

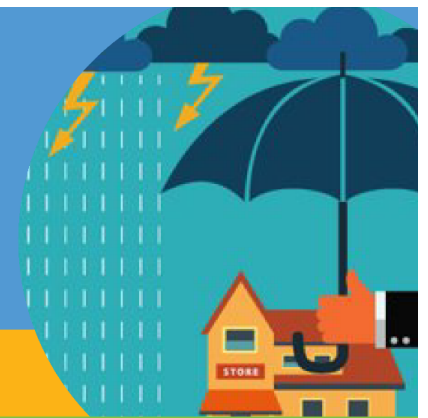


SESSION 1

WATERSHED AND FLOOD BASICS

Be Flood Smart

Flood Education Virtual Sessions



JUNE 6, JUNE 13, JUNE 20, JUNE 27, 2024

DETAILS

DATE

Virtual Thursdays
June 6-27, 2024

12PM-1PM SESSIONS

[Click here to register via Zoom](#)

6 PM SESSION

[Click here to register via Zoom](#)

COST

Free of Charge

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SESSION 1 Thursday, June 6 12pm-1pm	SESSION 2 Thursday, June 13 12pm-1pm & 6pm-7pm	SESSION 3 Thursday, June 20 12pm-1pm	SESSION 4 Thursday, June 27 12pm-1pm
Watershed and Flood Basics, Where Flooding Occurs	Flood Risk Reduction Measures – Residential Drainage, Green Infrastructure Practices and CIP Projects	Transfer Your Flood Risk, Purchase Flood Insurance	Disaster Response and Recovery



sustainability division

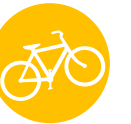




WATERSHED BASICS

June 6, 2024

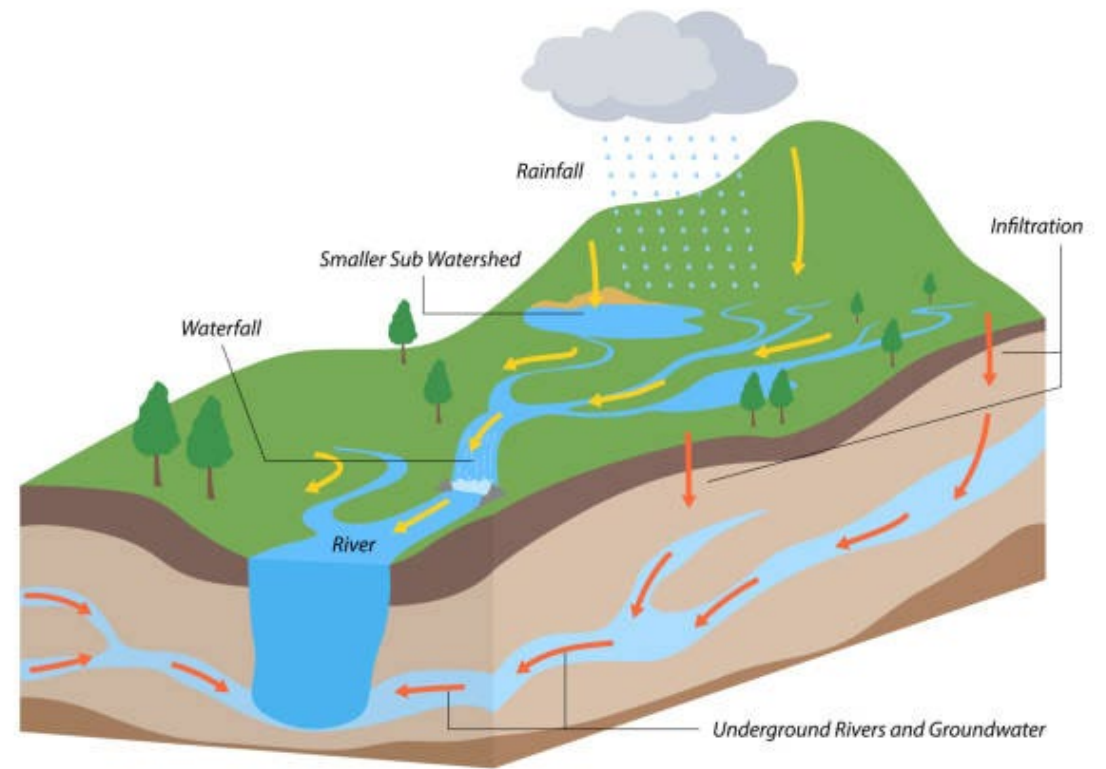
Lilantha Tennekoon, P.E., Flood Group Manager



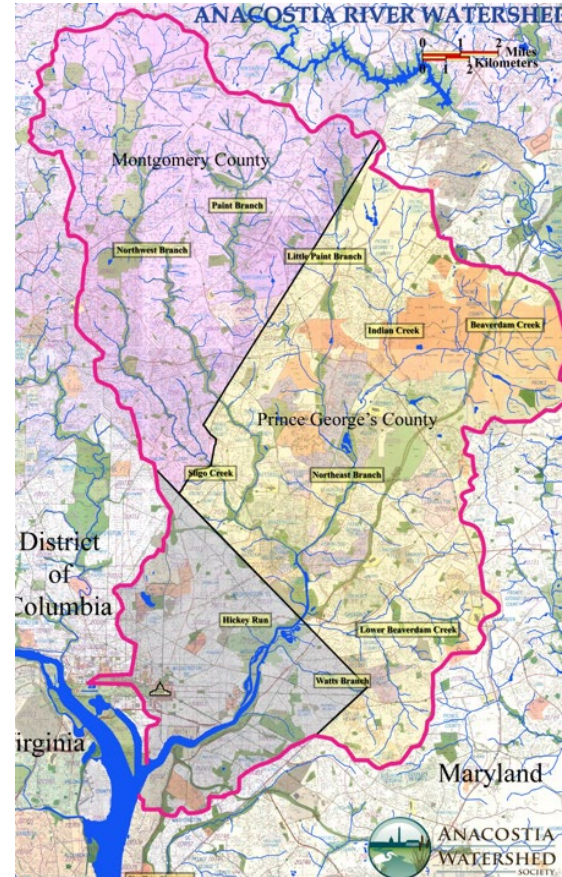
WATERSHED BASICS

WHAT IS A WATERSHED?

