

## Metropolitan Washington, District of Columbia Coastal Storm Risk Management Study

### Study Purpose and Need

The Metropolitan Washington, District of Columbia Coastal Storm Risk Management study will investigate flood risk in the vicinity of the region's tidal areas, and identify potential solutions to protect the vulnerable infrastructure assets upon which the region relies. This effort would build on other studies already done in the region, and collaborate with a wide range of stakeholders to achieve synergies among ongoing efforts and avoid duplication.

Coastal areas in metropolitan Washington contain a critical convergence of infrastructure (e.g., water, energy, and communication utilities, transportation hubs, facilities and buildings) that the region's local governments, businesses, institutions, and communities depend upon. That infrastructure also includes many federal buildings, military installations, national security facilities, and significant national monuments and cultural treasures; much of which is also critical to the federal and state governments' work in the region. Currently the region lacks the tools to comprehensively understand how the region's infrastructure (facilities and systems) are collectively vulnerable to flooding, coastal storms, and sea level rise.

Recognizing the need to prepare for such potentials, many agencies and organizations have been studying and making their own plans on how to deal with such risks. But individual entities, no matter how protected from disaster, still rely upon shared infrastructure for water, communications, energy, and transportation services; and even those utilities are interdependent. Therefore, each entity/system within our region is only as protected as the weakest link in the regional infrastructure system. For example, historical storms such as Hurricane Isabel clearly impacted the region's coastal areas, and if Hurricane Sandy had made landfall in the region, it would likely have posed a similar or more severe threat. Changes in the frequency and severity of extreme weather events also increase the region's potential risks. Given the importance of these assets and the region's need to ensure continuity of operations and services and maintain economic stability, these shared risks need to be investigated.

### Study Formation

The US Army Corps of Engineers (USACE) is charged with investigating solutions that will reduce future flood risk in ways that support the long-term resilience and sustainability of coastal ecosystems and surrounding communities, and that reduce the economic costs and risks associated with large-scale flood and storm events. In support of this goal, the USACE completed the North Atlantic Coast Comprehensive Study (NACCS) which identified nine high-risk areas on the Atlantic coast for in-depth analysis. The metropolitan Washington region was identified as one of the high-risk areas that warranted an in-depth investigation. Multi-year cost-share funding for this effort has been authorized by Congress for the USACE to conduct this study.

Thus, the USACE, with the Metropolitan Washington Council of Governments (MWCOG) serving as a non-federal sponsor, is proposing to conduct a *Coastal Storm Risk Management Study* for the metropolitan Washington region. The study would investigate the key drivers of and resulting collective flood risk in the vicinity of the region's tidal areas, and to identify potential solutions to protect the vulnerable infrastructure assets upon which the region relies.

### Study Approach

This effort would build upon other studies already done in the region, and collaborate with a wide range of stakeholders (including local, state, federal, utilities, institutions, and private entities) to

achieve synergies among ongoing efforts and avoid duplication. To achieve a collective assessment of coastal flood drivers, risks and potential solutions, this effort would:

- Examine existing data/studies and conduct additional analysis to quantify the key water parameters (e.g., precipitation, sea level rise, groundwater inundation) that drive flooding in the region (inland and coastal);
- Quantify the collective flood risk in the vicinity of the region's tidal areas and identify key areas of regional vulnerability;
- Utilize the results of the precipitation and groundwater analysis to aid the region in better assessing the regional implications of climate/extreme weather water impacts;
- Evaluate past, current, and future coastal storm risk management as well as resilience planning initiatives and projects underway by the USACE and other federal, state, and local agencies; and
- Based on the above, propose potential solutions to address those areas, facilities, and systems of greatest risk where definable project solutions appear possible.

The formal study will follow USACE protocols and be completed in several stages:

- Pre-study discussions, study team formation, and sponsor identification (Months 1-3);
- Project scoping (Months 1-6);
- Analysis (e.g., engineering and modeling), and feasibility analysis of alternatives/potential projects including preparation of draft and final impact reports (Months 7-24); and
- Preparation of a final project study report (Months 31-36).

The study will include plan formulation, engineering and cost-benefit analysis with decision criteria to identify the most opportune set of strategies to support community resilience. GIS data, engineering models, biological surveys, economic inventory, and public input will be used to formulate plans that could reduce the coastal flood risk and improve resilience to future storm and weather events. To accelerate the evaluation, existing models and data from ongoing work by the USACE and other agencies will be used as available. The regional climate information and analysis generated by the study will have applicability beyond the coastal floodplain and can inform other efforts. The findings will also assist the region in assessing current and projected localized flooding impacts and evaluating assumptions being made by other entities for planning purposes.

Following the study, the USACE and partners would seek additional funding (federal and otherwise) to implement select recommended alternatives/projects. Alternatively, other entities may be able to implement some of the alternatives/projects within their own boundaries or facilities.

