



DC Integrated Flood Model

Commission on Climate Change and Resiliency

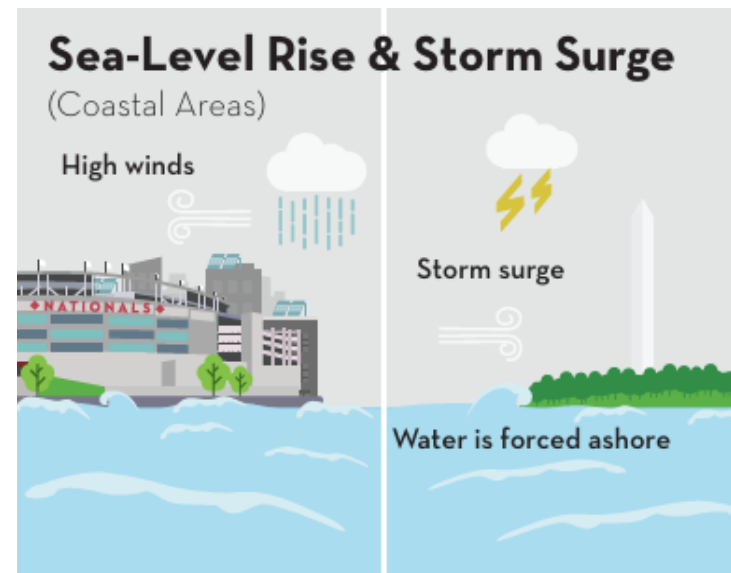
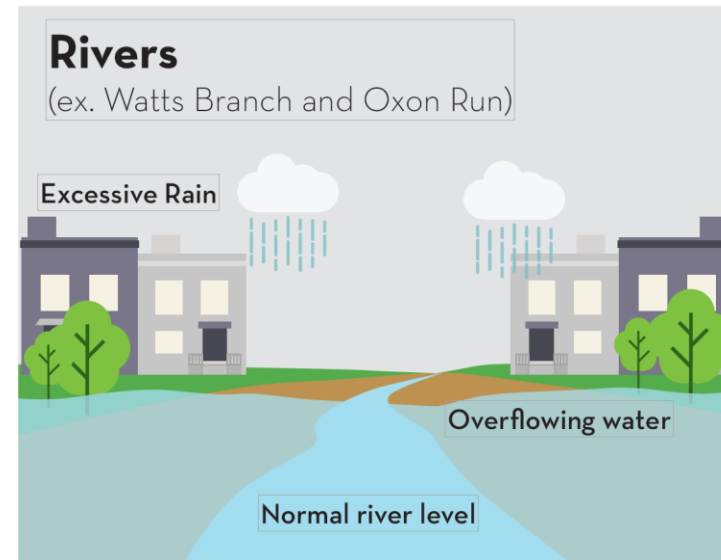
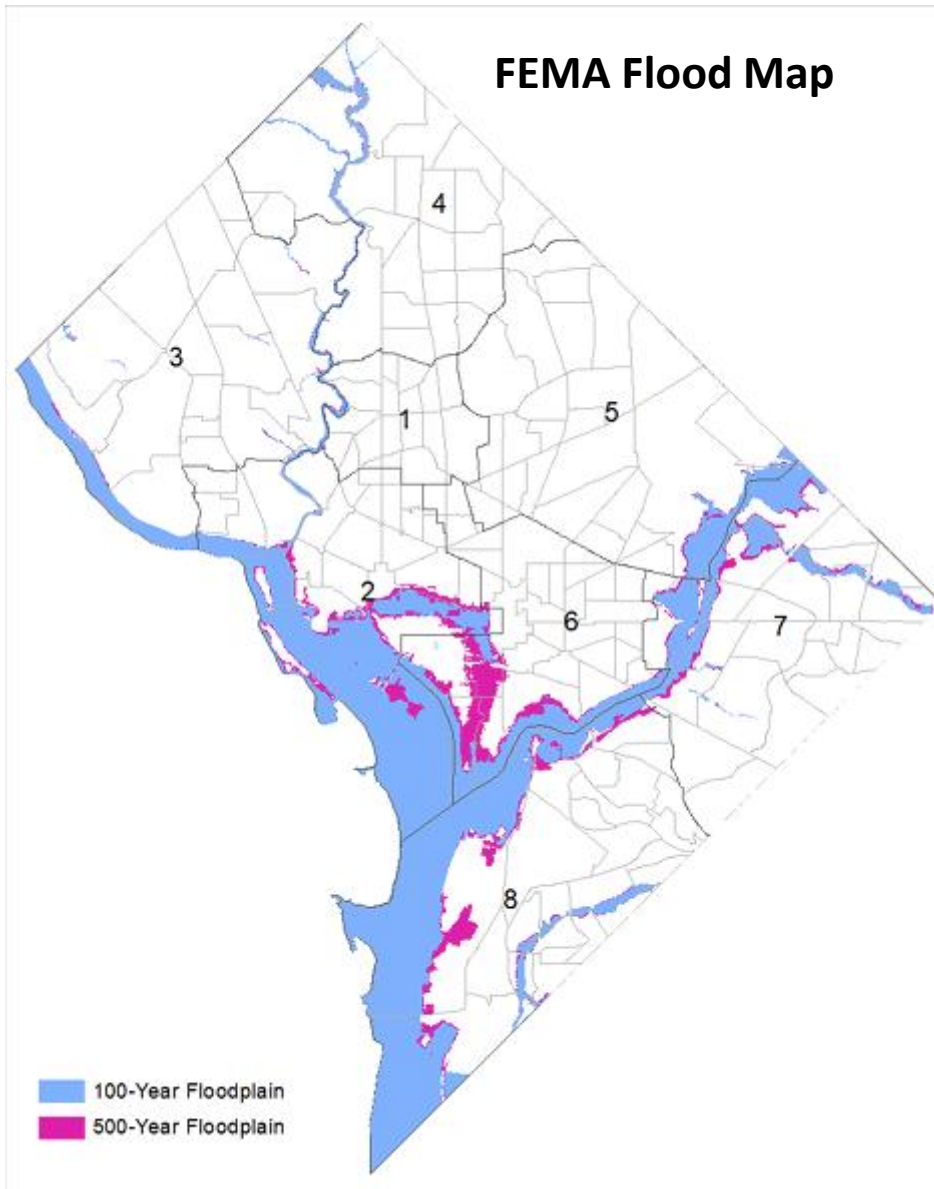
September 17, 2026

