



Energy and Climate Change Task Force

Meeting #5

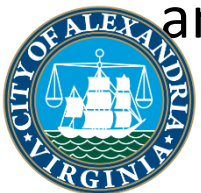
February 1, 2022

7:00 PM

Electronic Meeting Notice

Due to the COVID-19 Pandemic emergency, the February 1, 2022 meeting of the Energy and Climate Change Task Force is being held electronically pursuant to Virginia Code Section 2.2-3708.2(A)(3), the Continuity of Government ordinance adopted by the City Council on June 20, 2020 or Sections 4-0.00(g) in HB29 and HB30 to undertake essential business. All of the members of the Task Force and City staff are participating from remote locations through a Zoom web meeting.

The meeting can be accessed by the public through a Zoom web meeting link. Participants can register at the City website to obtain the Zoom link. A video recording of this meeting will be posted to the City's website. Public comment will be received at the end of the meeting and will also be accepted afterwards through a public feedback form posted to the City's website. For accommodations for anyone with disabilities, please contact City staff.



Agenda

- Welcome
- Adopt Virtual Meeting Resolution & Electronic Meeting Participation Policy
- Meeting #4 and City Updates
- Climate Adaptation - Addressing Flooding, Extreme Heat, & Addt Climate Vulnerabilities
- Community Engagement Workshop #2
- ECCAP Updates, Task Force Next Steps
- Public Comments



Task Force Members

- **Alyssa Abosompim**, At-large member of the Alexandria community
- **Mary Harris**, Co-Chair, Clean energy and climate policy or technology
- **Marian Pegram**, Co-Chair, Diversity, racial and social equity, and inclusivity issues of diverse Alexandria populations
- **Javier Bastos**, Alexandria's business community and institutional organization interests
- **Leah Devendorf**, Alexandria youth interests with specific priority of Alexandria high school students
- **Fiona Herbold**, Alexandria youth interests with specific priority of Alexandria high school students
- **Praveen Kathpal**, At-large member of the Alexandria community
- **Raquel Nicora**, Diversity, racial and social equity, and inclusivity issues of diverse Alexandria populations
- **Josh Sawislak**, Alexandria's business community or institutional organization interests
- **Marta Schantz**, Environmental Policy Commission Member
- **Rose Stephens-Booker**, Member reflecting climate change solutions to support the City's economic development goals
- **Stephen Walz**, Member reflecting environmental, clean energy, or climate change action advocacy organization or interest
- **Sangina Wright**, At-large member of the Alexandria community



City Staff

- Bill Eger, Energy Manager
- Ellen Eggerton, Sustainability Coordinator
- Jessica Lassetter, Senior Environmental Specialist
- Dan Medina, Flood Action Alexandria Program Manager



Meeting #4 Follow-up and City Updates

- TPB Climate Mitigation Study and VA Decarbonization Study
- City Updates
 - New City Council/City Manager
 - 1/29 – City Council Workplan Retreat
 - Infrastructure Resiliency
 - Climate Change and Environmental Justice
 - 2/15 - FY23 Budget Presentation
 - Virginia General Assembly – Legislative Priorities
 - IIJA Grant Opportunities



