Guide to NWS Flood Products & Inundation Tools

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University of North Carolina
25-0
1924
NATIONAL CHAMPIONS
University of North Carolina
NCAA
32-0
1957
NATIONAL CHAMPIONS
University of North Carolina
32-2
1982
NATIONAL CHAMPIONS
University of North Carolina
34-4
1993
NATIONAL CHAMPIONS
University of North Carolina
FINAL FOUR
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2005
NATIONAL CHAMPIONS

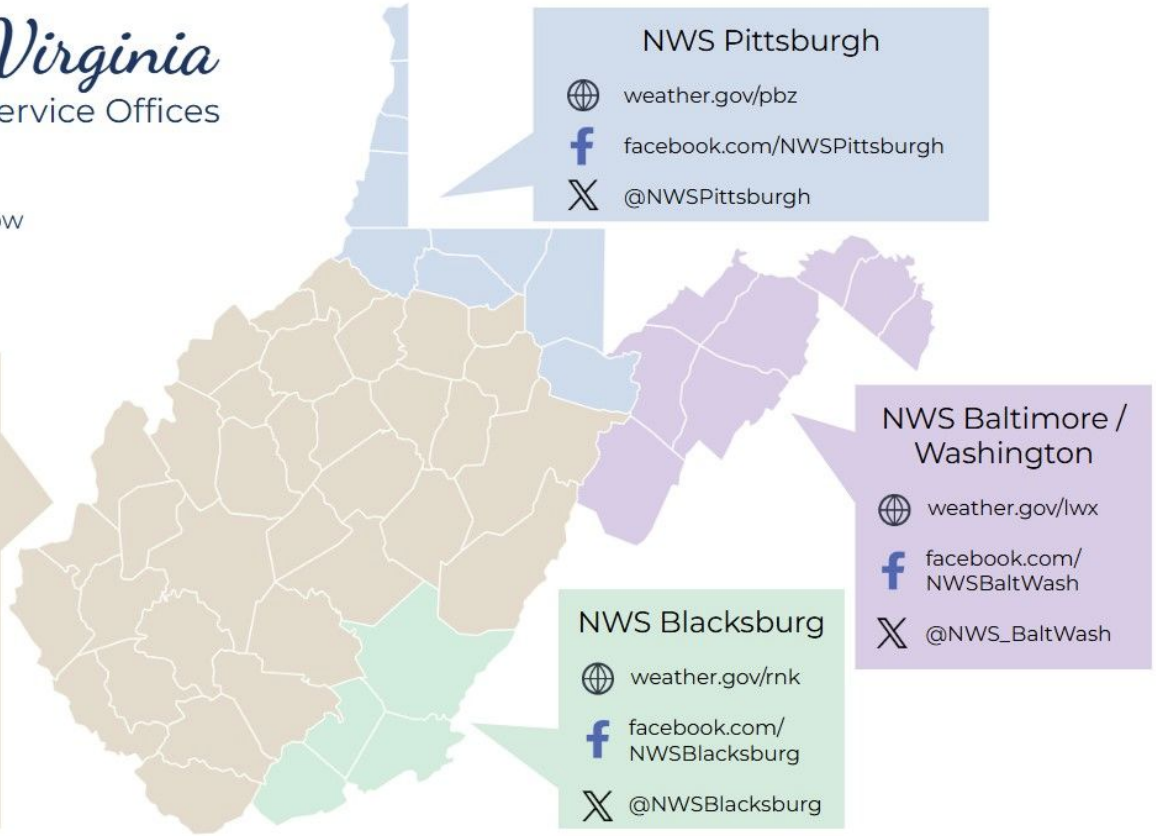

DECEMBER 11, 1789
N C


NORTH
23
CAROLINA

Your National Weather Service

West Virginia Weather Service Offices

Find your office and follow them for updates!

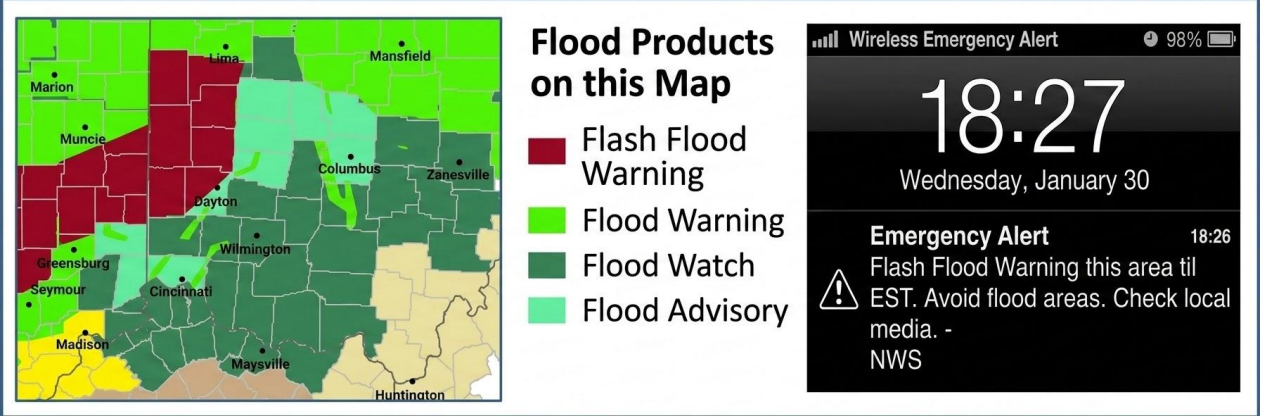


NWS Pittsburgh
- weather.gov/pbz
- facebook.com/NWSPittsburgh
- @NWSPittsburgh

NWS Charleston, WV
- weather.gov/rlx
- facebook.com/NWSCharlestonWV
- @NWSCharlestonWV

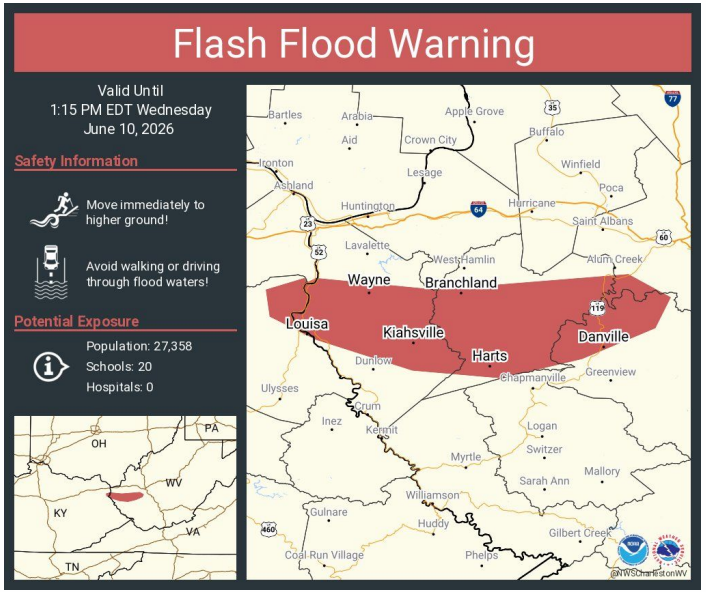
NWS Baltimore / Washington
- weather.gov/lwx
- facebook.com/NWSBaltWash
- @NWS_BaltWash

NWS Blacksburg
- weather.gov/rnk
- facebook.com/NWSBlacksburg
- @NWSBlacksburg



NWS Flood Related Products

Products to stay informed…



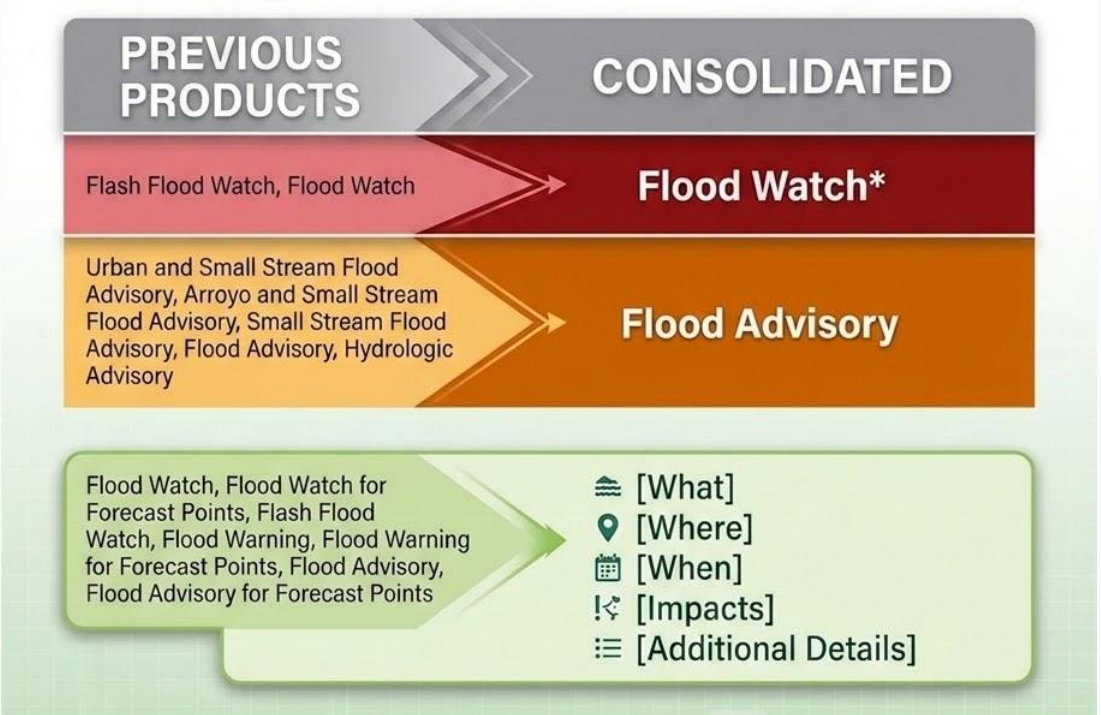
NWS Hazard Simplification

Consolidation & Reformatting

A Weather-Ready Nation is about readying your community for extreme weather, water, and climate events.