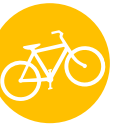
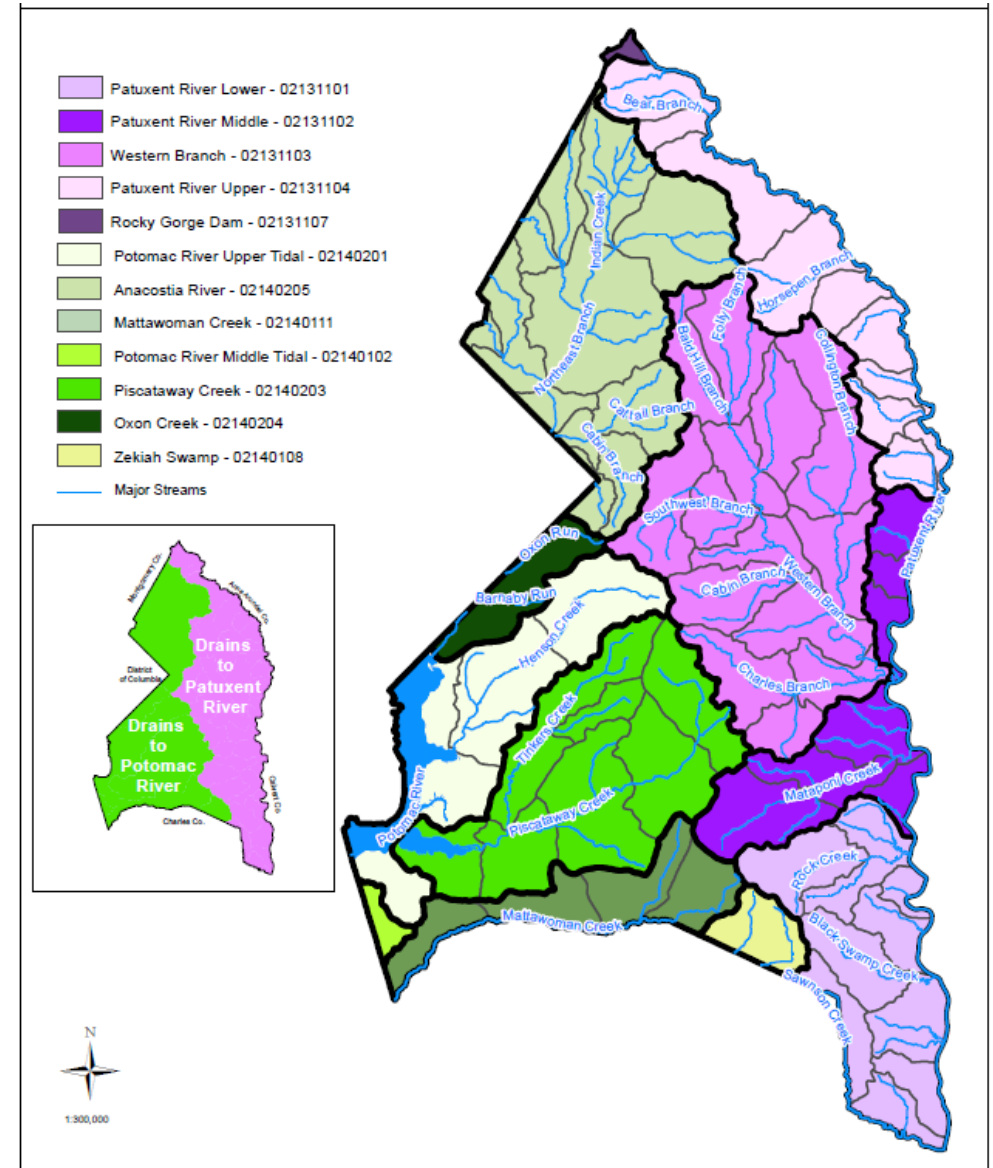
A LAND AREA WHERE ALL FLOWING SURFACE WATER CONVERGES TO A SINGLE OUTLET POINT, SUCH AS A RIVER MOUTH, OR TO ANOTHER BODY OF WATER, SUCH AS A LAKE.



WATERSHED BASICS



- Prince George's County falls within the Chesapeake Bay watershed
- The County's nine (9) major watersheds convey stormwater runoff to the Anacostia River, Potomac River or Patuxent River