Agenda

1. Why we need the Integrated Flood Model (IFM)
2. New IFM maps
3. IFM demonstration
4. Questions

Why We Need the IFM

Existing Flood Data



**DC Tidal Shoreline
Buffer Map:**
Areas that will be flooded
in high tide in 2080.

Increased Flooding Outside the FEMA Floodplain

- Flooding that is not connected to nearby rivers & streams
- More frequent, high-intensity storms
- With more impervious surface, DC's existing stormwater sewer capacity is no longer enough



July 2025 – Anacostia Ave NE



Aug 2023 Rhode Island Ave – NBC4, Gordon Chaffin



Sep 2020 at 5th & T Streets NE- DOEE

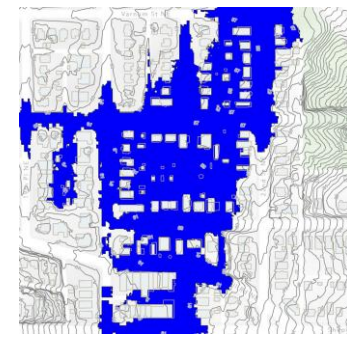
New IFM Maps

Example of model outputs

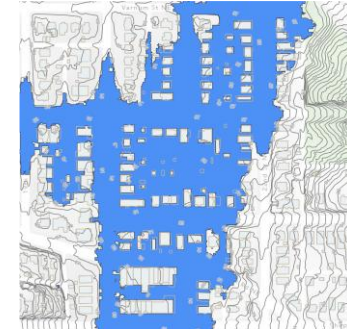
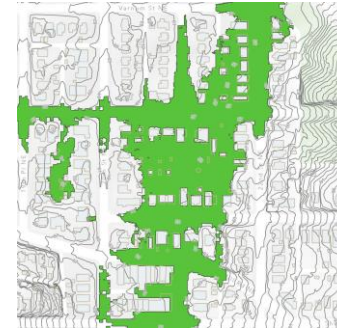
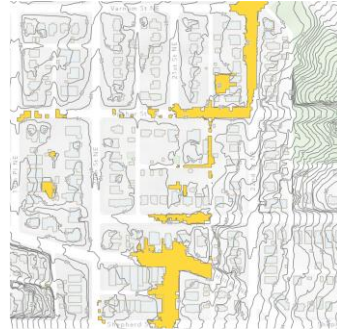
The model can show any potential rain event.