The Hazard Simplification project is designed to simplify the communication of information and improve the understanding and utility of forecasts and warnings.

To serve this purpose, the National Weather Service will consolidate and/or reformat Flood Watches, Warnings, and Advisories.



NWS Flood Products Categories

Flood Advisory

WHAT IS IT?

Flooding of small streams, streets and low-lying areas.

WHAT TO DO?

Stay away from areas that are prone to flooding and stay clear of rapid flowing water.

Flood Watch

WHAT IS IT?

Flooding or Flash flooding is possible—typically within a 6-48 hours before rain is expected to reach the area.

WHAT TO DO?

Have a way to receive local warnings, expect heavy rain and have alternate travel routes.

Flood Warning

WHAT IS IT?

Flooding is occurring or imminent.

WHAT TO DO?

Evacuate if instructed. Do not drive through flooded roads/areas. Move to higher ground.

Flash Flood Warning

WHAT IS IT?

Flash flood is occurring or imminent; immediate threat to life and property.

WHAT TO DO?

Move to higher ground immediately! Seek safety on higher levels of structures.

How is a flash flood different from a standard flood?

Flash floods are caused by intense rainfall over a short period of time (usually less than 6 hours) that can occur anywhere. A flood pertains to larger rivers and streams and can take much longer to respond (3 hours to days) and generally involves much larger amounts of water through sediment and need to be evacuated from larger areas.

Understanding Flooding

Flash Flooding

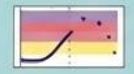
Caused by intense, localized heavy rainfall that overwhelms urban drainage infrastructure or small streams

Life-threatening impacts can occur suddenly, within minutes to hours

River Flooding

Caused by localized to widespread heavy rainfall that results in mainstem rivers and tributaries overflowing their banks

Impacts typically occur more gradually (hours to days), but some river floods can also be flash floods



Official river forecasts issued by NWS River Forecast Centers: water.noaa.gov

Look for these flood products issued by your local NWS Weather Forecast Office:

Flood WATCH:

Flash or river flooding is possible.

Typically issued up to 48 hours before heavy rainfall begins. ***Be prepared!***

Flood WARNING:

Flooding of rivers or low-lying areas is imminent or occuring, Ranges from nuisance flooding to life-threatening (if MODERATE or MAJOR is indicated).

When traveling, never cross flooded roadways. ***Turn Around, Don't Drown!***

FLASH FLOOD WARNING:

Sudden, dangerous flooding is imminent or occurring. ***Take Action!***

Move to higher ground if located in a floodplain and **avoid flooded roadways,** as water may be rapidly rising.

Impact-Based Flash Flood Warnings

What Are They?

Like tornado warnings, flash flood warnings will now be tagged based on expected severity. Each of them will contain a bulleted format of easily readable information describing the flash flood, the source of the information and a description of the impact/s.

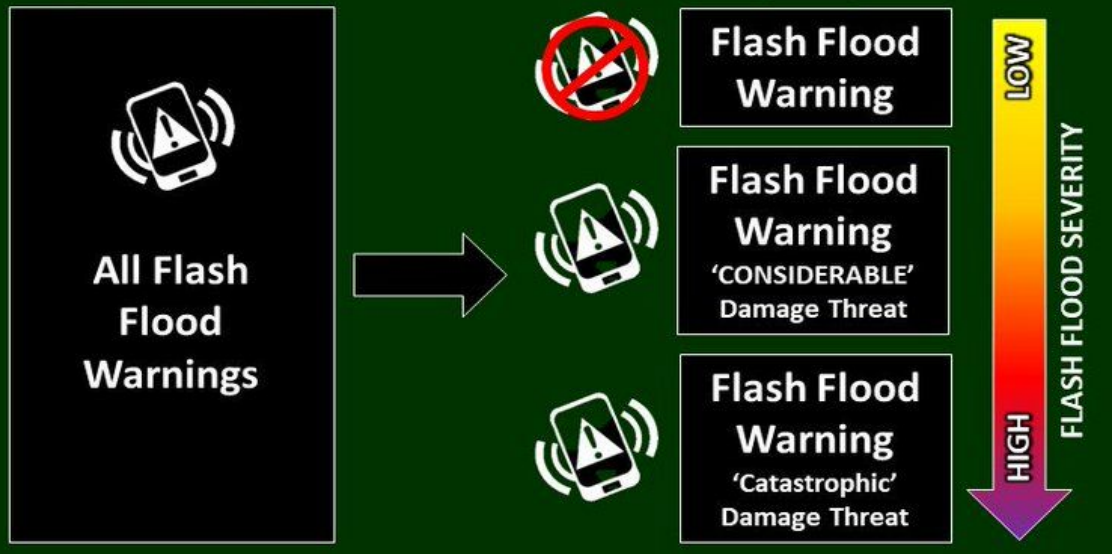
New Example Information Tags

```
FLASH FLOOD...OBSERVED
FLASH FLOOD DAMAGE THREAT...CONSIDERABLE
```

```
FLASH FLOOD...OBSERVED
FLASH FLOOD DAMAGE THREAT...CATASTROPHIC
```

How Will This Impact You?

Previously, Wireless Emergency Alerts (WEA) were activated for all Flash Flood Warnings. WEA is an alerting network in the United States designed to disseminate **emergency alerts/messages** to mobile devices such as cell phones to inform you of imminent threats for extreme weather and other emergencies. Now, WEA will be activated only if a Flash Flood Warning contains a 'considerable' or 'catastrophic' damage tag.



Impact-Based Flash Flood Warnings

Flash Flood Threat Tags

"Base" (No Tag)

Use most of the time, when flash flood impact damage is possible.

CONSIDERABLE*

Use rarely, when there are indications flash flooding capable of causing significant damage is imminent or ongoing and urgent action is needed to protect lives and property.

CATASTROPHIC*

Use exceedingly rarely, when a flash flood threat to life and property is extremely high, and is imminent, or floodwaters have risen or will rise to levels rarely if ever seen.

** Category utilized for a Wireless Emergency Alert (WEA).*

Impact Based Warning (IBW) Guidelines

	Base	Considerable	Catastrophic
Usage	**Most often**	**Rare, Urgent Action Needed**	**Exceedingly Rare, aka Flash Flood Emergency**
Roads & Small Bridges	Flooded, closed	Impassable, major highways closed, washouts/damage	Significant washouts & structural damage, damage to major highways
Vehicles	Stranded, stalled	Submerged, standing water rescues, isolated swift water rescues	Numerous swift water rescues, vehicles swept away
Structures	Surrounded, entering crawlspace, basement or garage	Water entering first floor, evacuation assists or rescues	Upper floors flooded, structures destroyed or swept away, numerous swift water rescues
Land	Fields, parks, parking lots, yards flooded	Significant inundation of fields, parks, parking lots, yards	Unprecedented inundation outside of 100-year floodplain
Streams, Creeks & Small Rivers	Exceed Flood Stage	Moderate Stage exceeded, water rescues	Major or Record Flooding, multiple swift water rescues

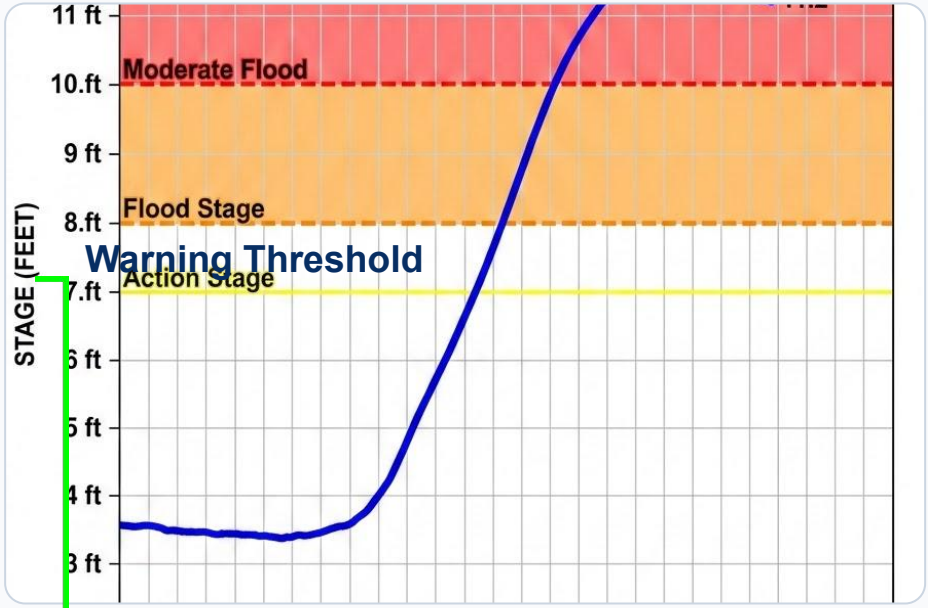
Understanding NWS River Flooding Criteria

ACTION
Impact: Water is over the banks and into the floodplain, but not a threat to structures or roadways.

MINOR
Impact: Typically impacts low lying areas inside flood plain. Areas frequently flooded can expect to be impacted.

MODERATE
Impact: Some inundation of structures and roads near stream. Some evacuations may be necessary.

MAJOR
Impact: Extensive inundation of structures and roads. Significant evacuations of people and property.



Flood Warning Issued

River flood warnings are issued at **MINOR** stage and above.

