Washington, DC Silver Jackets

DC Silver Jackets Team:
Working Together to Manage Flood Risk in our Nation’s Capital

2018 ANNUAL REPORT

Above Image: November 1, 2018 Team Meeting at the DC Armory
(Source: DC National Guard)

Side Image: 1985 Election Day Flood – Hains Point, Washington, DC
(Source: Library of Congress)
Flood Resilience Leadership

About Silver Jackets

The Silver Jackets program is sponsored by the U.S. Army Corps of Engineers (USACE). Silver Jackets interagency teams are established at the state level to improve the management of flood risks nationwide. No single agency has all the answers; however, multiple areas of expertise and programs can be leveraged to provide a cohesive solution to reduce flood risks. The name “Silver Jackets” is symbolic and showcases the common mission of diverse agencies during flood-disaster response, as agencies generally wear different colored jackets while responding.

More information about the Silver Jackets program can be found at http://silverjackets.nfrmp.us/

About the Washington, D.C. Silver Jackets

The award-winning Washington, D.C. Silver Jackets team’s vision is to establish and strengthen intergovernmental federal and District of Columbia partnerships and serve as a catalyst to develop and implement comprehensive, resilient, and sustainable solutions to the District’s many flood-hazard challenges. The team collaborates before, during, and after a flood to provide flood risk evaluation, assist in project implementation, and educate stakeholders and residents about flood risk.

The DC Silver Jackets website can be found at http://silverjackets.nfrmp.us/State-Teams/Washington-DC

Current Participating Agencies

**District of Columbia Agencies:** Department of Energy and Environment (DOEE)*; D.C. Homeland Security and Emergency Management Agency*; D.C. Office of Planning*; Deputy Mayor for Public Safety and Justice*; Department of Public Works; Department of Consumer and Regulatory Affairs; District Department of Transportation; and Department of Insurance, Securities and Banking

**Federal Agencies:** USACE*; U.S. Federal Emergency Management Agency (FEMA)*; National Park Service (NPS)*; National Oceanic and Atmospheric Administration - National Weather Service (NOAA-NWS)*; U.S. Geological Survey (USGS)*; U.S. Army - Military District of Washington; U.S. Navy; General Services Administration (GSA); U.S. Environmental Protection Agency (EPA); National Capital Planning Commission (NCPC)*; Smithsonian Institution; and D.C. National Guard*

**Other Regional Agencies/Organizations:** District of Columbia Water and Sewer Authority*; Washington Metropolitan Area Transit Authority; Metropolitan Washington Council of Governments; University of the District of Columbia; University of Maryland; George Mason University; and Georgetown University

# Co-Leader Agency  * Signatory Agency
2018 Highlights

Federal Triangle Area Flooding Workshops

The DC Silver Jackets hosted two Federal Triangle Area Flooding Workshops at the University of the District of Columbia on June 6 and September 5, 2018, each with approximately 75 stakeholders in attendance. The Federal Triangle is vulnerable to interior flooding. It contains some of Washington, DC’s most iconic federal and District buildings, important infrastructure, and major cultural destinations.

The intent of the first workshop was to provide attendees with an overview of the flood history and risk in the Federal Triangle; discuss steps individual agencies are taking to flood-proof their properties; present on types of interior flood risk management measures; and engage on key opportunities and challenges related to interior flooding in the area. The second workshop focused on potential flood risk management solutions.

New Signatory Member of the DC Silver Jackets

The DC National Guard became a new signatory member of the DC Silver Jackets in 2018. Major General William J. Walker, commander of the DC National Guard, signed a Memorandum of Understanding with the DC Silver Jackets at the quarterly meeting on November 1, 2018 at the DC Armory, making the DC National Guard an official member of this interagency flood risk management team. The team is looking forward to working with the DC National Guard, who can assist in life-saving flood risk management missions.
DC Silver Jackets Supports the Emergency Operations Center

When the DC Homeland Security and Emergency Management Agency began preparations for the arrival of Hurricane Florence in September 2018, they requested members of the DC Silver Jackets team participate in the effort. The three DC Silver Jackets co-leaders from DOEE, USACE, and NPS participated in the planning calls, and the USACE staff (who was representing both USACE and DC Silver Jackets) was activated and participated from the Emergency Operations Center. The DC Silver Jackets members provided a “DC Flood 101” presentation, demonstrated the use of the online flood inundation mapping tool, and provided valuable flood risk information to the many stakeholders preparing for flooding.