Climate Vulnerabilities and Adaptation

Washington D.C. weather and climate:
Trends and projections



Salwan Georges

Jason Samenow
November 16, 2021

The Washington Post

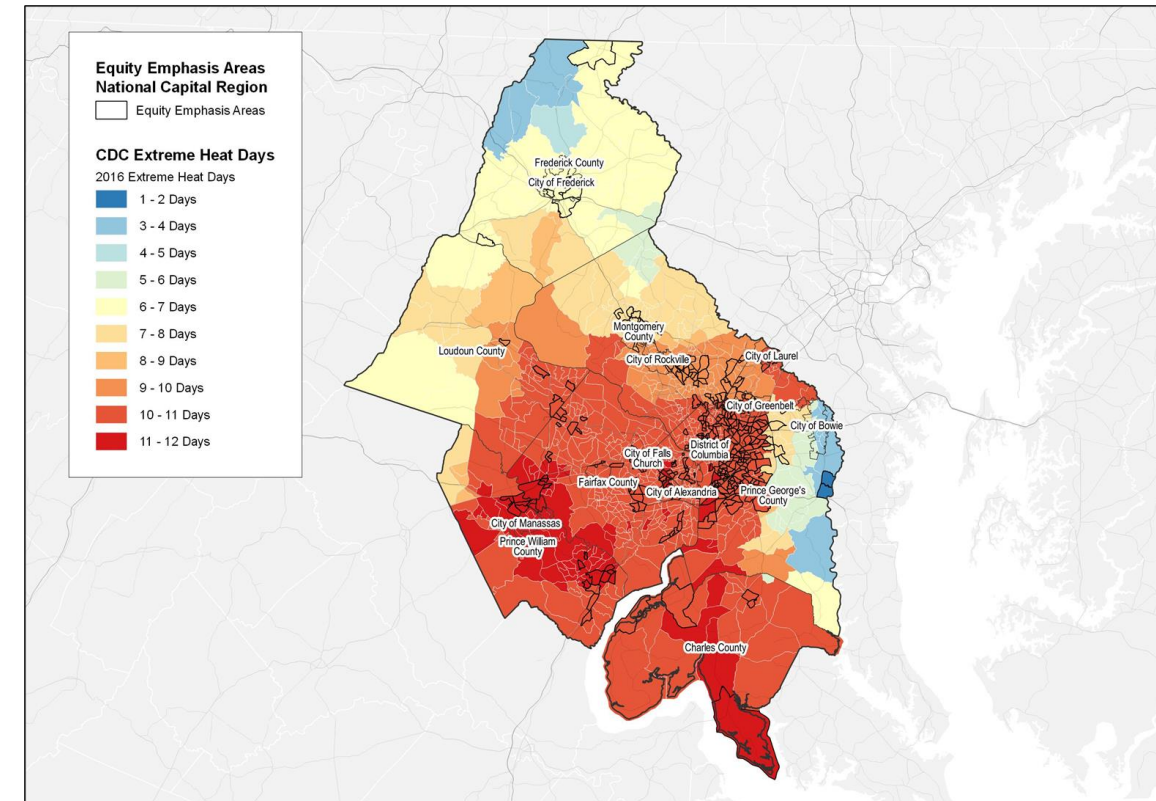


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DC Region Weather & Climate Trends and Projections*

- Trends:
 - Temperatures rising; # hot days increasing; increasing warm nights
 - Increasing humidity; increasing precipitation; average snowfall declining
 - Sea level rise and increasing frequency of coastal flooding
- Projections:
 - Increasing heat
 - Heavier rain and precipitation events
 - Higher seas, more flooding
 - Stronger storms



*Summary of Jason Samenow keynote presentation at 11/16/2021 ECCAP Community Engagement Workshop

Assessing Regional Climate Vulnerabilities*

Climate Risk and Vulnerability Assessment Framework
Global Covenant of Mayors (GCoM)

Probability == Likelihood of occurrence
Consequence == Outcome/impact

		Probability	Consequence
3	High	Extremely likely	High concern
2	Moderate	Likely	Moderate concern
1	Low	Unlikely	Low concern
0	Do not know	Not experienced or observed to know impact	Not experienced or observed to know

Climate Vulnerabilities

Hazard	Probability	Consequence	Risk
Extreme Heat Days	3	3	9
Drought	2	3	6
Flooding (Flash and Riverine)	3	3	9
Lightning/Thunderstorm	3	2	6
Extreme Winter Conditions	2	3	6
Coastal Flooding	3	2	6

*Source: Metropolitan Washington 2030 Climate and Energy Action Plan: Climate Risks and Vulnerabilities



Impacts and Interdependencies

- Equity and health
 - Age, race, housing, economic opportunity
 - Employment / job (especially related to heat)
 - Access to open space, tree canopy, air conditioning, flood resiliency
- Critical infrastructure
 - Power and energy
 - Transportation (Bike/ped, metro, bus, rail, roadways, bridges)
 - Buildings
 - Water supply and treatment, and wastewater treatment
 - Telecommunications
- Financial risks
 - Property values / property tax
 - Debt/capital
 - Insurance
 - Economic prosperity / development



Leverage Regional and State Planning

- Climate Ready DC
- Montgomery County Climate Action Plan
- Fairfax Resilience and Adaptation Plan (*Under development*)
- Virginia Coastal Adaptation and Resilience Master Plan
- NVRC Climate Resiliency Working Group



ADAPTATION VS. MITIGATION

ADAPTATION

A variety of actions that are meant to reduce or compensate for or adapt to the adverse impacts that arise from changes in the Earth's climate