Understanding NWS River Flooding Criteria

Why Flood Stage Categories Change Over Time

River Channel Characteristics

Natural modifications in the riverbed and flow patterns over time.

Infrastructure Changes

Impacts from new structures, moved roads, or raised embankments.

Gauge Monitoring Updates

River gauges added, removed, or changing reach of associated gauges.

New Flood Event Data

Post-event analysis and new information learned after major floods.

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE CHARLESTON, WV
1000 AM EST MAR 13 2026

...Temporary change in forecast services for the Muskingum River at McConnelsville, Ohio...

WHAT IS CHANGING:
Effective March 31, 2026, the National Weather Service (NWS) in Charleston, West Virginia will temporarily transition the forecast service level for the Muskingum River at McConnelsville (MCCO1) from "Routine" to "Flood-Only." During this temporary period, the NWS will pause issuing daily river stage forecasts for normal, non-threatening water levels. Forecasts will only be issued when the river is expected to rise to Action Stage or officially reach Flood Stage. However, river stage observations will remain fully available and continuously updated.

WHY THIS IS HAPPENING:
The Ohio Department of Natural Resources (ODNR) recently completed a modernization of the McConnelsville Lock 7 dam. Because this updated structure passes water more efficiently than the old dam, the local flow dynamics around the streamgage have changed. To ensure the forecast remains as accurate as possible, the NWS and the United States Geological Survey (USGS) are currently recalibrating the rating curve used to translate river flow into forecasted river heights. We would be pausing everyday forecasts while this recalibration takes place.

WHAT THIS MEANS FOR YOU:
- **For Boaters and Recreational Users:** 3-to-5 day forecasts for normal, everyday water levels will be temporarily unavailable. However, you will still be able to view current river level observations at all times.
- **For Public Safety:** The NWS continuously monitors river conditions. Should the probability of a high water event increase, river forecasts will immediately resume along with any appropriate Flood Watches and Warnings.

WHEN WILL ROUTINE SERVICE RESUME?
The USGS is actively taking physical field measurements of the river to build the updated rating curve. Once this new data is finalized and implemented into our forecasting software, routine daily forecasts will resume.

For questions regarding this temporary service change, please contact:

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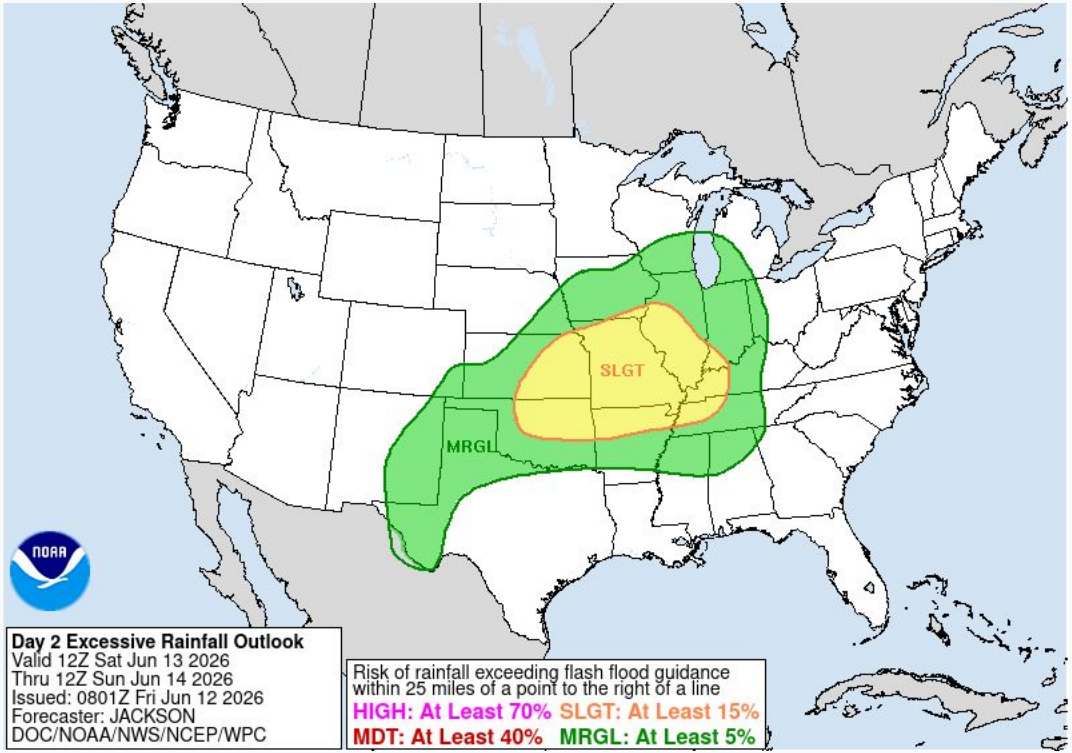
Products to Monitor - Weather Prediction Center

www.wpc.ncep.noaa.gov

Excessive Rainfall Outlook



Understanding WPC Excessive Rainfall Risk Categories

HIGH (HIGH)

Widespread flash floods expected

Severe, widespread flash flooding. Areas that don't normally experience flash flooding, could. Lives and property in greater danger.

MODERATE (MDT)

Numerous flash floods likely

Numerous flash flooding events with significant sible. Many streams may flood, potentially affecting larger rivers.

SLIGHT

Scattered flash floods possible

Mainly localized. Most vulnerable are urban areas, roads, small streams and washes. Isolated significant flash floods possible.

MARGINAL

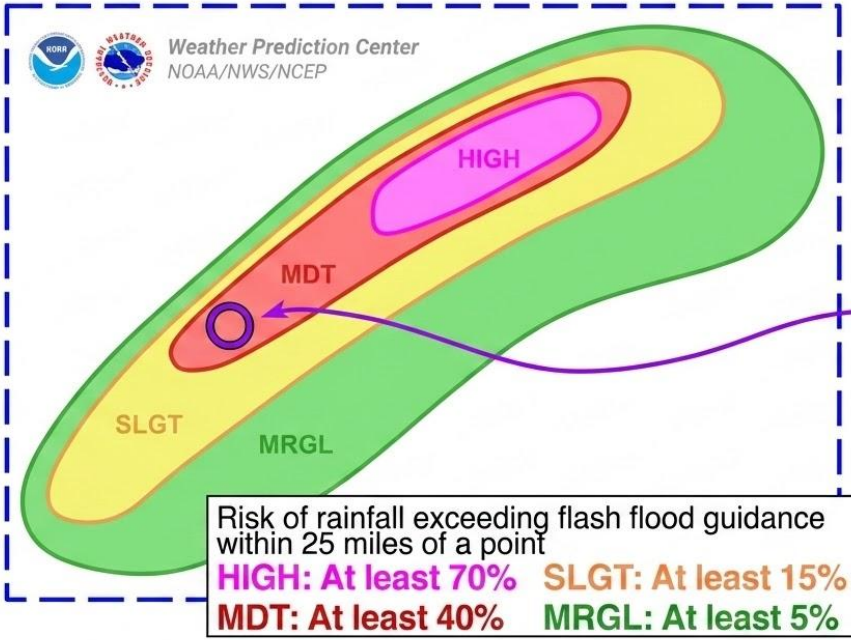
Isolated flash floods possible

Localized and primarily affecting places that can experience rapid runoff with heavy rainfall.

Products to Monitor - Weather Prediction Center

www.wpc.ncep.noaa.gov

INTERPRETING THE EXCESSIVE RAINFALL OUTLOOK



IN THE BIG PICTURE

- Orients you to potential problem spots for intense rainfall and resulting flash flooding
- Where is the risk relatively higher?

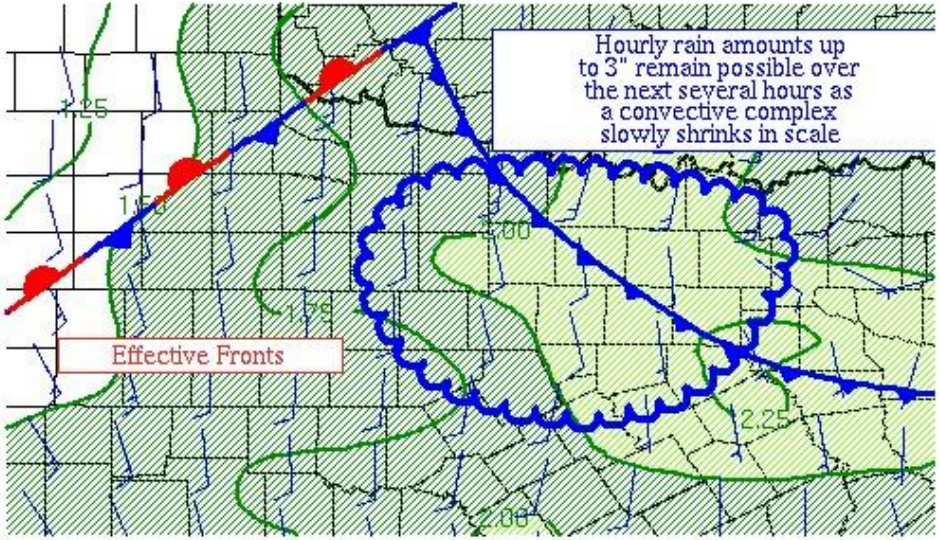
AT A LOCAL LEVEL

- Describes the probability (definition left) of intense rainfall leading to flash flooding within an area approximately the size of a large metro area or county/parish.
- "What are the chances I'll be dealing with flash flooding today?"