2018 Coordination and Collaboration

DC Silver Jackets Meetings

In 2018, DC Silver Jackets meetings were held on April 25, 2018 (hosted by the Joint-Base Anacostia Bolling), July 31, 2018 (hosted by the DC Homeland Security and Emergency Management Agency), and November 1, 2018 (hosted by the DC National Guard). Attendance at the meetings has increased from 20 participants in 2014 to more than 30 in 2018. The meetings included members’ presentations of their programs, flood-related presentations from guest speakers, progress reports from DC Silver Jackets’ Task Groups, and open discussion and announcements on ongoing and upcoming topics.

Key presentations provided during the meetings included:

- Flood Vulnerability and Prevention, Levee Repair Project, and Other Risk Mitigation at Joint-Base Anacostia Bolling (JBAB) by Marc Oliphant, JBAB Community Liaison
- The Anacostia Levee and USACE’s Levee Program by Ray Tracy from USACE
- DC Hurricane Playbook in the National Level Exercise by the DC Homeland Security and Emergency Management Agency
- DC National Guard Response to Flooding Capability by LTC Jonathan Ebbert from DC National Guard
- DC Contingency Levee by Mark Baker from the National Park Service

DC Silver Jackets Task Groups

The DC Silver Jackets form multiple Task Groups that work together throughout the year to focus on specific flood related activities. The following are accomplishments by the Task Groups in 2018:

Levee Task Group: The Levee Task Group coordinated issues related to the DC and Vicinity Flood Risk Management Project constructed by USACE and operated and maintained by NPS. Through an interagency project, USACE and NPS hosted a public meeting the evening of October 30, 2018 in Southwest DC to share information with attendees on the results of a risk assessment completed by USACE for the District of Columbia Levee System, also referred to as the Potomac Park Levee (See Interagency Silver Jackets Projects Section below).
Federal Triangle Task Group: The Federal Triangle Task Group was established to conduct the Silver Jackets interagency Federal Triangle Interior Flooding Strategy Project. The project, which involved hosting two workshops, is described below in the Silver Jackets Interagency Projects Section. The Task Group convened multiple conference calls, webinars, and in-person meetings among planning team members to strategize an approach for engaging with stakeholders and key Federal Triangle agencies.

Flood Emergency Planning Task Group: NPS owns, operates, and maintains the DC Levee System, which manages risk to the Monumental Core of the city and various national parks. USACE does not have the authority to update the existing DC Flood Emergency Manual. Therefore, in 2018, the Task Group supported NPS in developing a scope of work for making the necessary updates to the manual, which will now be called “Washington DC Potomac River Flood Interagency Coordination Plan.” NPS is taking the lead in updating the Washington, DC Potomac River Flood Emergency Manual. In October 2018, NPS and its consultant, HDR, Inc. kicked off the project by coordinating with key planning agencies to establish the purpose, needs, and scoping of the revision. The Manual is renamed and will be called, the Washington, DC Potomac Flood Interagency Coordination Plan. The project team coordinated with members of the DC Silver Jackets to solicit feedback on a draft template of the plan. Activities in 2019 will include development of a 60% draft plan, conducting agency meetings to gain a better understanding of agency flood response, and updating the draft plan to 80% and 90% based on input from agency interviews. An orientation exercise will be conducted in October, 2019. NPS anticipates finalizing the plan in December, 2019.

Watts Branch Task Group: The Watts Branch Task Group was established in January 2017 to coordinate partners to complete the Watts Branch Flood Risk Management Study. The study was the third DC Silver Jackets interagency project that started in the fall of 2016 and is led by USACE and DOEE. Additional details on the status of the Watts Branch Flood Risk Management Study are provided in the following section.

NPS annually tested the installation of the 17th Street Closure on November 9, 2018. In 2018, NPS spent less time to complete the installation than when it was tested in 2017. The DC Silver Jackets continues to coordinate efforts to evaluate raising the project to meet the federally authorized level. (Photo by Marco Ciarla)
Under the Silver Jackets program, state Silver Jackets teams submit one or more interagency project proposals each year to compete nationwide for funding to support the USACE task. The interagency projects provide an opportunity for each team to leverage in-kind and financial resources from other federal, state, and local agencies to reduce flood risks.

