those who can work during the shutdown.

Here is the latest in terms of upcoming events - all of which are related to Built Systems:

- Homework assignment - should be distributed by COB October 11<sup>th</sup> with initial due date of October 23<sup>rd</sup> (Now 10/30) recognizing that others may need more time
- Information and Q&A teleconferences/webexes will be set up for Wednesday, October 16<sup>th</sup> and 23<sup>rd</sup>, for 1 hour starting at 10 am to answer questions relative to the homework assignment
- The Risks and Vulnerabilities – Built Systems - Workshop, currently scheduled for Wednesday, October 30<sup>th</sup>, may be rescheduled for November 13 or 14, 2013 – **NOW**

rescheduled for 11/14)

- The Adapting Built Systems Workshop remains scheduled for December 2-3, 2013
- MWCOG is finalizing a website to host information and files associated with this series of events - that link will be distributed with the Homework assignment

## Core Planning Team – Contact Info

- NCPC - Amy Tarce, 202-482-7241, [amy.tarce@ncpc.gov](mailto:amy.tarce@ncpc.gov)
- GSA – Ann Kosmal, 202-219-1595, [ann.kosmal@gsa.gov](mailto:ann.kosmal@gsa.gov)  
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## Working with Core Planning Team – Contact Info

- Leidos (formerly SAIC) –
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  - Kim Gotwals, 919-401-4643, [kimberly.b.gotwals@leidos.com](mailto:kimberly.b.gotwals@leidos.com)
  - Sarah Lynagh, 703-676-5645, [sarah.b.lynagh@leidos.com](mailto:sarah.b.lynagh@leidos.com)
- Booz Allen Hamilton –
  - Christine Mataya, 202-294-4833, [mataya\\_christine@bah.com](mailto:mataya_christine@bah.com)
  - Sarah Burgess-Herbert, 703-624-1989, [burgess-herbert\\_sarah@bah.com](mailto:burgess-herbert_sarah@bah.com)