Products to Monitor - Weather Prediction Center

www.wpc.ncep.noaa.gov

Mesoscale Precipitation Discussion (MPD)



RAP32 PRECIP WATER 260612/1700f003
RAP32 850 MB WINDS 260612/1700f003
WPC MPD #0394

```
Mesoscale Precipitation Discussion 0394
NWS Weather Prediction Center College Park MD
218 PM EDT Fri Jun 12 2026

Areas affected...portions of North TX

Concerning...Heavy rainfall...Flash flooding possible

Valid 121817Z - 122217Z

Summary...A complex of thunderstorms with heavy rainfall is slowly
shrinking in scale west and north of Dallas-Fort Worth while
moving west-southwest.  Hourly rain amounts to 3" remain possible
where cells stall, merge, or have short periods of training.

Discussion...An outflow boundary has been moving south and west
across northeast TX.  Its northwest end is being held up somewhat
by a front to its northwest.  Effective bulk shear is approaching
25 kts here, which has led to some level of convective
organization.  Precipitable water values are 2-2.3" per GPS data.
Out ahead/southwest of the outflow boundary, ML CAPE of 2000-3500
J/kg exists.

The expectation is for the storms with the heaviest rainfall to
continue moving generally west-southwest at 20 kts over the next
several hours.  There is a huge range in the HREF and REFS
guidance here, with the REFS guidance radically accelerating out
the outflow boundary across TX into tonight, while the HREF more
or less doesn't move the heavy rain area much at all, leaving many
possible solutions available to choose.  Used its long term motion
as a guide here.  Since the complex appears to be shrinking in
scale here, possibly due to the departure of a shortwave that was
leading to decent difluence aloft, chose a 4 hour window.
Uncertainty in greater than average in the convective expectations
of this area.

Roth

ATTN...WFO...FWD...OUN...SJT...

ATTN...RFC...FWR...ORN...TUA...NWC...

LAT...LON   33789877 33769709 33369620 32529659 32149708
            32039787 32339882 33119932
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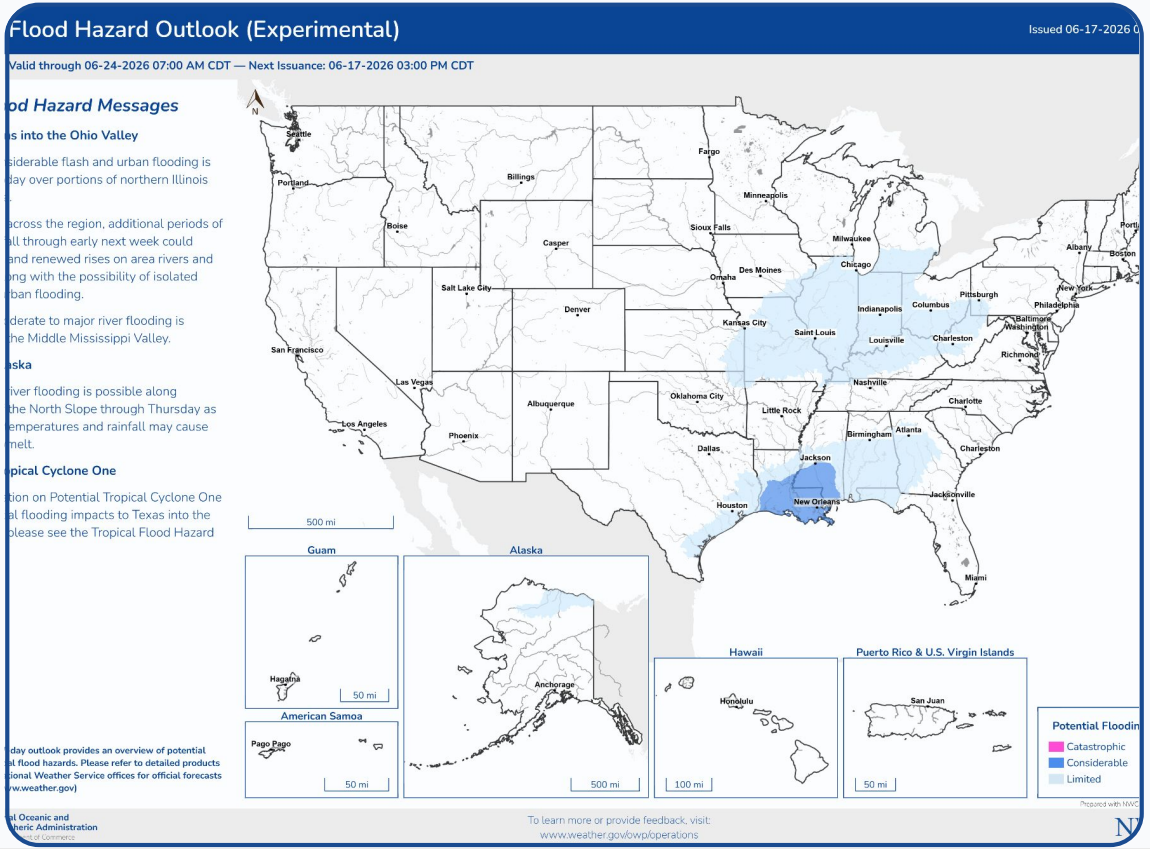