MITIGATION

Actions or changes in societal behavior taken to reduce or eliminate greenhouse gas (GHG) emissions and/or to remove GHGs from the atmosphere to prevent significant adverse climate effects



Image: <https://eaest.com/insight/climate-change-adaptation-vs-mitigation/>

Climate Change Adaptation

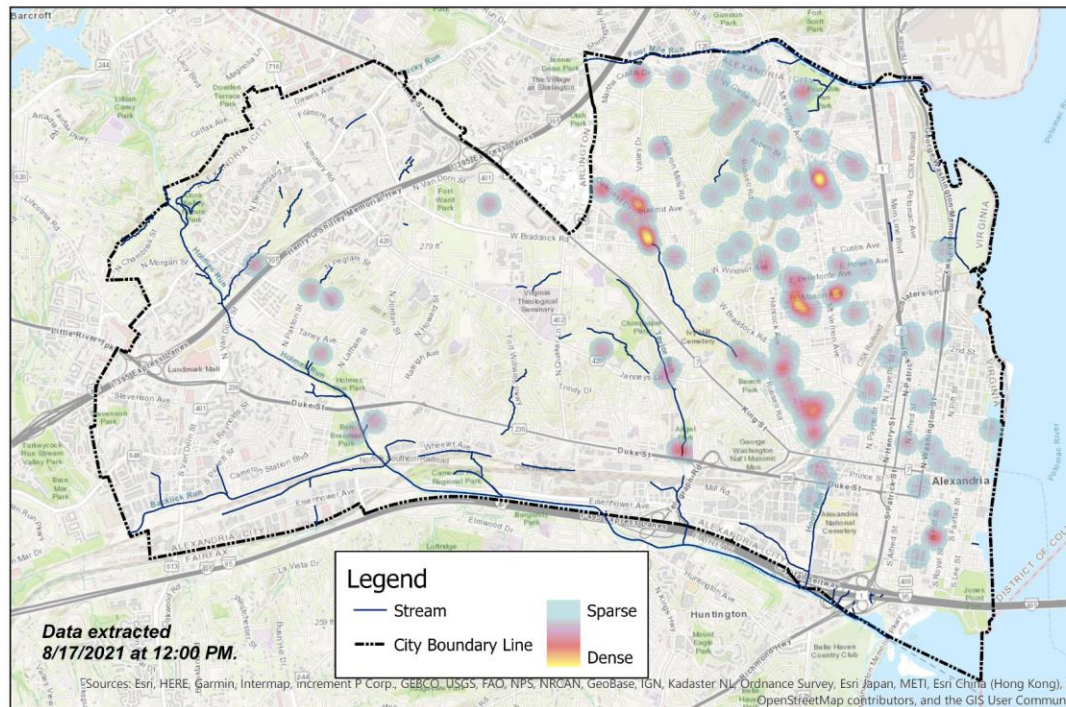


- Three severe storms over a 14-month period between 2019-2020
- Flooding caused by overwhelmed storm drain system



August 15th, 2021 Flash Flooding Event

Alex311 Service Request Heat Map



More Frequent & Severe Storms



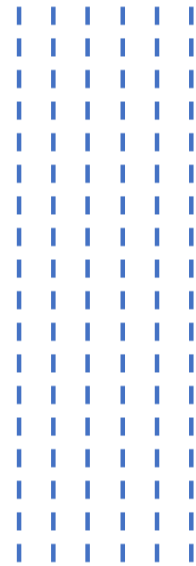
Warmer air holds more moisture



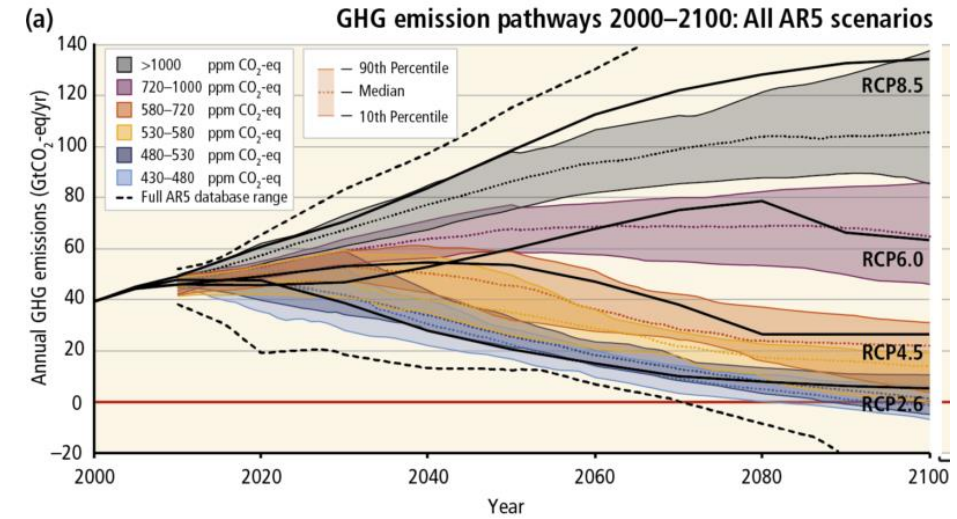
More solar heat causes greater evaporation