WATERSHED BASICS

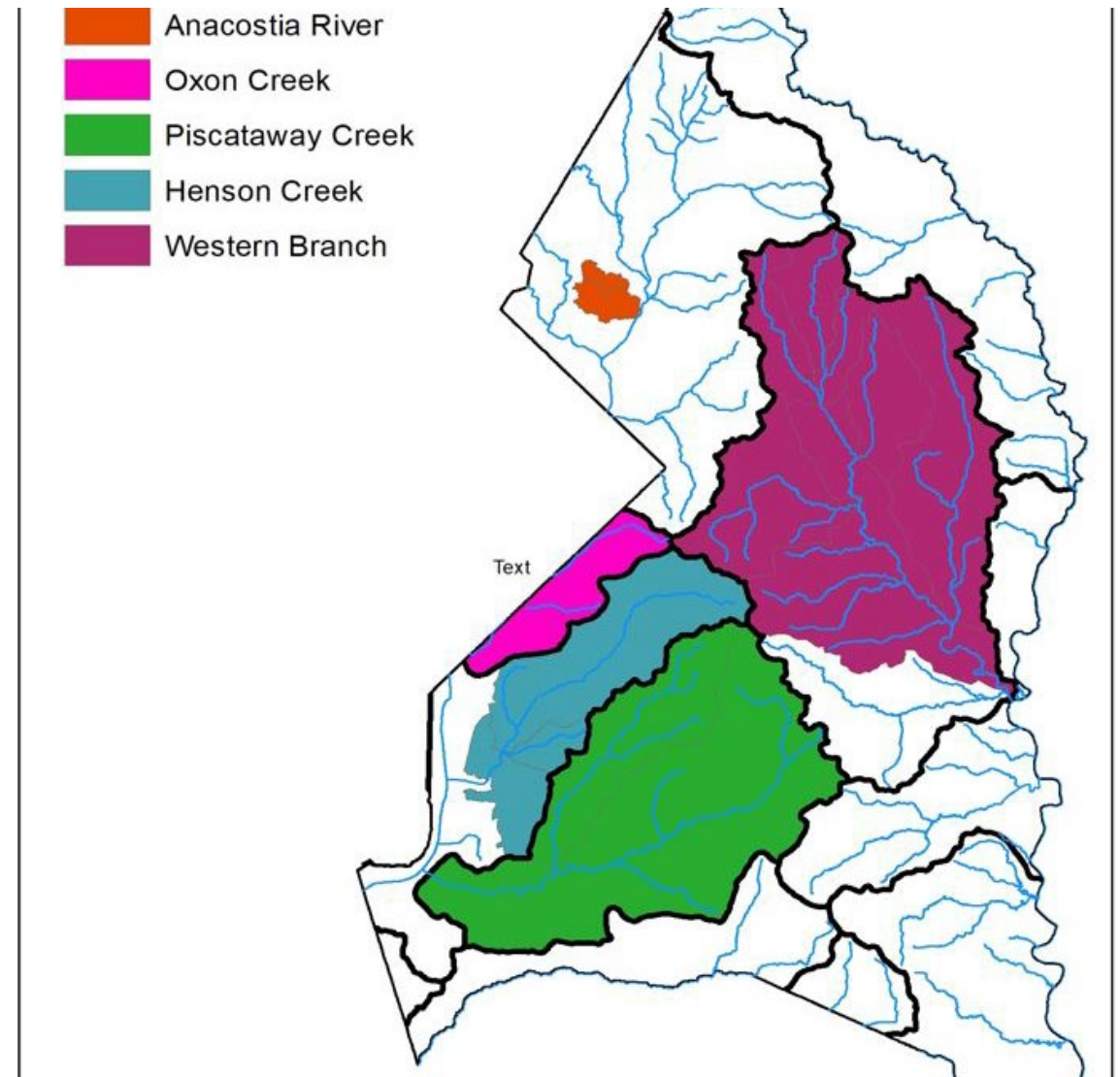
HOW DOES RUNOFF MOVE THROUGH A WATERSHED



WATERSHED BASICS

WATERSHED STUDIES

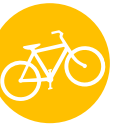
- WATERSHED LEVEL FLOOD HAZARD ASSESSMENT AND MITIGATION STUDY
 - PISCATAWAY CREEK
 - WESTERN BRANCH
 - OXON RUN
 - HENSON CREEK
 - ANACOSTIA RIVER SUB-WATERSHEDS
 - GUILFORD RUN
 - WELLS RUN





FLOODING BASICS

Rainfall, Runoff and Flooding





Floods are the most frequent natural disaster and can occur within minutes or over days.

Incidences of flooding are becoming more common due to increases in extreme weather.

Major Flood Events Over the Past Decade in the County

Derecho cause widespread power outages and offline water pumps

Landslide from saturated soils caused water main and sewer failures, 20+ homes evacuated

Drought and excessive heat cause uptick in brush fires

Prolonged heat wave and extreme temperatures, at least one heat-related death in the County

2013

2016

2018

2020

2012

2014

2017

2019

Failed water main amid heat wave caused 150,000+ residents in MD to lose water for days

