Metro Washington Council of Governments Chesapeake Bay Policy Committee

USWG Climate Resiliency Strategy

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Background – PSC Directive

- Design and accelerate adoption of stormwater management practices that are appropriately designed for rainfall volumes and intensities that are expected in the future for counties in the Chesapeake Bay Watershed.
- Determine how stormwater BMPs that are redesigned to account for future rainfalls and intensities could generate nutrient and sediment reductions that can be counted in the WIP3 milestones up to 2025.
- Examine the top tier ag and urban BMPs that are most vulnerable to future climate risk with an emphasis on structural practices that could be adapted to become more resilient to future climate conditions (especially rainfall intensities and volumes).
- Describe the co-benefits of designing stormwater BMPs to mitigate future climate risk, especially as they relate to the protection of local infrastructure and public health and safety.

Background – Prior Activities

- 2015 – Climate Resiliency Workgroup established
- 2018 STAC Workshops
  - Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on BMP Siting and Design
  - Consideration of BMP Performance Uncertainty in Chesapeake Bay Program Implementation
- 2018 Chesapeake Stormwater Network Retreat
  - Stormwater Climate Change Session

2019 USWG Climate Resiliency Strategy

GOAL: Deliver engineering tools and management solutions to communities so they can protect their current and future watershed restoration investments from climate change risk.

STEP 1: Partner and Stakeholder Engagement

- Interview and survey key stakeholders from the following groups:
  - CBP Managers: (USWG, CRWG, WQGIT, etc.)
  - Federal Agencies: (NOAA, EPA, FEMA, NRCS, COE)
  - State Stormwater and Flood Control Agencies
  - Municipal Agencies
  - Academic Researchers

STEP 2: Research and Management Synthesis

- Summarize forecasted changes in rainfall intensity and volume
- Identify existing or ongoing efforts to produce new IDF curves across the Chesapeake Bay region
- Assess current stormwater engineering standards and criteria
- Analyze the vulnerability of urban stormwater BMPs to reduce pollutant removal performance

STEP 3: Develop Long-Term Work Plan

- Based on key findings from Steps 1 and 2, coordinate with key stakeholders to develop long-term workplan and recommended priority initiatives

Research Funding

Piloting the Development of Probabilistic Intensity Duration Frequency (IDF) Curves for the Chesapeake Bay Watershed – Urban Stormwater WG - $150,000

Building a Bay-Wide Scorecard to Track Climate Resilience for Watershed Communities - Scientific, Technical Assessment and Reporting (STAR) and Climate Resiliency WG - $75,000

IDF Curve Pilot Project

Primary objectives of this Scope include:

1) Evaluation of downscaling methods and climate model combinations to assess their ability to replicate historical precipitation extremes
2) Downscaling of projected precipitation extremes for future periods
3) Quantification of methodological and climate model uncertainties for the projected precipitation extremes for future periods
4) Development of probabilistic intensity duration frequency (IDF) curves for the Virginia portion of the Chesapeake Bay Watershed as well as the District of Columbia (DC)

   (Note: An update of IDF curves in Maryland to be addressed through a current Chesapeake Bay Trust Pooled Monitoring grant)

5) Development of web-based tools and appropriate outreach to make results accessible to end-users

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