More moisture forms clouds



Heavier rainfall



What we are doing

- 1. Major Capacity Capital Investments: \$170 M over 10-yr; 11 projects**
- 2. Spot Improvements (local drainage issues): 15+ underway**
- 3. Maintenance**
- 4. Outreach & Technical Assistance**
 - ✓ Flood mitigation pilot grant
 - ✓ Expand early-warning system and increased signage
 - ✓ Communications and public outreach
 - ✓ Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group



Planning for climate change

- CASSCA study
- Large investments
- Infrastructure has a long useful life

FY 2022 – FY 2031 Storm Sewer Capacity Projects

Priority	Project	Current Proposed Solution	Construction Estimate Funded	Estimated Cost*
1	Commonwealth & Glebe	Conveyance	FY 2023	\$34 million
2	Ashby and Glebe	Storage/Conveyance	FY 2024	\$16 million
3	Hooffs Run Culvert Bypass	Conveyance	FY 2025	\$60 million
4	Edison and Dale	Storage/Conveyance	FY 2026	\$13 million
5	Dewitt Ave	Conveyance/Storage	FY 2027	\$15 million
6	East Mason Ave	Storage	FY 2027	\$1 million
7	Notabene & Old Dominion	Storage/Conveyance	FY 2028	\$4 million
8	Mount Vernon, E Glendale, E Luray and E Alexandria	Conveyance	FY 2028	\$10 million
9	E Monroe & Wayne	Conveyance	FY 2029	\$3 million
10	Russell Road and W Rosemont	Conveyance	FY 2029	\$6 million
11	Russell Road and W Rosemont (south)	Storage	FY 2030	\$8 million
TOTAL:				\$170 million