Products to Monitor - National Water Center

www.water.noaa.gov

National Water Center Flood Hazard Outlook

Identifies areas where there is a threat of flooding over the next 7 days, highlighting potential hazards for situational awareness and planning.



Products to Monitor - National Water Center

www.water.noaa.gov

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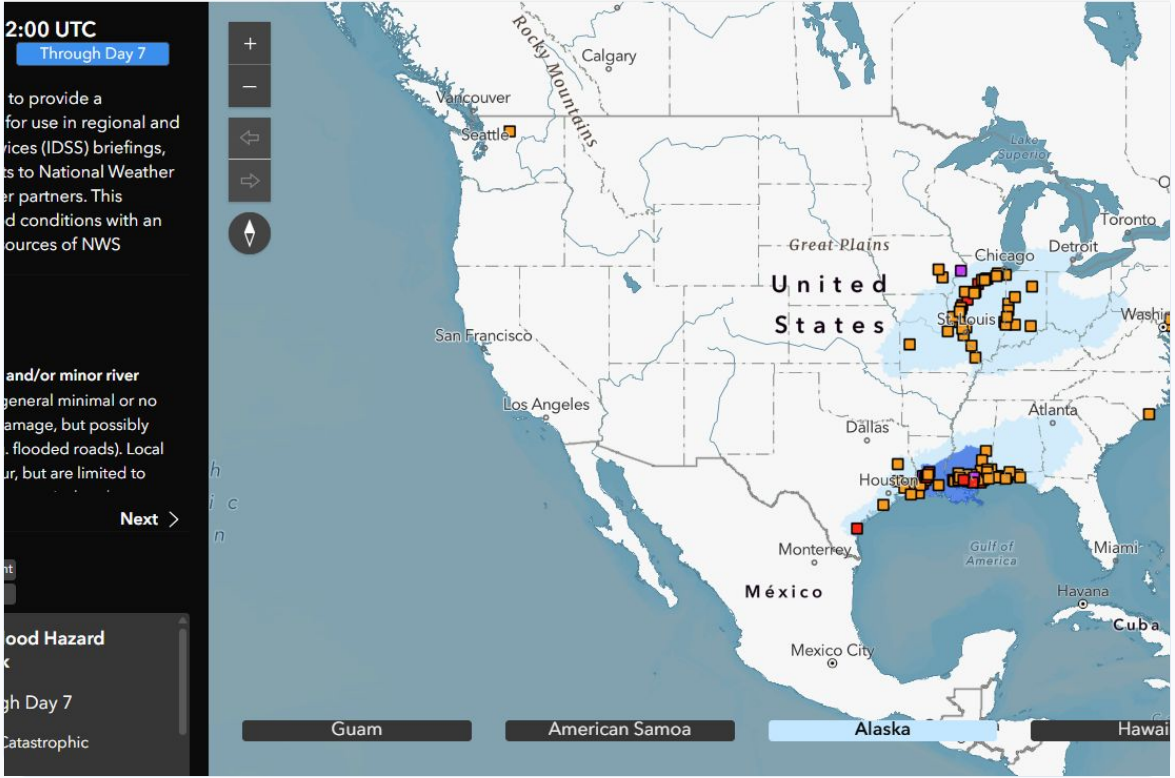
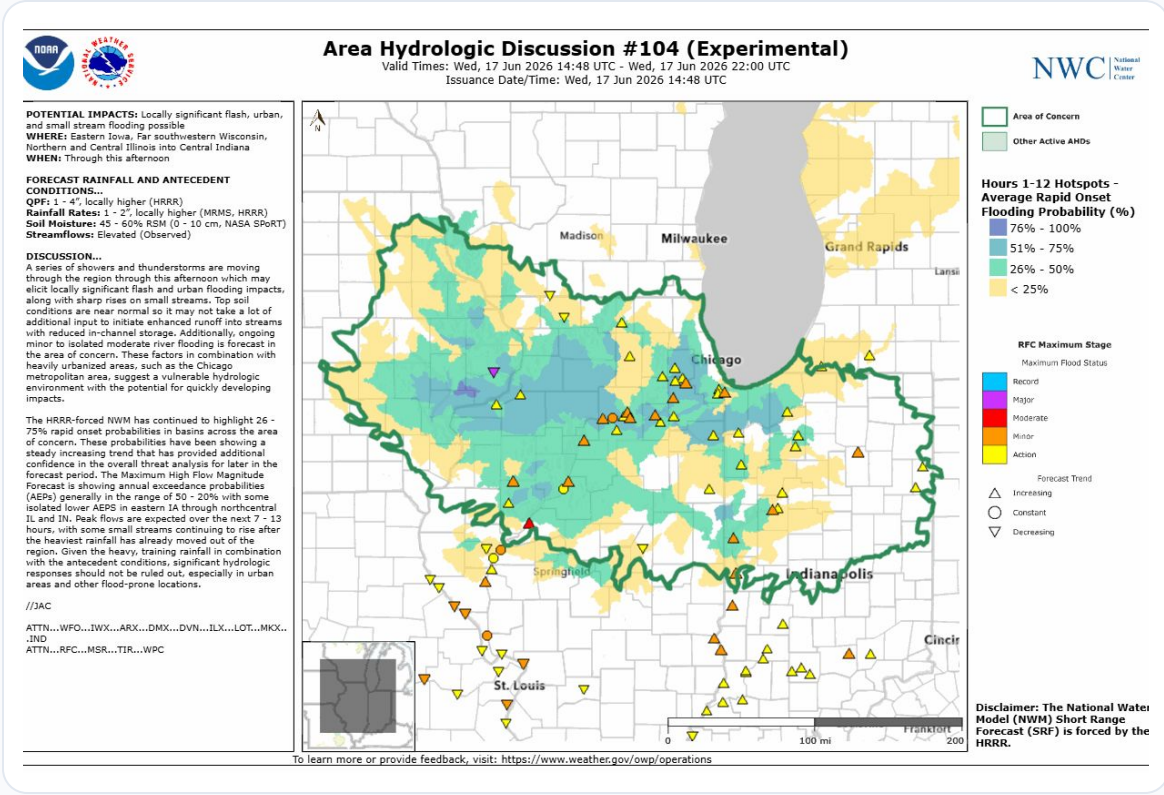


Products to Monitor - National Water Center

www.water.noaa.gov

National Water Center Area Hydrologic Discussion

A daily summary of hydrologic conditions and potential hazards across the United States, providing critical situational awareness for decision makers.



Area Hydrologic Discussion #104 (Experimental)

Valid Times: Wed, 17 Jun 2026 14:48 UTC - Wed, 17 Jun 2026 22:00 UTC
Issuance Date/Time: Wed, 17 Jun 2026 14:48 UTC

NWC National Water Center

POTENTIAL IMPACTS: Locally significant flash, urban, and small stream flooding possible
WHERE: Eastern Iowa, Far southwestern Wisconsin, Northern and Central Illinois into Central Indiana
WHEN: Through this afternoon

FORECAST RAINFALL AND ANTECEDENT CONDITIONS...
QPF: 1 - 4", locally higher (HRRR)
Rainfall Rates: 1 - 2", locally higher (MRMS, HRRR)
Soil Moisture: 45 - 60% RSM (0 - 10 cm, NASA SPoRT)
Streamflows: Elevated (Observed)

DISCUSSION...
A series of showers and thunderstorms are moving through the region through this afternoon which may elicit locally significant flash and urban flooding impacts, along with sharp rises on small streams. Top soil conditions are near normal so it may not take a lot of additional input to initiate enhanced runoff into streams with reduced in-channel storage. Additionally, ongoing minor to isolated moderate river flooding is forecast in the area of concern. These factors in combination with heavily urbanized areas, such as the Chicago metropolitan area, suggest a vulnerable hydrologic environment with the potential for quickly developing impacts.