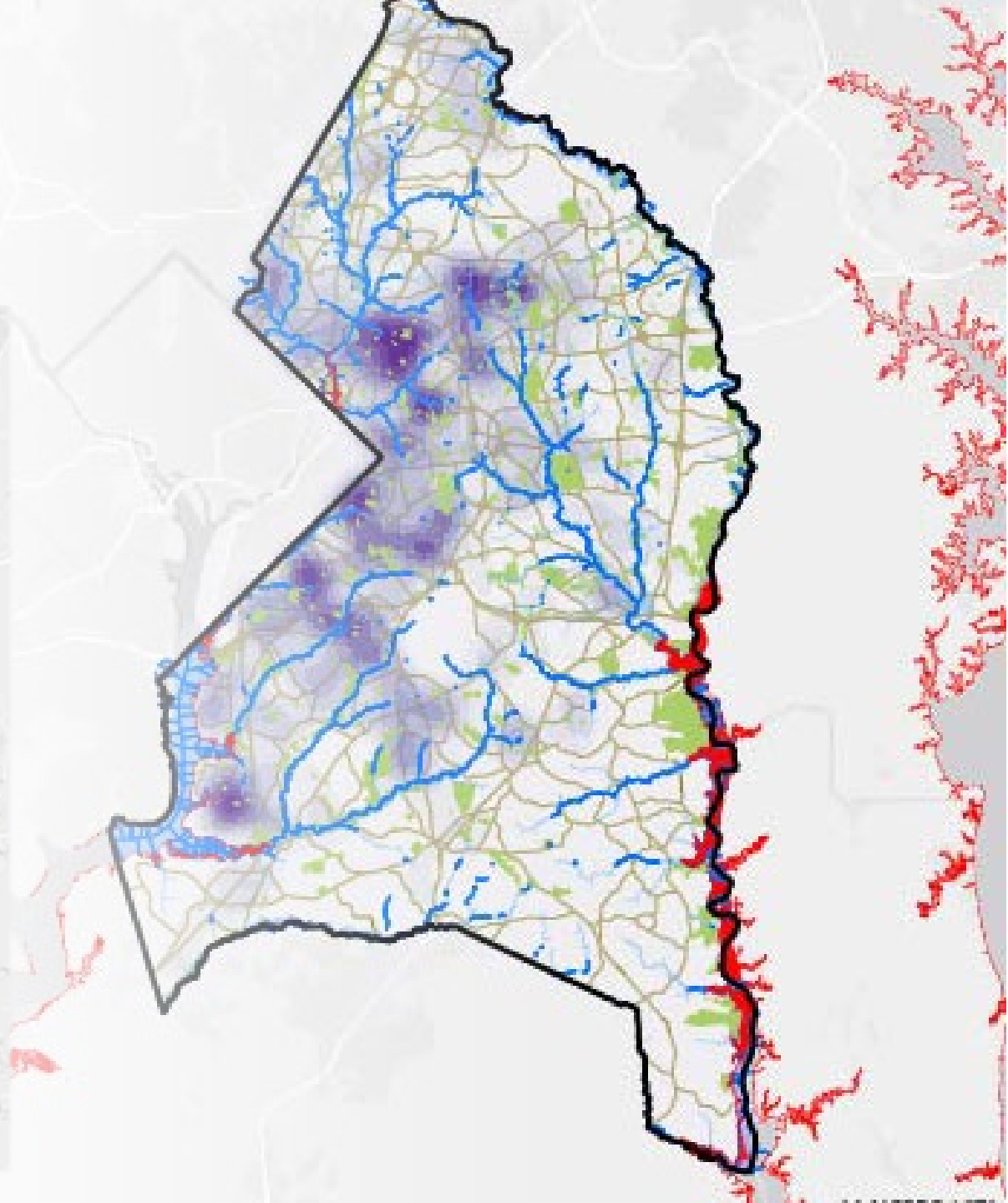
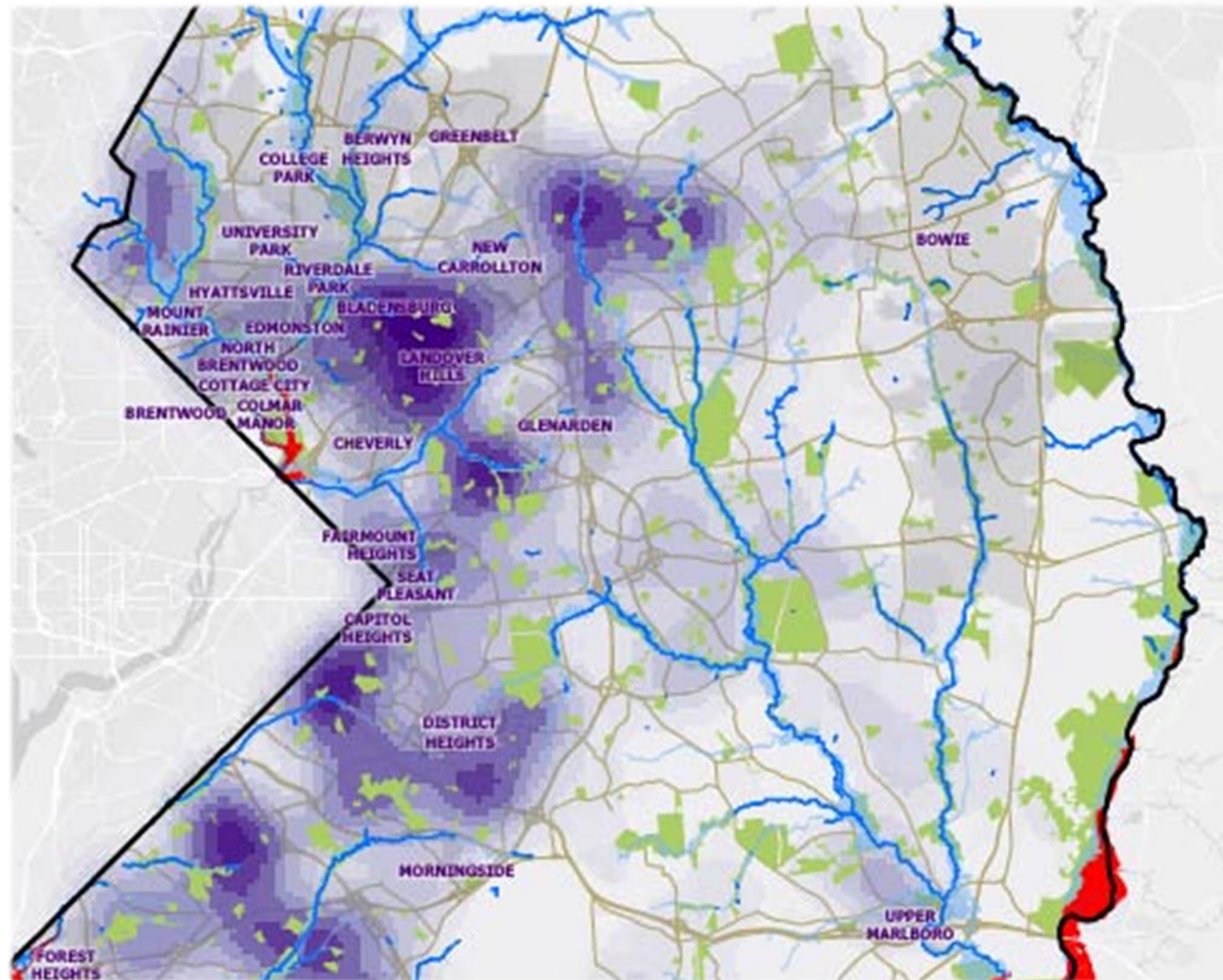
Record snowfall from **Winter Storm Jonas** caused power outages and at least one death in the County

Heavy precipitation event caused extensive flooding, opening of sinkhole, lighting strikes

Heavy precipitation cause extensive flooding and property damage, vehicle rescues



FLOODING HOTSPOTS



FLOODING CAUSES



RAINFALL RUNOFF AND FLOODING

Flash Floods- Intense, Short-Duration



Surface Runoff due to flash floods overwhelms Conveyance Systems

Low lying areas and other areas where water does not drain away quickly can become ponded rapidly

Tropical Storms- Widespread, Long Duration



River/Stream floods when riverbanks are overtopped

Rainfall is usually widespread to cause flooding along major streams

Rainfall may occur elsewhere from flooding and may occur before peak flooding



WHAT IS A FLOODPLAIN?



A floodplain is an integral part of a stream system that receives flow during storm events and reduces stream flow by providing storage. They reduce the discharge of sediment and provides many ecological functions.