Planning for climate change



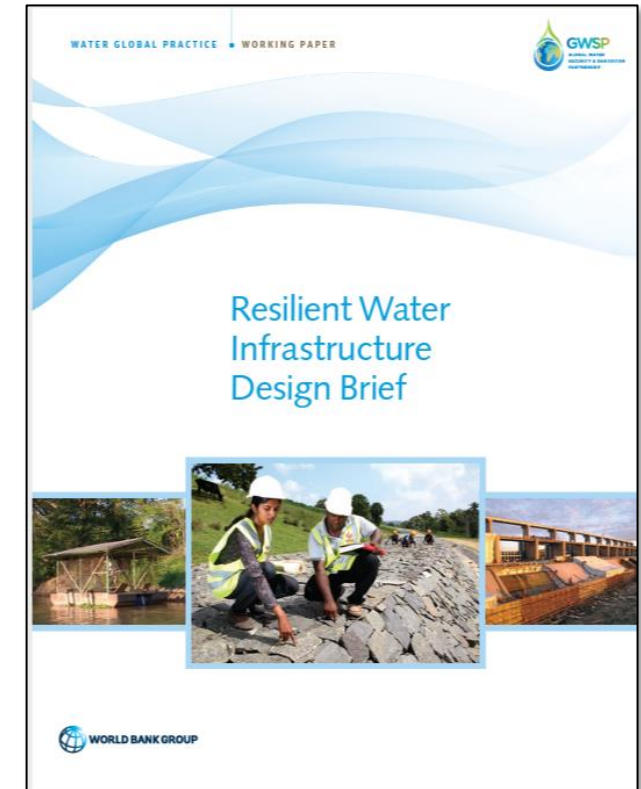
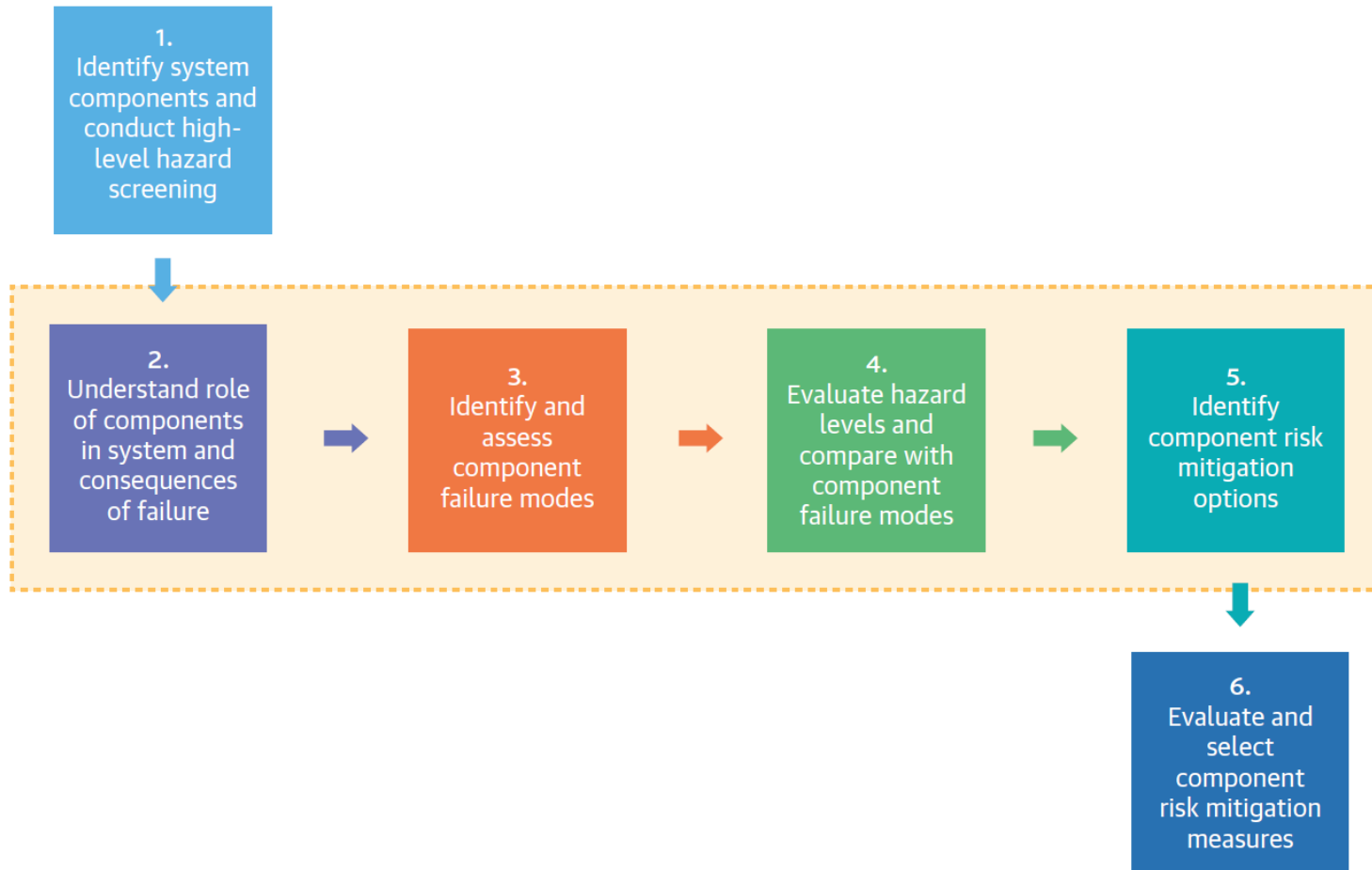
- Top-down analysis

- ✓ Use climate models to predict future conditions (e.g., 2050)
- ✓ Select a future design standard (e.g., 10-year storm)
- ✓ Design infrastructure to meet the future standard

- Bottom-up analysis

- ✓ Select design standard based on best available information
- ✓ Design infrastructure to meet the standard
- ✓ Stress-test the design through what-if scenarios