In 2018, the DC Silver Jackets successfully obtained funding through the Silver Jackets program and its member for three interagency projects, the Watts Branch Flood Risk Management Study (Phase II), the Federal Triangle Interior Flooding Strategy and Planning, and the DC Levee System Outreach. More information on the projects can be found at: [http://silverjackets.nfrmp.us/state-teams/washington-dc](http://silverjackets.nfrmp.us/state-teams/washington-dc)

**Watts Branch Flood Risk Management Study:**

The DC Silver Jackets is conducting a flood risk management study to identify strategies for addressing flood problems in Watts Branch using a holistic approach. The study will be finalized in July 2019 and includes the following tasks:

- Assessing existing and future flood risks due to climate change (2020s, 2050s, and 2080s) through updated hydraulic and hydrologic modeling;
- Updating floodplain maps that will allow communities and government agencies to better understand their flood risk;
- Identifying individual and watershed-wide flood risk management strategies and neighborhood climate-resilience policies; and
- Conducting initial outreach activities to raise awareness of flood risk and promoting risk-reduction actions.

Phase I of the study concluded in the spring of 2018. This initial phase of the study produced flood modeling and mapping updates, preliminary alternatives for reducing flood risk, and a draft matrix of policies and programs (“Policy Matrix”) which have a nexus with neighborhood flooding issues and social vulnerability. In February of 2018, the team held an all-day planning charrette to review updated modeling and mapping and brainstormed potential flood risk management measures.

Phase II of the study kicked-off in the summer of 2018. Ramboll, a project partner and a representative of the City of Copenhagen, conducted a high-level “cloudburst” analysis for watershed-based solutions and provided opportunity areas for implementing blue-green infrastructure, and renderings of potential flood risk reduction measures. Georgetown University continued to refine its Policy Matrix and began developing a Funding Compendium, which identifies potential federal and local funding streams for future implementation of flood risk management projects.

Initial public outreach efforts began in 2018, with small presentations at local Advisory Neighborhood Commission meetings and involvement in the DOEE-led Equity Advisory Group, a group of residents and community leaders convened to provide input on implementation of the District’s two climate plans, Climate Ready DC and Clean Energy DC. Additionally, DOEE completed a building elevation survey project that gathered building elevation data, which will be used in a preliminary economic analysis of proposed concepts.
The next steps in the study include further refinement of flood risk management measures, finalization of modeling and mapping for identified measures, calculation of flood risk reduction benefits of each measure, refinement of the Policy Matrix, refinement of the Funding Compendium, and community engagement.

Federal Triangle Interior Flooding Strategy and Planning:

The DC Silver Jackets submitted a proposal to host two workshops related to the Federal Triangle interior flooding problem in 2017 and received approval. Federal Triangle, which is comprised of federal and district buildings, experienced severe flooding and millions of dollars in damages in the June 2006 flood. Some flood studies have been completed since the flooding; however, the recommended solutions are costly and no agencies have moved forward with a comprehensive project. The intent of this project is to bring myriad stakeholders together to understand the flood risk, strategize potential solutions, and determine a path forward for further study and design.

Two workshops were held on June 6 and September 5, 2018, and each had approximately 75 stakeholders in attendance at the University of the District of Columbia. The intent of the first workshop was to provide attendees with an overview of the flood history and risk in the Federal Triangle; discuss steps individual agencies are taking to flood-proof their properties; present on types of interior flood risk management measures; and engage on key opportunities and challenges related to interior flooding in the area. The second workshop focused on potential flood risk management solutions. The next steps in the project are to meet with key agency leadership to discuss a path forward for implementing a holistic strategy for reducing flood risk in the area.

DC Levee System and Flood Preparedness Public Outreach:

As part of an interagency project, USAC and NPS hosted a public meeting the evening of October 30, 2018, in Southwest DC to share information with attendees on the results of a safety risk assessment completed for the District of Columbia Levee System, also referred to as the Potomac Park Levee. The DC Homeland Security and Emergency Management Agency also presented on flood preparedness measures for property and business owners/renters and evacuation procedures. The purpose of this meeting was to improve the public’s understanding of flood risk in the area as well as to educate residents and businesses on steps they can take to prepare for and reduce damages from flooding.
This meeting was held as part of a nationwide effort USACE is leading to individually assess levees across the nation to determine their safety risks and present this information to the public. The information that goes into a risk assessment includes how often the area may flood; the condition of the levee system; and the population and development (including critical infrastructure) at risk behind the levee system.