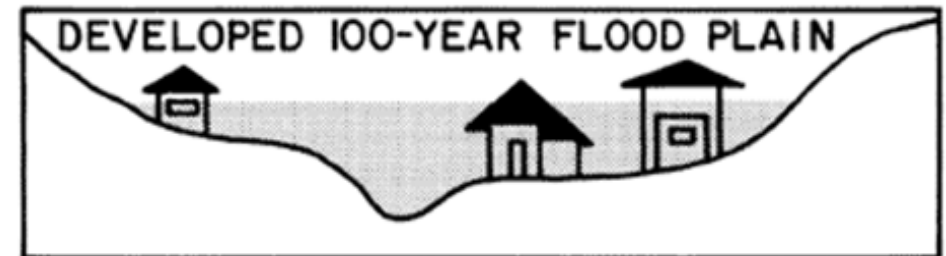
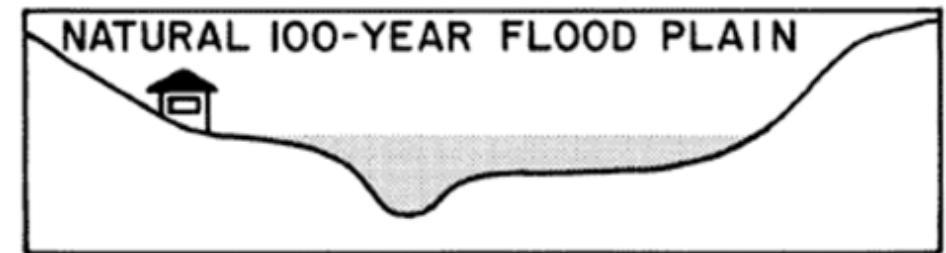


A 100-Year floodplain is that land area adjoining a stream that has a 1% chance of being equaled or exceeded in any given year.



RIVERINE FLOODING

- Flooding caused by rivers when they overtop their banks



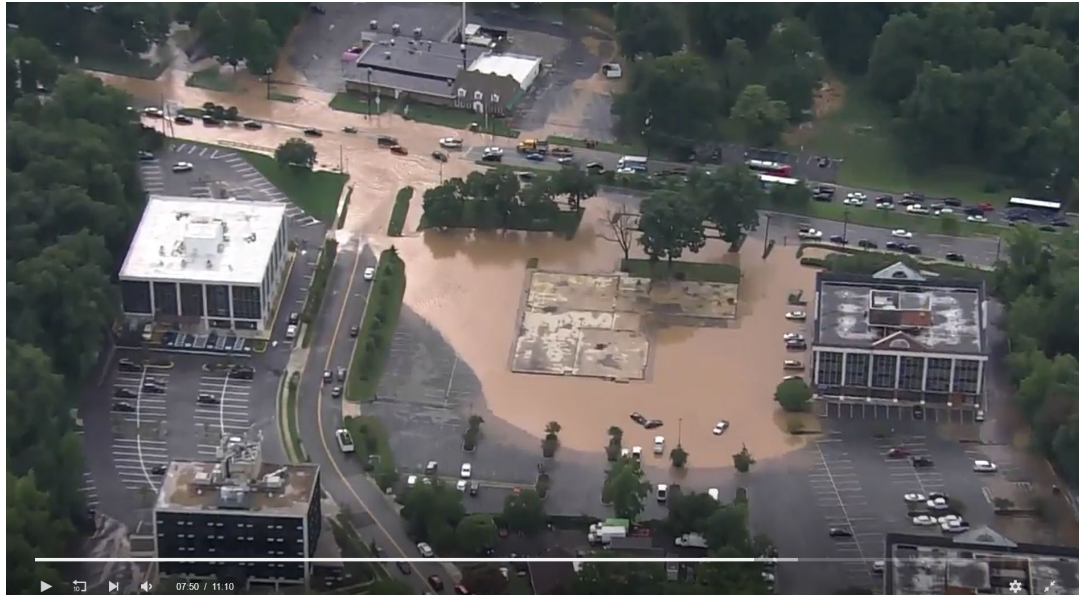
Building on floodplains increases the risk of flood hazards.



EXAMPLE – RIVERINE FLOODING

Floodplain Boundary – Anacostia River

August 2022 Storm Flooding
– Kenilworth Ave.



FLASH FLOODS

- Caused by intense, localized, short-duration storms that rapidly overwhelm storm drain systems and small creeks causing flooding on street and property lots
- In Prince George's County, summer thunderstorms are a frequent cause of such storm events
- Flooding usually occurs outside of floodplains in flat or low-lying areas
- During the past decade, most flooding in the County is due to these types of events





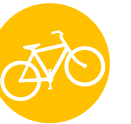
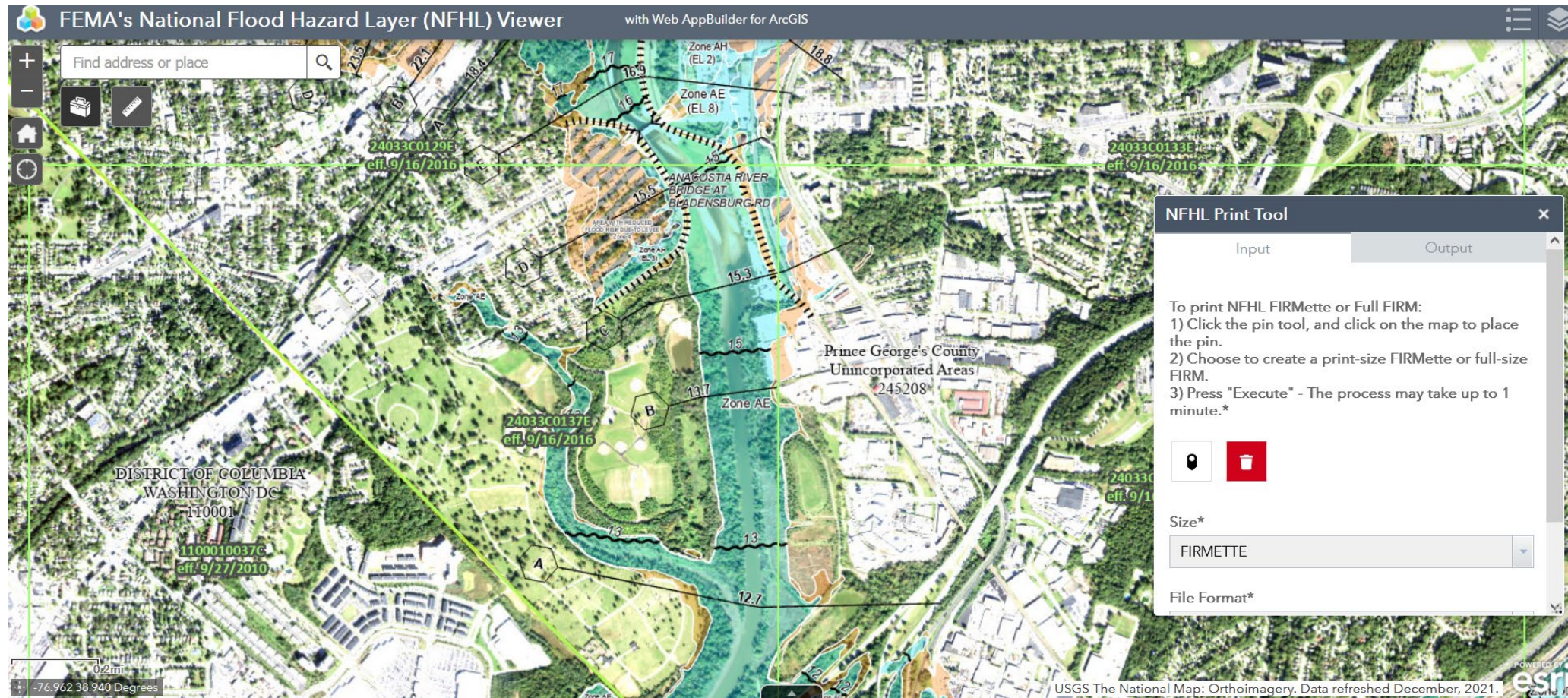
EXAMPLES – FLASH FLOODING