### Funding

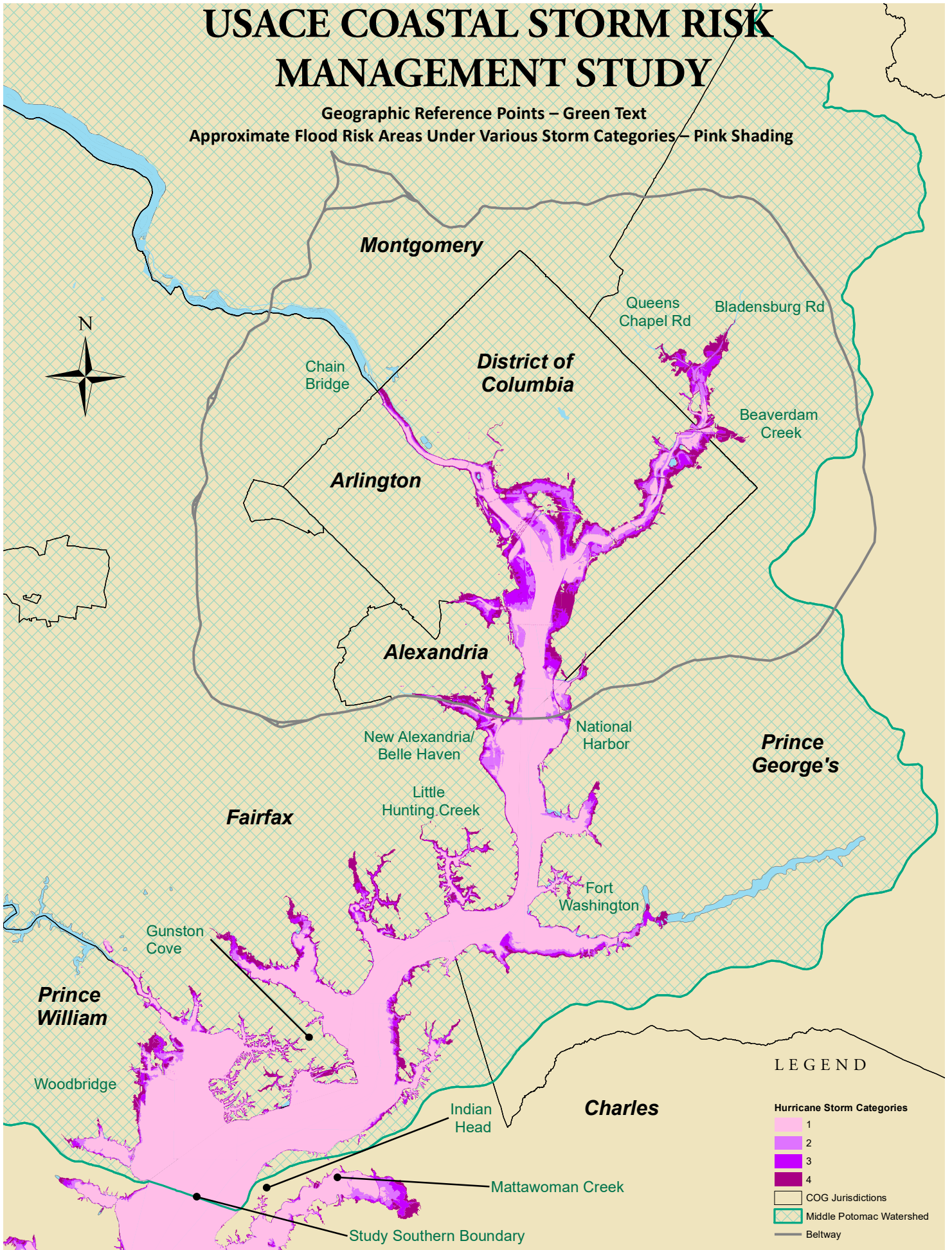
The full study is projected to cost up to \$3 million. It would need to be completed in three years. Congress has appropriated \$1.5 million in cost-share funds for this study, with local/non-federal participants needing to provide \$1.5 million in matching funds (in cash or in-kind services). Under the terms of the USACE's proposed funding agreement with MWCOG (as the non-federal sponsor), MWCOG is providing initial matching funding for the project scoping work (in the amount of \$25,000), and in parallel, work with the USACE to identify additional cost-share partners to participate in the study and to contribute matching funds or in-kind through separate cost-share agreements.

### Contact

If your organization is interested in serving as a partner for this study or as a stakeholder, or for more information, please contact Tanya Spano ([tspano@mwkog.org](mailto:tspano@mwkog.org), 202.962.3776) and Amanda Campbell ([acampbell@mwkog.org](mailto:acampbell@mwkog.org), 202.962.3324).

# USACE COASTAL STORM RISK MANAGEMENT STUDY

Geographic Reference Points – Green Text  
Approximate Flood Risk Areas Under Various Storm Categories – Pink Shading



### LEGEND

- Hurricane Storm Categories
  - 1
  - 2
  - 3
  - 4
- COG Jurisdictions
- Middle Potomac Watershed
- Beltway