Jehu Johnson, U.S. Baltimore District Levee Safety Program Manager describes the DC Levee system risk assessment to residents and local officials in Southwest Washington, DC (Photo by John Sokolowski)

“What is Flood Risk?” flyer that was handed out at the DC Levee System and Flood Preparedness Public Meeting describes the main components of a levee system, defines risk, identifies techniques for reducing flood risk, and provides useful online links to flood information.
Actions by Member Agencies

The DC Silver Jackets’ accomplishments in 2018 extend beyond our meetings, phone calls, and collaborations. Member agencies continue raising flood awareness and working to reduce flood risks in the District through their programs, plans, and projects, as well as their professional networks.

Flood Risk Management Planning Resources for Washington, DC

In January 2018, NCPC and the DC Silver Jackets jointly released the Flood Risk Management Planning Resources for Washington, DC. This is a comprehensive flood risk management planning resource guide that will help federal and local government planners and facility managers understand the different flood risk planning resources available so they can make targeted, informed decisions when developing projects or protecting assets. The guide is a compilation of previously published studies and information for the District. It includes a short summary of key flood risks in the National Capital Region, an overview of 11 studies and tools that address current and future flood risks in the region, and brief descriptions of how these studies can be used to manage flood risk.

DC Future Conditions Flood Hazard Study by USACE and DOEE

DOEE has requested the assistance of USACE, Baltimore District, with conducting hydrologic and hydraulic modeling and flood hazard mapping of climate change scenarios to assist in implementing the numerous actions in the DC climate adaptation plan, Climate Ready DC. The objective of flood hazard mapping is to complete numerous climate change scenarios for all flood prone areas in the District. The results of the study, including mapping, can be used to determine assets (e.g., buildings and infrastructure) at risk of more frequent flooding or new flooding as a result of climate change; to determine future-condition flood elevations for flood-proofing projects; to establish new guidelines for development projects to make future buildings more resilient to flooding; and to develop numerous other applications to support District planning efforts. The study began in 2017 and is being completed in phases, as DOEE and USACE acquire funding. The study area for this investigation is all streams on the effective Flood Insurance Rate Map for the District of Columbia.

DC High Water Mark Project by DOEE and FEMA

In October 2018, DOEE kicked off a DC High Water Mark initiative, a pilot project to engage stakeholders and communities to design and install flood awareness and information signs along the Potomac and Anacostia rivers and their tributaries. The project is funded by FEMA under the Community Assistance Program – State Support Services Element grant program. The outcomes of the project include heightened awareness of historic flooding in DC, increased public and property owners’ interest in exploring methods to reduce flood risk, and better collaboration among DC, federal, and private landowners to reduce flood risk. DOEE’s project team has been engaged with members of the DC Silver Jackets to obtain necessary historic flood data, identify ideal locations, and craft impactful messages. DOEE anticipated that this initial project will provide a template and a methodology that may be adapted by similar flood risk communication projects in other areas in DC when future funding is identified.
Fort McNair Coastal Flood Protection Workshop by DC Office of Planning

In December 2018, the DC Office of Planning, in collaboration with Fort Lesley J. McNair, hosted a one-day workshop between DC and federal agencies to brainstorm solutions for coastal flood protection and an Anacostia Riverwalk extension around Fort McNair. As part of the Resilient DC initiative, the workshop explored solutions that meet several priorities, including enhanced perimeter security, flood mitigation, and habitat restoration. The workshop produced a shared vision, a project brief to be included in the final DC Resilience Strategy, several design concepts, and a preliminary list of resources for implementing the project in the future.