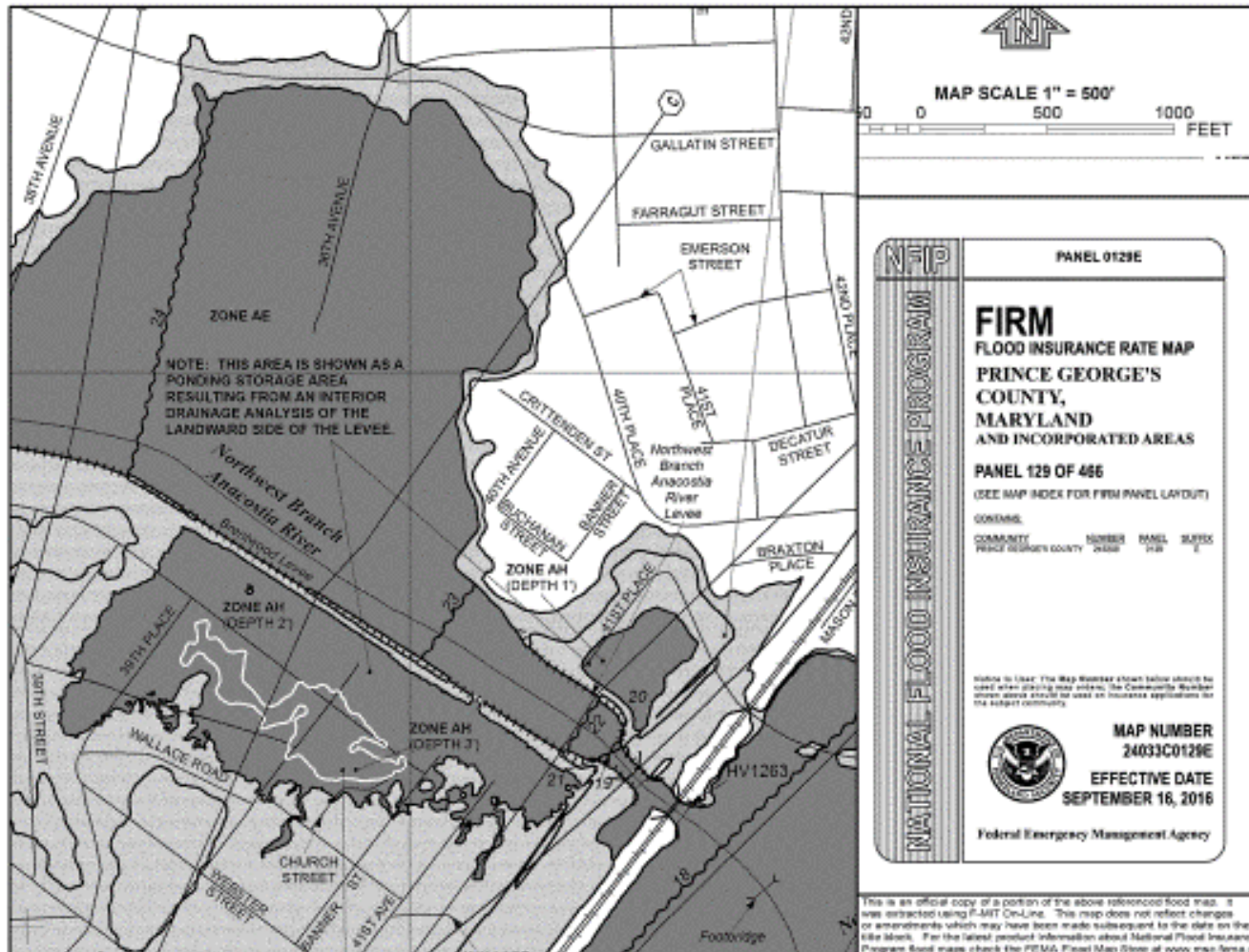
WEB MAP SOURCES- FLOOD INFORMATION



FEMA's National Flood Hazard Layer

<https://www.fema.gov/flood-maps/national-flood-hazard-layer>

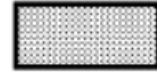




FEMA FLOOD INSURANCE RATE MAP (FIRM)

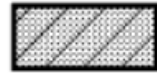
FLOOD ZONES

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)



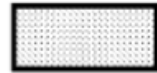
SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.



FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.



OTHER FLOOD AREAS

ZONE X

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.