The HRRR-forced NWM has continued to highlight 26 - 75% rapid onset probabilities in basins across the area of concern. These probabilities have been showing a steady increasing trend that has provided additional confidence in the overall threat analysis for later in the forecast period. The Maximum High Flow Magnitude Forecast is showing annual exceedance probabilities (AEPs) generally in the range of 50 - 20% with some isolated lower AEPS in eastern IA through northcentral IL and IN. Peak flows are expected over the next 7 - 13 hours, with some small streams continuing to rise after the heaviest rainfall has already moved out of the region. Given the heavy, training rainfall in combination with the antecedent conditions, significant hydrologic responses should not be ruled out, especially in urban areas and other flood-prone locations.

//JAC

ATTN...WFO...IWX...ARX...DMX...DVN...ILX...LOT...MKX..
.IND
ATTN...RFC...MSR...TIR...WPC

Madison
Milwaukee
Grand Rapids
Chicago
Springfield
Indianapolis
St. Louis
Frankfort
0
100 mi
200

Area of Concern
Other Active AHDs

Hours 1-12 Hotspots - Average Rapid Onset Flooding Probability (%)
76% - 100%
51% - 75%
26% - 50%
< 25%

RFC Maximum Stage
Maximum Flood Status
Record
Major
Moderate
Minor
Action

Forecast Trend
Increasing
Constant
Decreasing

Disclaimer: The National Water Model (NWM) Short Range Forecast (SRF) is forced by the HRRR.

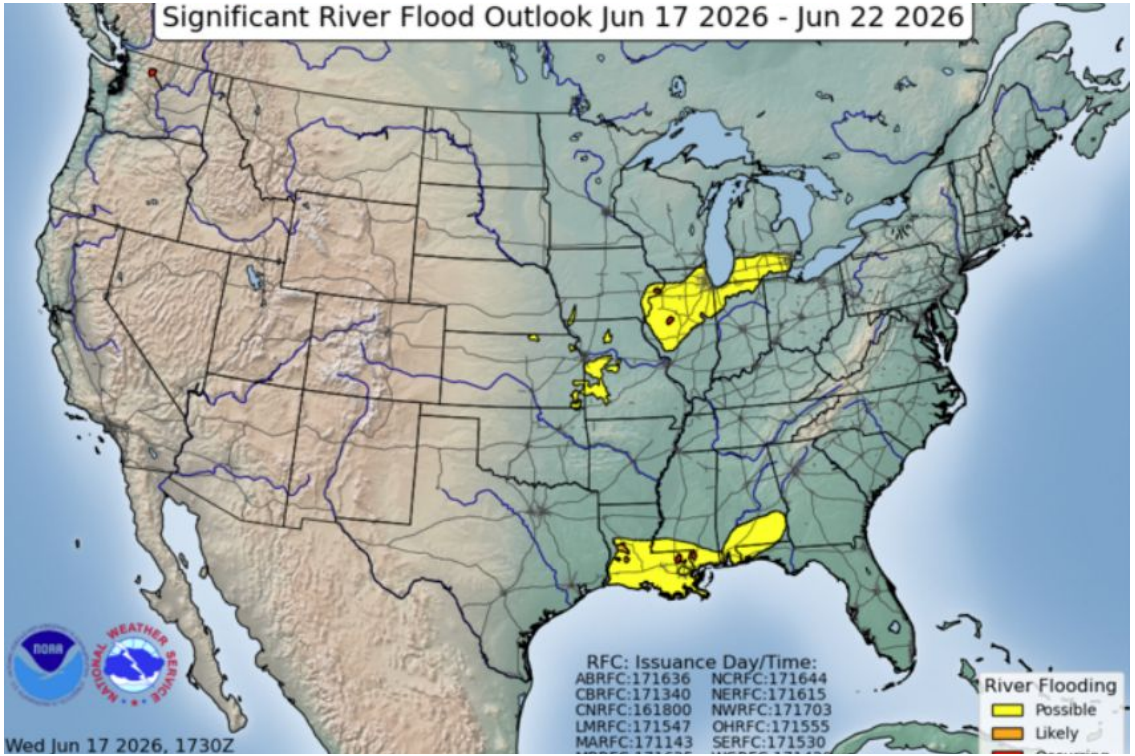
To learn more or provide feedback, visit: https://www.weather.gov/owp/operations

Products to Monitor - National Water Center

www.water.noaa.gov

Significant Flood Outlook

Mosaic of River Forecast Centers (RFC) products showing areas with potential for significant river flooding over the next 5 days.

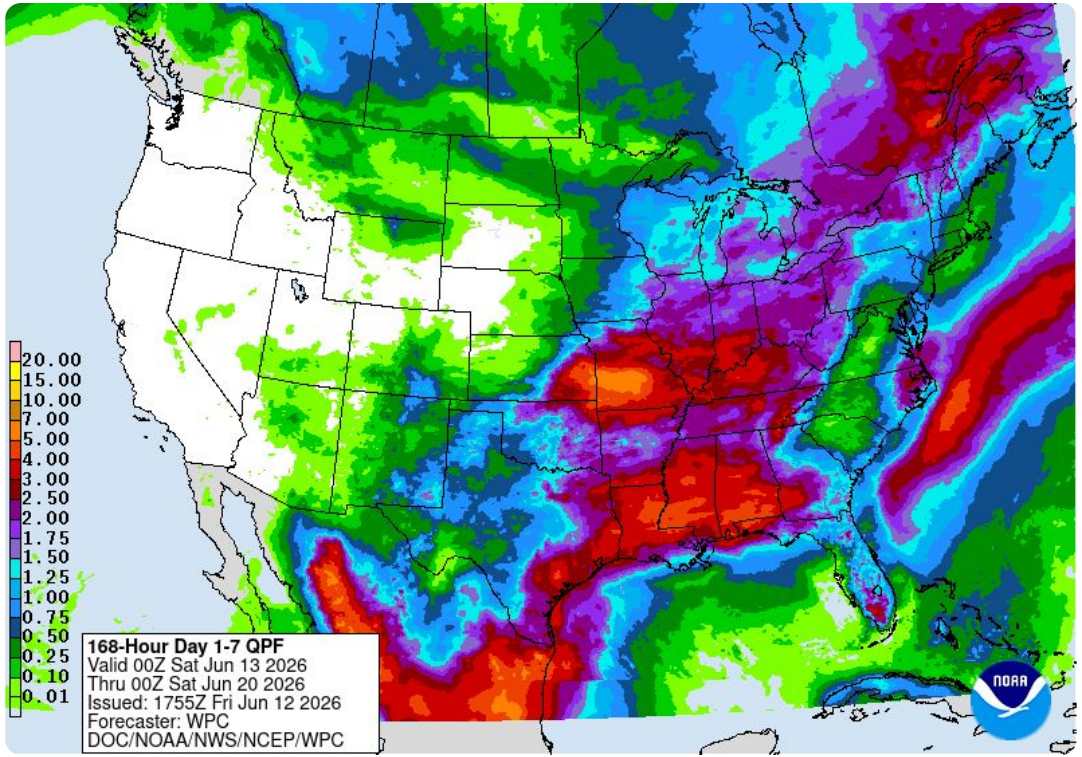


Products to Monitor - Weather Prediction Center

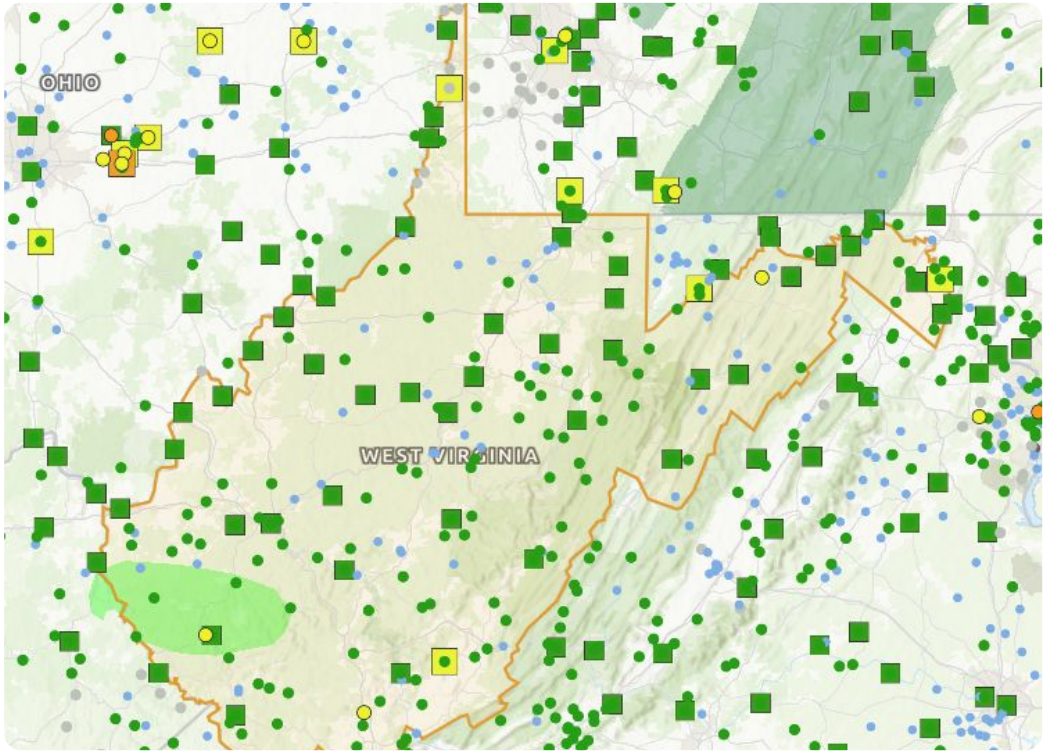
www.wpc.ncep.noaa.gov

Precipitation Forecast

Quantitative Precipitation Forecasts (QPF) providing critical details on expected rainfall and snowfall accumulations out to 7 days.