Buzzard Point Floodplain Study by District Department of Transportation

In December 2018, the District Department of Transportation (DDOT) kicked off the Buzzard Point Floodplain Study to identify potential measures to reduce flood risk to transportation systems in Southwest DC. In 2017, DOEE, in partnership with Ramboll, conducted the Buzzard Point Resilience Study that assessed the impacts of flooding from the Potomac and Anacostia rivers. Through advanced hydraulic modeling, Ramboll illustrated that the planned level of resiliency against storm surge and sea level rise has limited effect on reducing flooding in the future for this area. The study recommended higher levels of flood risk management using a mix of grey and green infrastructure and added-value projects, such as an extension of a Riverwalk trail, additional green space, and living shorelines. DDOT is planning on advancing the Ramboll study towards a feasibility study for transportation system enhancements.

DC Integrated Surface Water and Stormwater Network by USGS, DC Water, and DOEE

DOEE, DC Water, and USGS have funded a study of an enhanced hydrographic network that combines topography and a stormwater conveyance network. The effort incorporates infalls, outfalls, field-checked flow direction, and culverts and connectors. This effort is innovative because the watershed boundary dataset (WBD) had previously used only topography to define watersheds. The new total hydrography network can be useful for assisting interior flooding response and mitigation strategies. These new datasets will be available in 2019 through the National Hydrography Dataset (NHD) and USGS WBD. DOEE will maintain both of these new datasets.

C40 Connecting Delta Cities Network by DOEE

Representing the District at the Connecting Delta Cities network, DOEE continues engaging world cities in flood risk management through sharing knowledge, innovative ideas, and best practices. The DC Silver Jackets’ coordination and collaboration capabilities are instrumental in raising DC’s flood awareness and sharing flood risk governance and leadership examples with other cities. Through this engagement, the DC Silver Jackets have learned innovative approaches in flood risk reduction, and have enhanced member participation. In October, 2018, Phetmano Phannavong of DOEE showcased the DC Silver Jackets’ governance structure and presented on interagency projects, including the extensive coordination effort during Hurricane Florence (Fall 2018), at the network meeting and workshop in Venice, Italy.
2019 DC Silver Jackets Planned Activities

Team-Wide

- Host a Federal Triangle stakeholder leadership meeting to achieve consensus on a path forward for further mitigating to Federal Triangle interior flood risks.
- Promote DC Silver Jackets’ flood risk management initiatives and raise District flood awareness by submitting an interagency project for the USACE FY 2020 call for Interagency Nonstructural Flood Risk Management Proposals.
- Support the development of DC Resilience Strategy under the 100 Resilient Cities initiative and maintain the updated 2018 DC All-Hazard Mitigation Plan by enhancing the integrated flood modeling and mapping framework, developing potential flood mitigation projects, and incorporating roles and efforts of the DC Silver Jackets into those plans.
- Look for funding to support team activities and efforts, including funding for integrated urban flood modeling and mapping, by forming a task group to prepare an in-depth report on relevant public and private grant opportunities.
- Engage with local communities and businesses and empower them to take actions to reduce flood risks by supporting DOEE’s High Water Mark project.
- Promote the role of the DC Silver Jackets in flood risk management and build flood resilience in Washington, DC, through public and private initiatives and ongoing programs.
- Continue coordinating with USACE to raise the Potomac Park levee system to the full 700,000 cubic-feet-per-second congressionally authorized risk reduction level.
- Support JBAB to improve the Anacostia levee system by conducting regular meetings and sharing knowledge and solutions.
- Explore innovative flood risk reduction solutions by engaging and maintaining relationships with partners nationally and internationally.

Flood Emergency Planning Task Group

- Support NPS to finalize the Washington, DC, Potomac River Flood Interagency Coordination Plan.
- Coordinate with HSEMA to provide technical support to the Emergency Operations Center during a flood emergency event.

Levee Task Group

- Support JBAB and NPS National Capital Parks East in managing the Anacostia levee risks.
- Support NPS to finalize a contingency plan to strengthen of the Potomac Park Levee system during high flood events.

Watts Branch Task Group

- Finalize the Watts Branch Flood Risk Management Study report that identifies preliminary flood risk reduction alternatives and their concept plans and costs (structural, non-structural, blue and green infrastructure, land use policies).
- Conduct community engagement activities, including holding a town hall meeting in Watts Branch neighborhoods in summer 2019.
Pennsylvania Avenue NW in 1889
(Source: Library of Congress)

Navy Yard in 1936
(Source: Library of Congress)

Constitution Avenue NW in 2006
(Source: GSA)

Bloomingdale in 2012
(Source: Bloomingdale Neighborhood Blog)