The IFM can provide a range of data including:

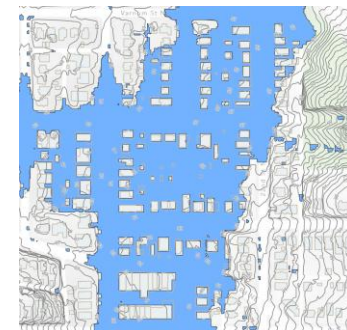
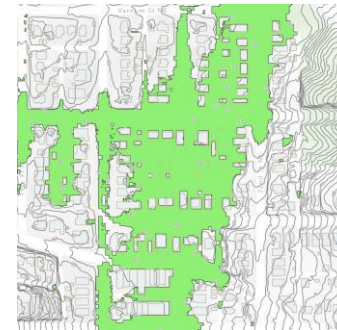
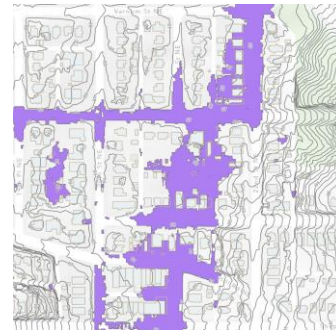
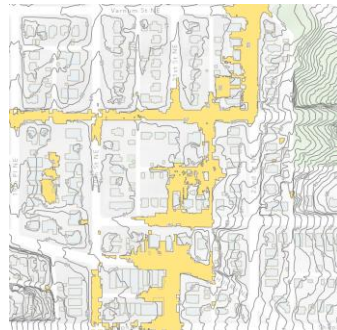
- Area inundated at set depths
- Water velocity
- Pipe capacity



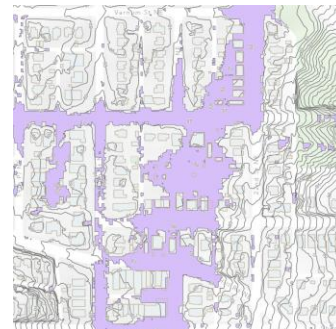
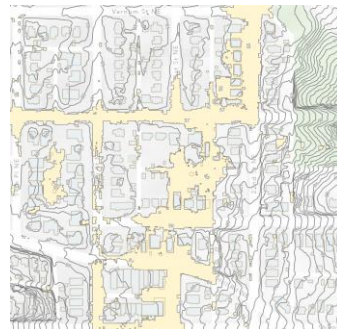
>24" Depth