Resilient design

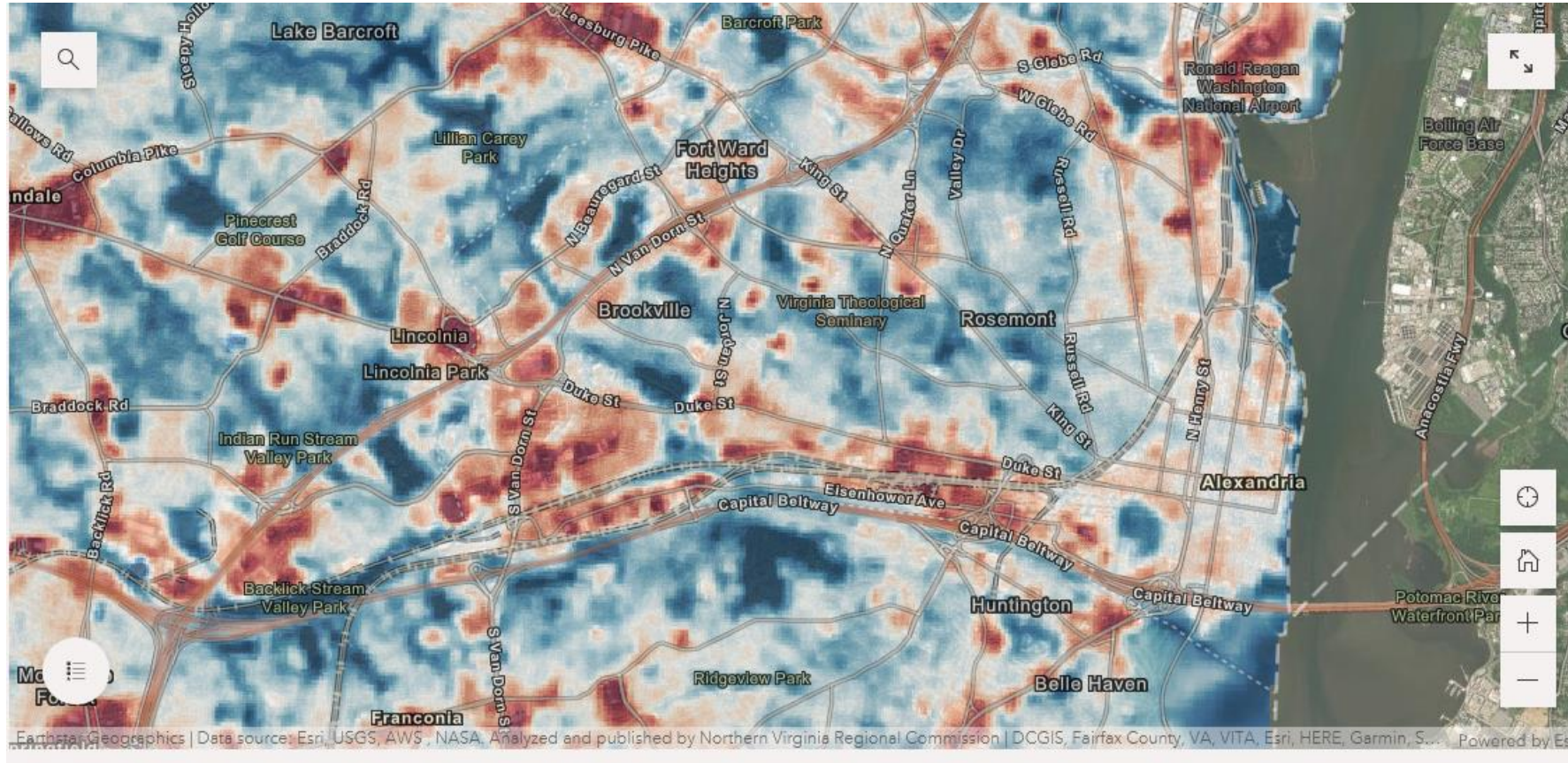


Resilient design

- Advantages
 - ✓ Applicable to all infrastructure
 - ✓ Flexible; not just for climate change
 - ✓ Brings other variable into focus (e.g., demographics, land use)
 - ✓ Compatible with accepted practices in engineering reliability
 - ✓ Enables trade-off evaluations



Increased Temperatures, Extreme Heat, and Urban Heat Islands



Urban Heat Islands (UHI)