National Water Prediction Services (NWPS)



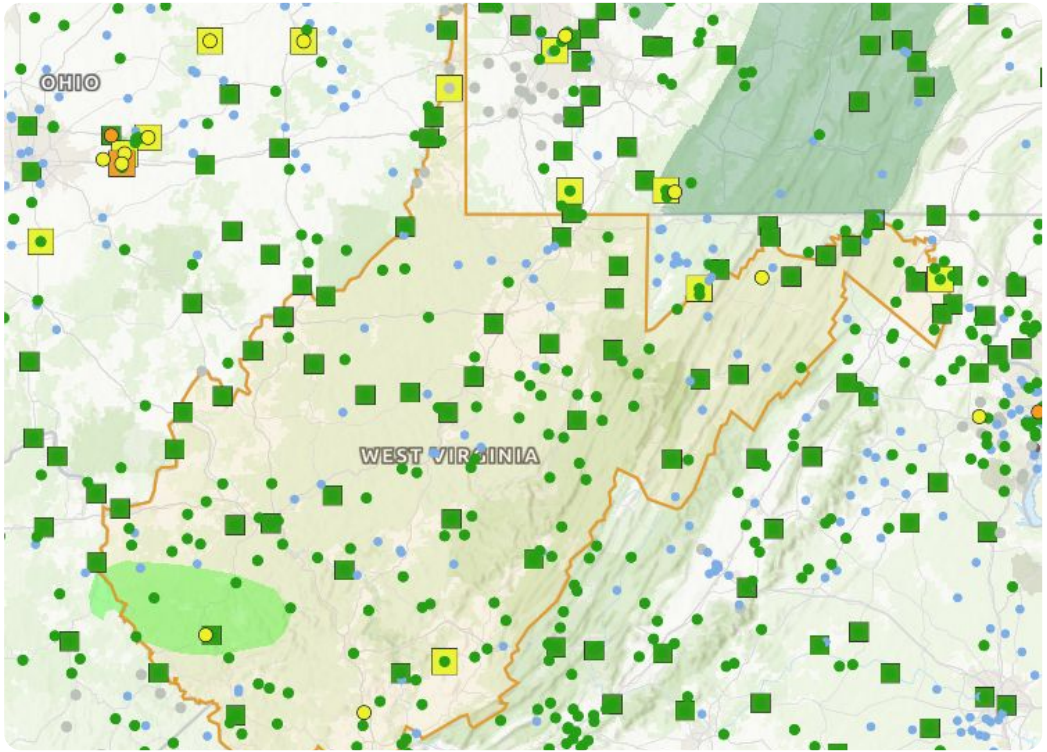
Access Portals

National Site
water.noaa.gov

WV State Page
water.noaa.gov/state/wv

Combines official NWS River Forecasts + National Water Model simulations + GIS layers/REST data

National Water Prediction Services (NWPS)



River Forecast Support

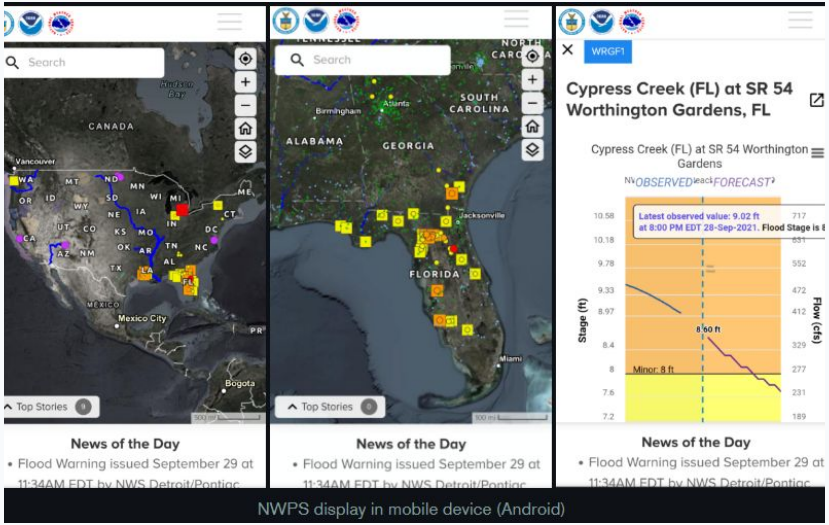
River Forecast Center

- **~50 Gauges** with routine operational support.
- **Daily Updates** for forecasts, increasing during high water events.
- **Event-Driven Support** for additional gauges during critical flooding.

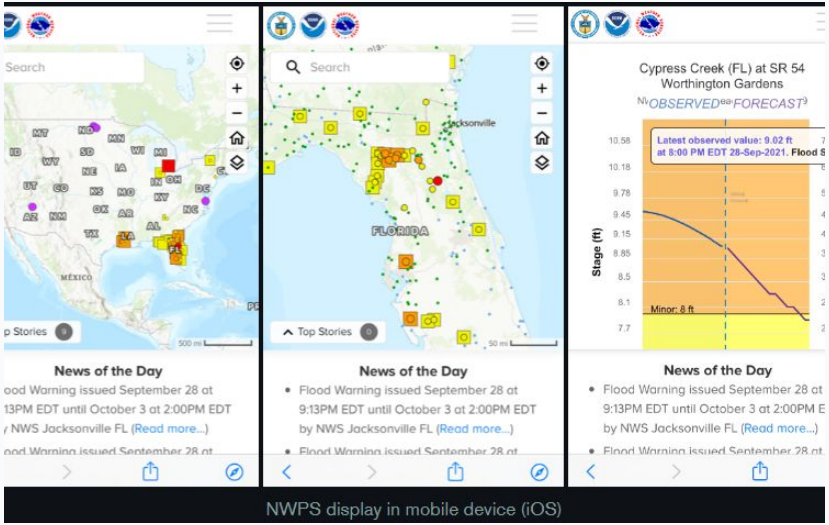
Note: Frequency of updates increases significantly during high-impact water events.

National Water Prediction Services (NWPS)

Mobile-Ready Interface



NWPS display in mobile device (Android®)



NWPS display in mobile device (iOS®)

National Water Prediction Services (NWPS)

Dual Symbol Visualization

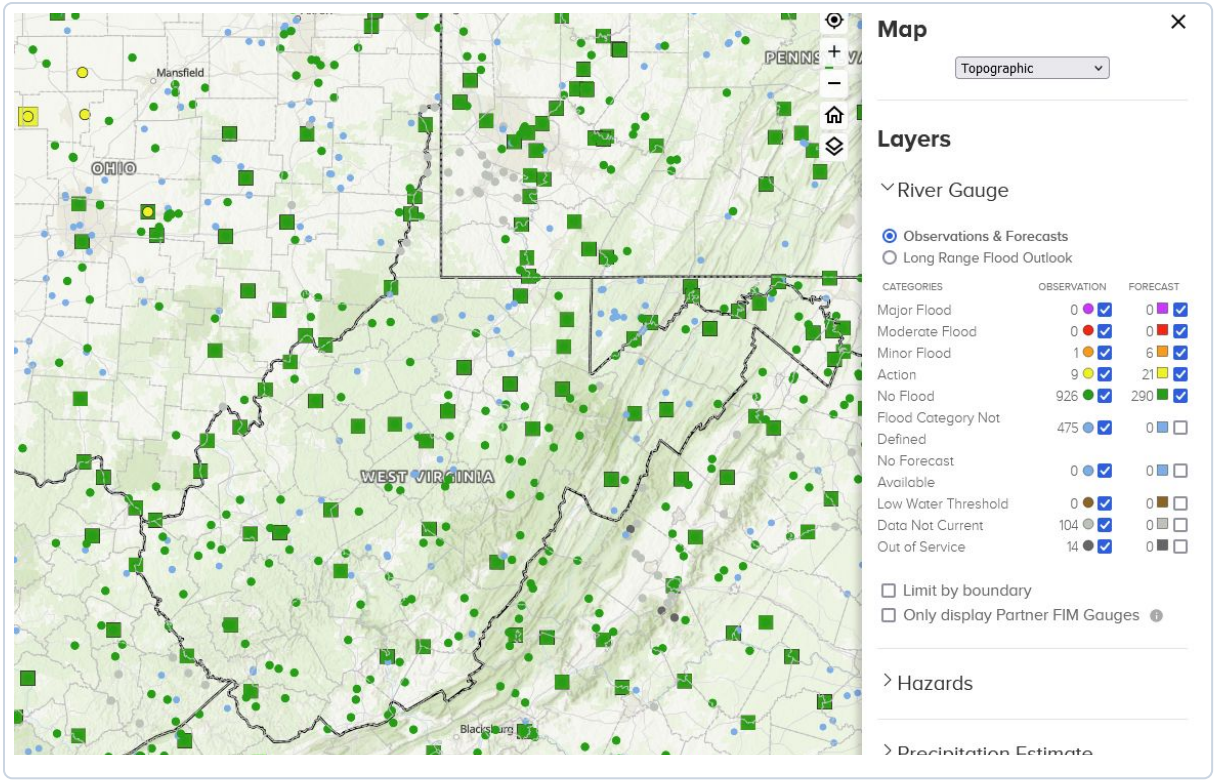
Observations (inner circle) and Forecasts (outer square) on same map.

Interactive Filtering

Filter by flood category (e.g., moderate/major) to focus map display.

Integrated Hazards

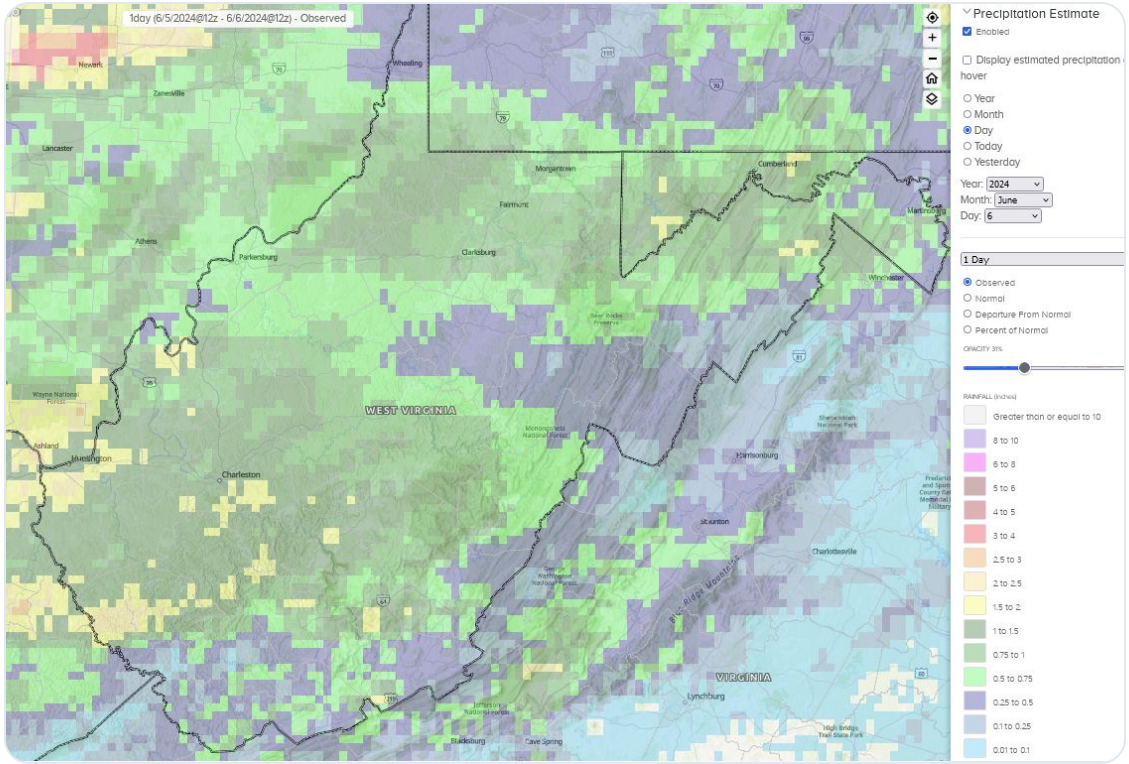
Overlay flood warnings (Hazards) and click to view detailed warning products.



National Water Prediction Services (NWPS)

Precipitation Data

- Radar/Rain Gage Merged Precipitation
- Download of recent Precipitation Estimates still available
- Longer term precip history moves to NCEI



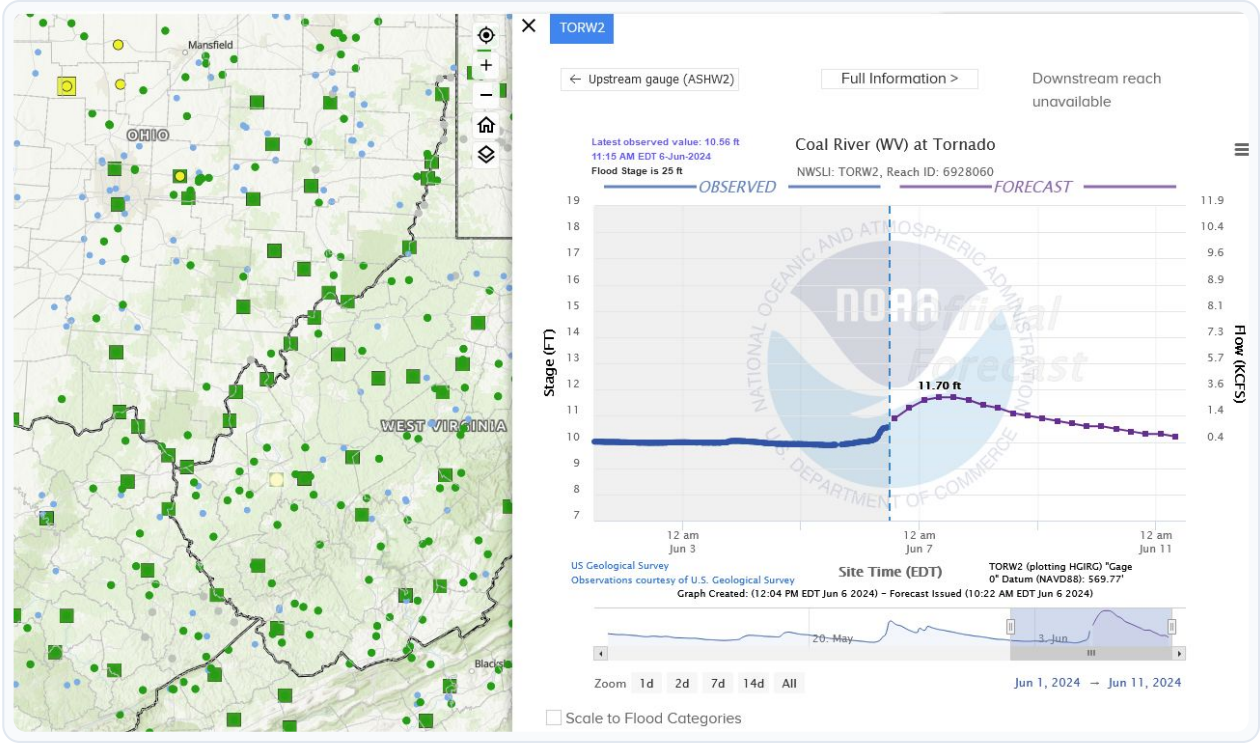
National Water Prediction Services (NWPS)

Pop-up Hydrograph

Instant access to detailed river stage data through interactive pop-up windows.

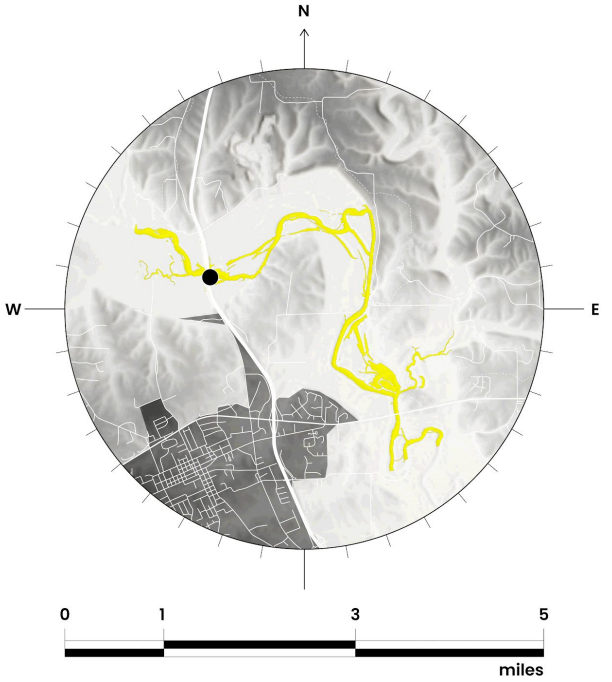
Time Slider

Navigate historical and forecast data seamlessly with an intuitive time-travel slider.

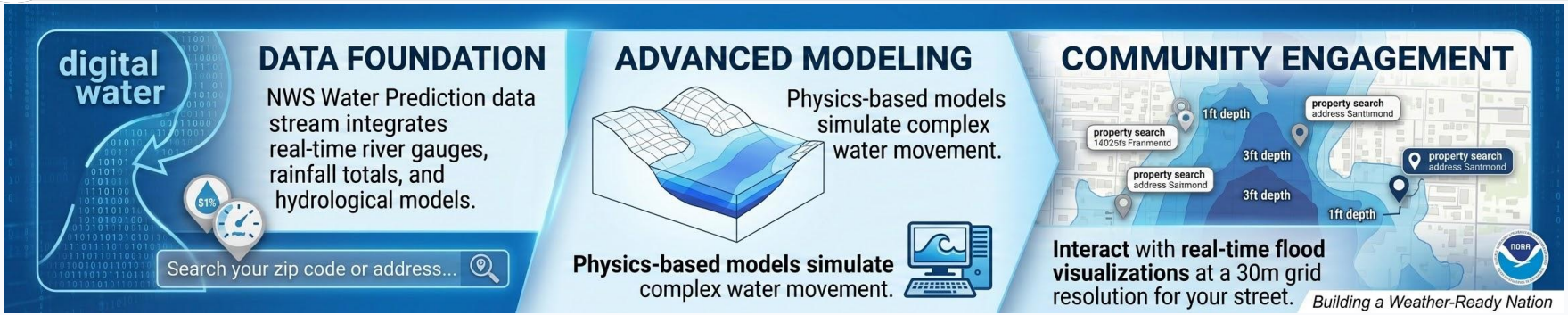


NWS Inundation Tools

"Putting Water on the Map"



The Birth of NWS FIM



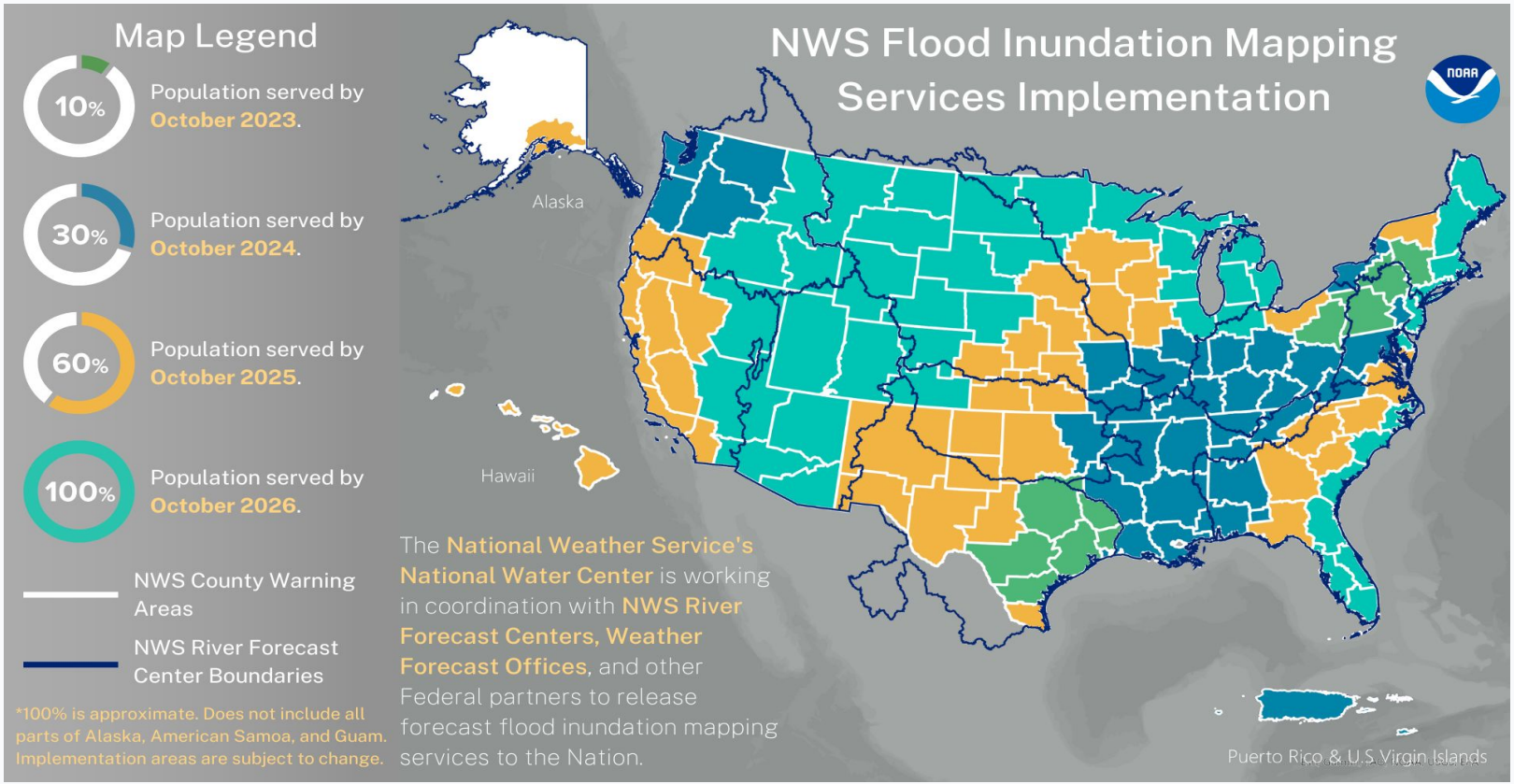