>12" Depth



>6" Depth



>3" Depth

1-year, 24-hour

2-year, 24-hour

15-year, 24-hour

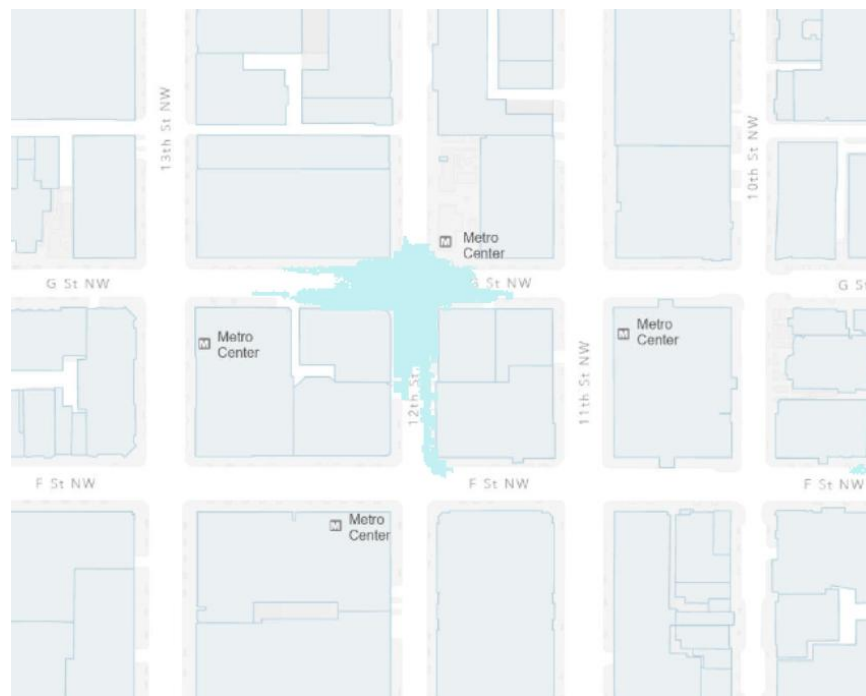
100-year, 24-hour

NEW Public Flood Maps

The NEW maps include two scenarios:

- The 24-hour 1-year storm (Common, less severe)
- The 24-hour 100-year storm (Uncommon, more severe)

For each of these scenarios, flooding is shown at a range of depths from **6 inches to 3 feet**