OTHER AREAS

ZONE X

Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D

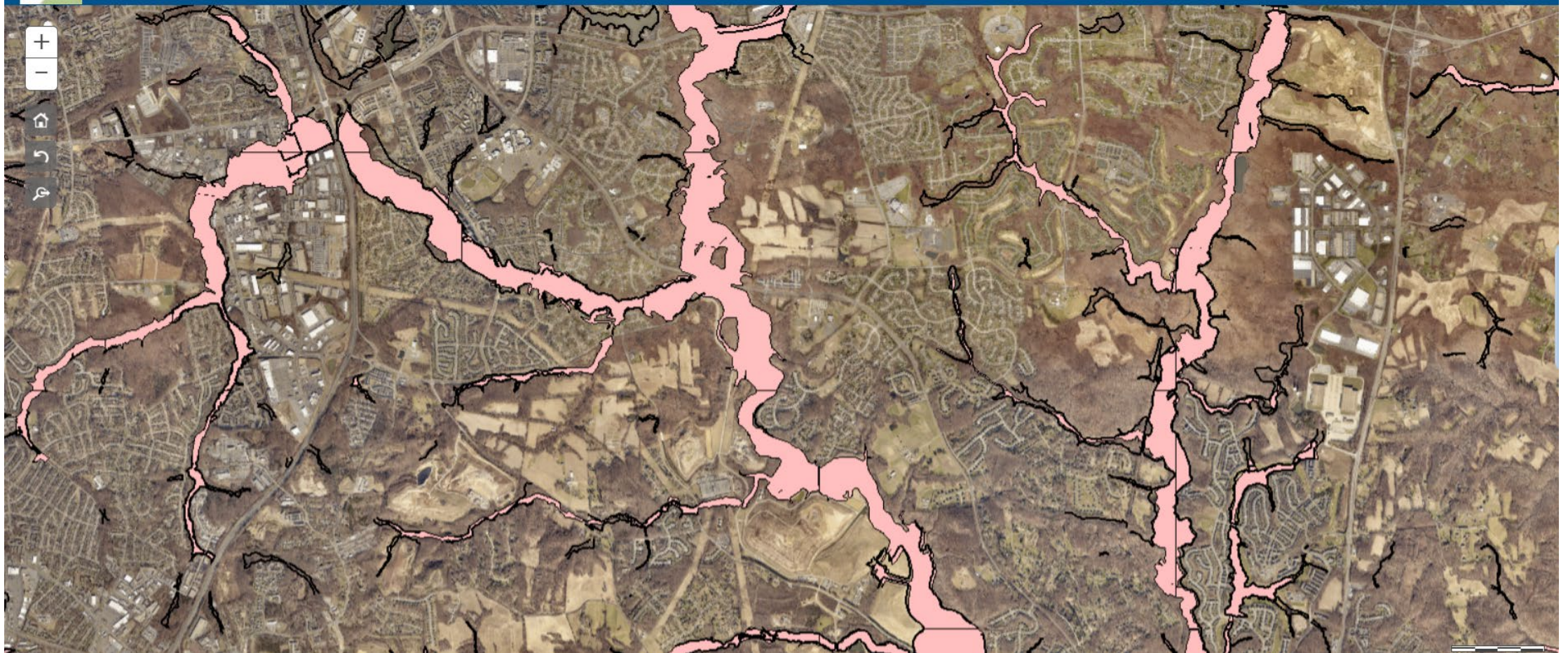
Areas in which flood hazards are undetermined, but possible.

Flood Insurance Rate Maps define areas of flooding risk

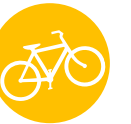


PG ATLAS

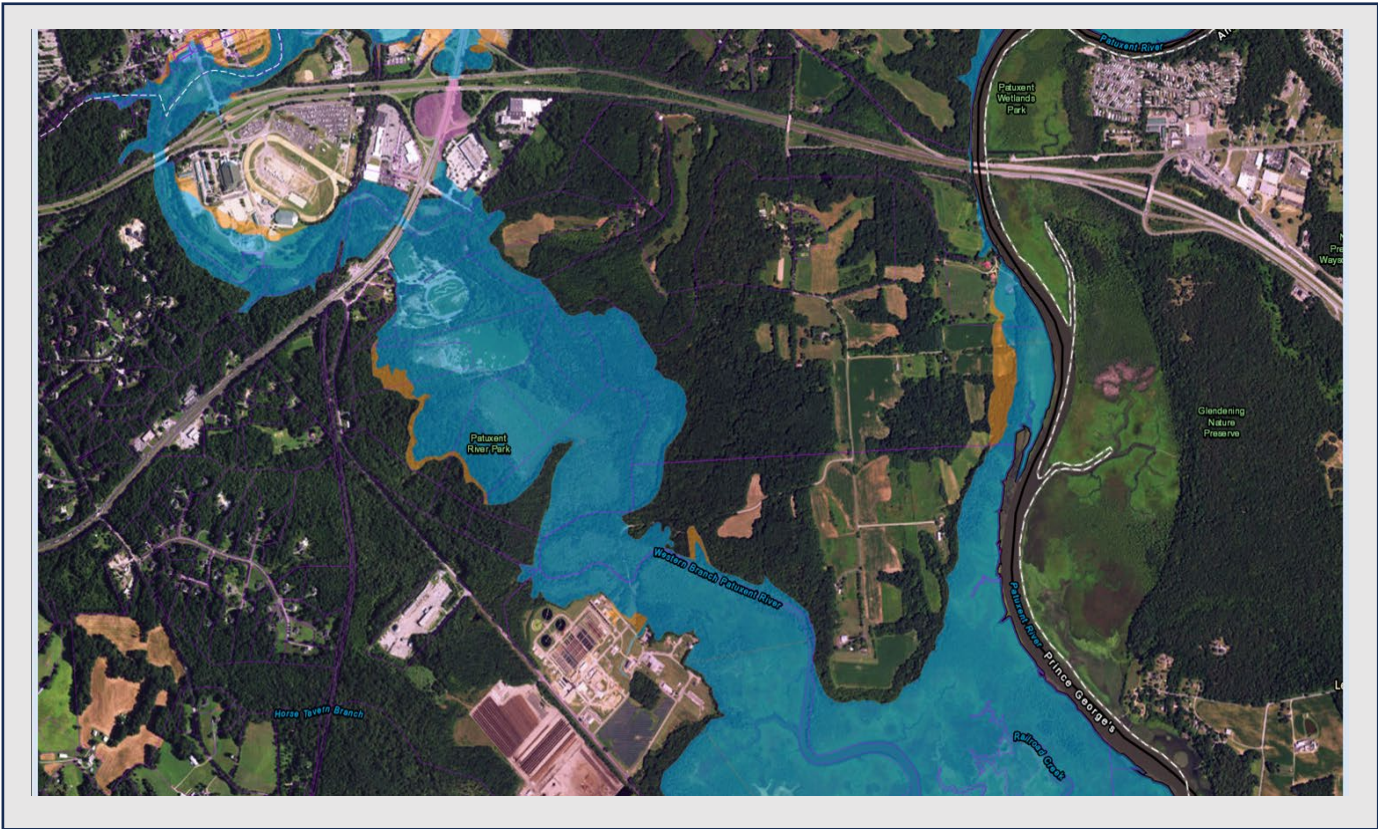
PGAtlas.com



 Floodplain



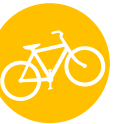
PRINCE GEORGE'S COUNTY FLOODPLAIN PORTAL



Simply enter your address and see the FEMA flood hazard designation for your property.