- Urban Heat Islands
 - Surface UHI's – day/night, related to direct sunlight exposure
 - Atmospheric / Ambient UHI's – nighttime, may result from increased ambient temperatures and re-radiation/convection from surfaces
 - Interact together; amplify impacts of increasing temperatures
- Primary causes
 - Reduced urban vegetation
 - Properties of urban materials
 - Building materials, infrastructure (concrete, pavement, brick, etc.)
 - Darker or with higher heat/thermal capacity
 - Urban form/geometry



Existing Heat Response, Heat Island Reduction & Adaptation Practices

- Public service announcements on extreme heat conditions
- Provide cooling centers and extend hours for public pools
- Increase tree preservation and canopy expansion; increase native shade tree canopy on public and private land
- Support shaded surface parking lots through development process
- Update open space in the development process; seek unconventional open space options
- Expand and enhance outreach on air quality hazards such as ozone pollution associated with high temperature days



Expanding Heat Response, Heat Island Reduction & Adaptation Practices

- Programs and incentives to reduce heat island (focused locations on high-risk areas)
 - Increase vegetative roofs and add vertical gardens
 - Add solar on roofs (*can be combined with vegetative roofs)
 - Cool roofs
- Increase participation in building weatherization, cooling assistance programs, energy efficiency programs to withstand extreme heat (with additional focus on vulnerable populations)
- Education, outreach, awareness on extreme heat risks, response, and treatment for vulnerable populations
- Create community "check in" programs for high-risk neighbors
- Cool pavements, cool building materials



Discussion: Climate Adaptation Priorities

1. How have you adapted to more frequent and severe storm events and/or heat events?
2. How does the Task Force further recommend supporting adaptation across different scales, beyond Flood Action (individual property, neighborhood, City-wide)? How could you and your neighbors support adaptation across different scales?
3. What additional policies or programs should the City consider or prioritize to community member's adaptation to extreme heat or heat response?
4. In context of climate adaptation, how should the City prioritize climate adaptation considerations for critical infrastructure resiliency?
5. Beyond impacts of increased precipitation and heat, what additional adaptation areas are of high priority does the Task Force recommend for consideration? (drought, wind/extreme storms, extreme winter, coastal flooding)
6. Additional Task Force guidance for City consideration?



Community Engagement Workshop #2

- Vulnerability/Adaptation Focus
- Based on Feedback from Community Workshop #1
 - Virtual
 - Shorten to 2 hours
 - 1 keynote (framing climate adaptation)
 - 2 additional presenters (1 flooding, 1 heat)
 - Facilitated breakout discussions
 - Use of virtual whiteboard/polling



Community Engagement Workshop #2

- Task Force Input:
 - For the keynote and presenters, what key information do you recommend they provide?
 - What questions would the Task Force consider important for the facilitated roundtable discussion?
- Task Force Support:
 - Outreach and Promotion
 - City staff can provide template language/share eNews and social media posts
 - Promote among non-traditional attendees



ECCAP Updates

- Partners
 - ICF (Consultant Team)
 - ICLEI
 - MWCOG
 - GMU

- Outstanding items:
 - Scope Mapping
 - Schedule Updates



Additional Updates/Considerations

- City Council Briefing (*TBD: March – April*)
 - City Manager / City Council Guidance
- Coordinating City Commissions (*ex. EPC, TC, PC, etc.*)
- Task Force Meeting #6
 - Proposed Focus: Synthesis, Refine Priorities, Planning Community Input/Review
- Task Force Extension Consideration (*Expires May 4, 2022*)



Task Force Meetings – Updated Schedule

- Meeting #1 (May) – Introduction & Background, Establishing Priorities
- Meeting #2 (July) – Mitigation 1
- Meeting #3 (Oct) – Mitigation 2
- Community Workshop #1 (Nov) – Mitigation
- Meeting #4 (Dec) – Vulnerability
- Meeting #5 (Feb) – Adaptation
- Community Workshop #2 (March) – Vulnerability & Adaptation
- Meeting #6 (TBD) – Synthesis, Priorities, Planning Public Input/Review
- Community Engagement #3 (TBD) - ECCAP Public Input/Review



Action Items

- Community Engagement Workshop #2 – Adaptation – March 1, 2022



Public Comments

- Raise Hand in Zoom to indicate you wish to make a Public Comment
- City staff will call your name and unmute you
- Please limit your comments to 2 minutes
- Please consider providing your Public comments in the Zoom chat
- A Public feedback form posted to the City website:
 - Feedback form: <https://www.surveymonkey.com/r/GVLMSL8>