1-year storm flooding

Depth in Feet

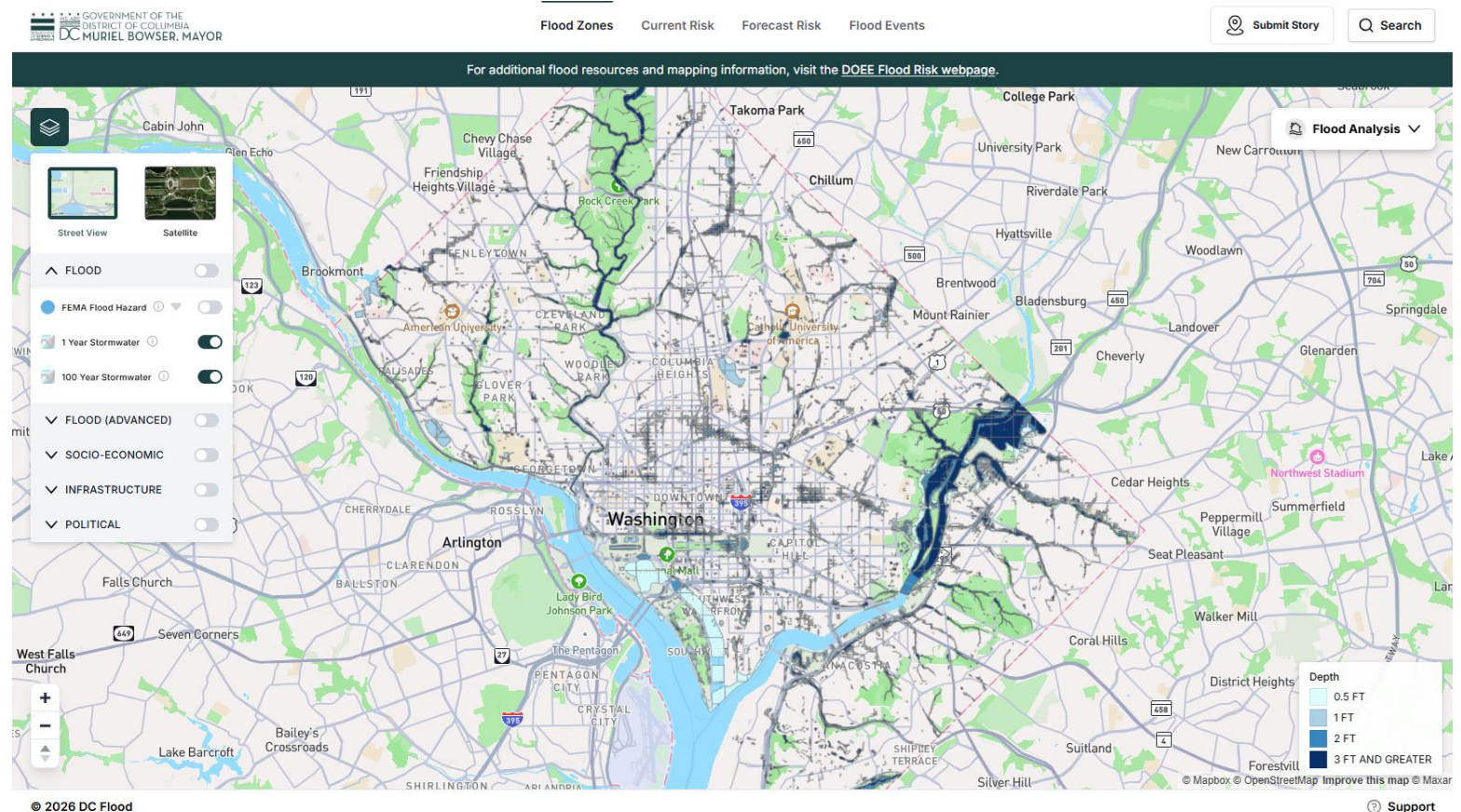
- .5 FT
- 1 FT
- 2 FT
- 3 FT & Greater



100-year storm flooding

New Maps Available on DC Flood Risk Tool

- DC Flood Risk Tool currently displays official FEMA 100-year and 500-year floodplain layers
- **NEW** IFM maps in the form of GIS layers have been added to the existing [DC Flood Risk Tool](https://dcfloodrisk.org)
- New maps help us understand where stormwater flooding occurs



DC Flood Risk Tool
URL: dcfloodrisk.org

Utility of the IFM Model and Maps

- Identify high risk flood areas and guide future resource investments
- Develop flood risk studies for priority locations
- Test solutions and support the concept designs for flood mitigation projects
- Engage the public on the District's flood risk and support residents to be Flood Smart



LIVE IFM Demonstration

Questions

Extra Slides

Transforming Spaces to Manage Water



Image Credit: MMSD

Maryland Avenue School Rainwater Catchment System Milwaukee, Wisconsin

Several projects on the site combined divert 80,000 gallons of water annually from the city's combined sewer system



Image Credit: Sam Oberter

Misson Creek Stormwater Park San Francisco, CA

Captures and treats approximately 694,028 gallons of stormwater annually



Find Out Your Risk

Know your property's flood risk and proximity to floodplains



Buy Flood Insurance

NFIP has cost-effective plans



Safeguard Important Documents

Make digital copies of key documents and store them securely



Sign Up for Emergency Alerts

Subscribe to notifications from AlertDC



Protect Your Property

Install safety measures like flood barriers and backflow valves

DC Resources to Reduce Flood Risk

- [Plan for a Flood with Ready DC](#). Learn how to act before, during, and after a flood.
- [Guide to Flood Insurance in the District](#). Learn about flood insurance in the District and what offerings are available.
 - If you need help finding a provider, visit FloodSmart.gov/flood-insurance-provider or call the NFIP at **(877) 336-2627**
- [DC Water Backwater Valve Rebate Program](#). Learn what options you have to prevent sewer back-ups and whether you are eligible for a rebate.
- [RiverSmart Homes](#). Sign up for RiverSmart Homes to better manage stormwater on your property.

DC FloodSmart Homes Program

Receive FREE residential home resilience assessments

- Residential resilience report
- Retrofit cost estimate
- Elevation Certificate

Receive **free** retrofits (On Hold)

- Range from sump pump maintenance to the installation of a dry creek
- **Retrofits on-hold due to funding constraints**



Sign-up for the FloodSmart Homes Program:

1. Complete the survey:

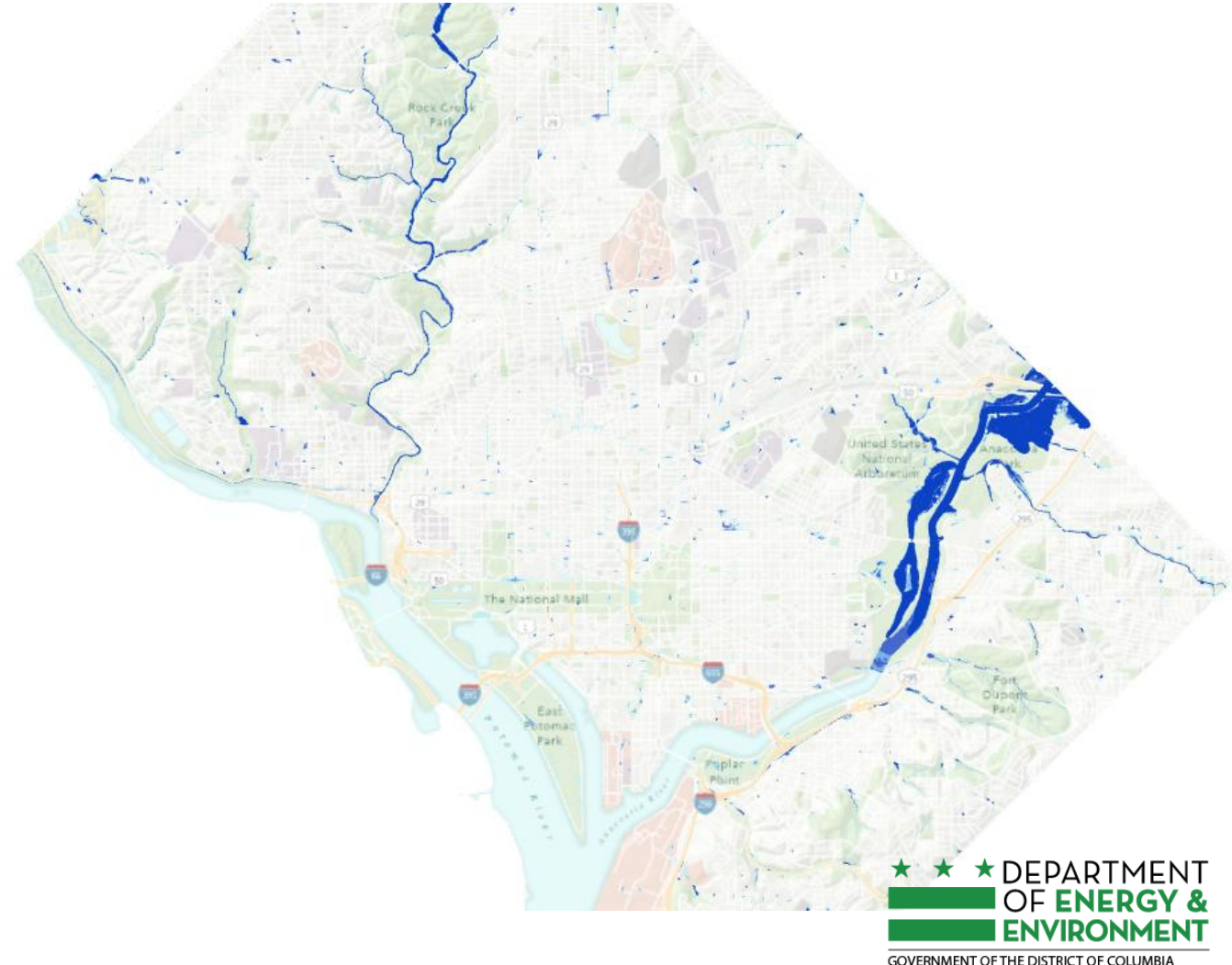
<https://doee.dc.gov/service/floodsmart-homes> OR

2. Email: flood.risk@dc.gov OR

3. Call: 202-535-2600 and ask for the Flood Team

NEW MAP: 1-Year Storm

- Areas that would experience flooding if the District experienced 2.6 inches of rain in 24-hours
- This amount of rain is statistically likely to happen at least once in any given year (1-year storm)
- Highlights areas of the city that are expected to flood frequently (once a year on average)



Note: Flooding is shown at a range of depths from **6 inches to 3 feet**

NEW MAP: 100-Year Storm

- Areas that would experience flooding if the District received 8.3 inches of rainfall in 24-hours
- This amount of rain has a 1 in 100 chance of happening in a given year (100-year storm)
- These new stormwater flooding maps help us look at the rest of the city using the same level of risk