<https://princegeorges.maps.arcgis.com/apps/webappviewer/index.html?id=2381976034e64ead81d6894d0ff6514e>

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STAYING INFORMED OF SEVERE WEATHER AND COMMUNICATING FLOODING ISSUES



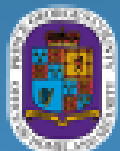


Alert Prince George's

Public Notification System

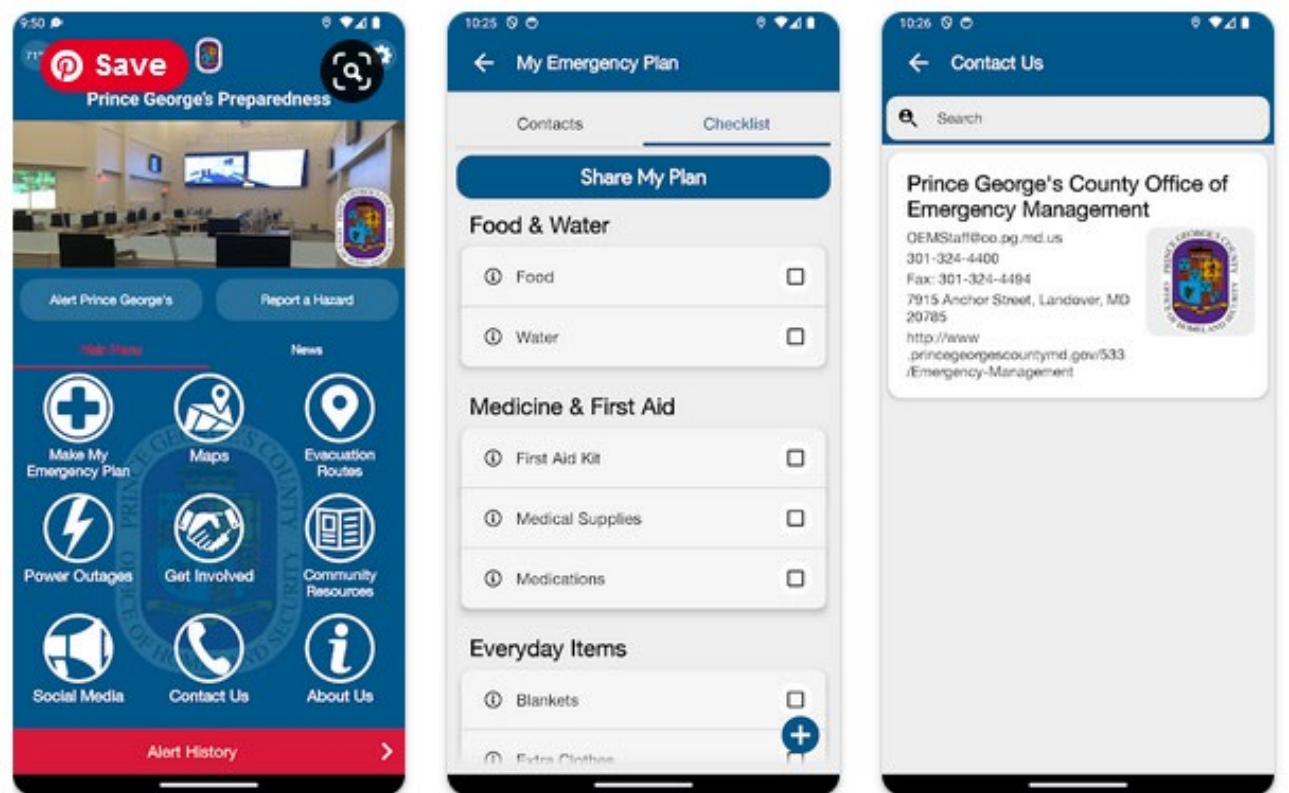
Alert Prince George's is Prince George's County's "Public" communications system that sends emergency alerts, notifications, and updates to your registered devices. It is information sharing between County Government and interested participants who wish to receive critical, real-time information. Alert Prince George's operates on an enhanced software platform that expands alert and notification capabilities. As a subscriber, you will be able to receive information regarding traffic conditions, government closures, public safety incidents, and severe weather. Users are provided with more ways to receive accurate, timely, and secure information before, during, and after an emergency or disaster.

Alert Prince George's is for everyone. Be Prepared, Get Connected and Stay Informed!



STAY INFORMED

- Visit DoE's Flood Management page to learn more about what County agencies are doing to address flooding.
- Register for emergency notifications by installing the County's free emergency communications app – *Prince George's Preparedness*.





**For life threatening emergencies,
please call 911**

REACH OUT

- Use PGC311 to inform the County of nuisance flooding or other concerns
- Use the PGC311 Mobile App or Web Portal
- To speak to a Live Agent between 7 am -7 pm, Monday - Friday, call 3-1-1 or dial 301-883-4748 if outside of the County
- Provide as much detail as possible including date of flooding and upload photos if available
- Connect with us via email at- doecares@co.pg.md.us or via phone at – 301-883-5810





QUESTIONS

We are also interested in your feedback
Please use the chat feature to tell us-



What prompted you to join us this afternoon?
What other topics would you like us to cover?





NEXT SESSION

SESSION 2: FLOOD RISK REDUCTION MEASURES

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environment.mypgc.us

CONTACT US

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