Operational Needs & Goals

- Demand for event driven flood inundation mapping (FIMs)
- Provide actionable information for emergency and water resource managers to prepare, mitigate and respond to flood impacts.

Collaborative Delivery

The NWC (National Water Center), in coordination with RFCs and WFOs, are coming together to meet that need and deliver NWS FIM IDSS.

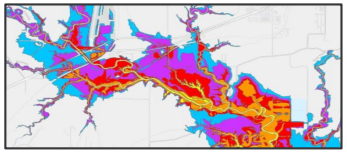
Current State of NWS FIM



Available FIM Products Since 2024

Static

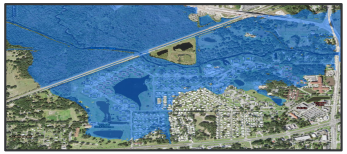
Partner FIM Libraries (Partner FIM) ~ 200 RFC forecast locations. Shows the flood extent & depth based on a river crest of X feet. This is a hydraulic-based FIM which can be used with high confidence.



NWS Flood Categorical HAND FIM Libraries (CatFIM) ~3,000 RFC forecast locations. Maps derived from 10m Height Above Nearest Drainage (HAND) solution.

Dynamic

Forecast National Water Model Flood Maps (NWM 5-Day Max Forecast) along NHDPlus reach locations. Maps derived from NWM forecast and 10-meter Height Above Nearest Drainage (HAND) solution.



Forecast River Forecast Center Flood Maps (RFC 5-Day Max Forecast) downstream of ~ 3,600 RFC forecast locations. Maps derived from RFC forecast and 10-meter Height Above Nearest Drainage (HAND) solution.

National Water Model Latest Analysis Flood Maps - utilizing observed rain and stream data to depict current flood extent. Maps derived from 10-meter Height Above Nearest Drainage (HAND) solution.

Coverages

< 1,000 miles
~ 30,000 miles
~ 3.4M miles
~ 110k miles
~ 3.4M miles

Partner FIM

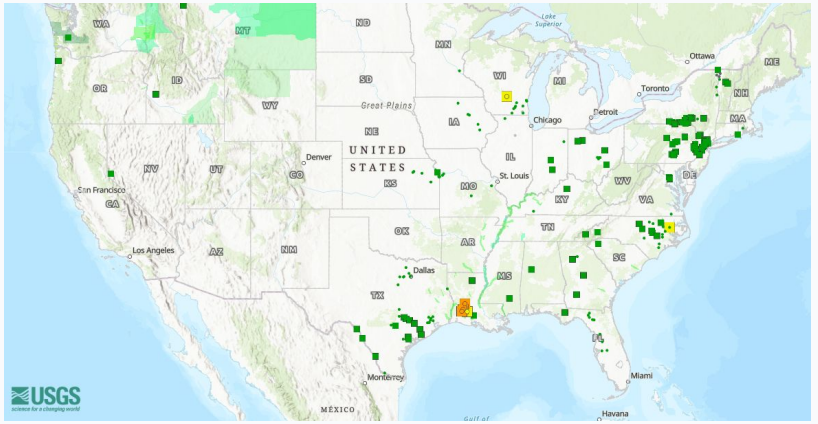
Key Characteristics:

- Partner FIM is the highest quality static FIM, using engineering-grade modeling
- Includes depth information, often unavailable in other FIM
- Validates Dynamic FIM as a quality assurance tool
- NWM FIM fills gaps where Partner FIM is unavailable.

Limitation:

Coverage is limited to approximately 200 RFC locations

View Locations:
water.noaa.gov/about/partner-fim-locations



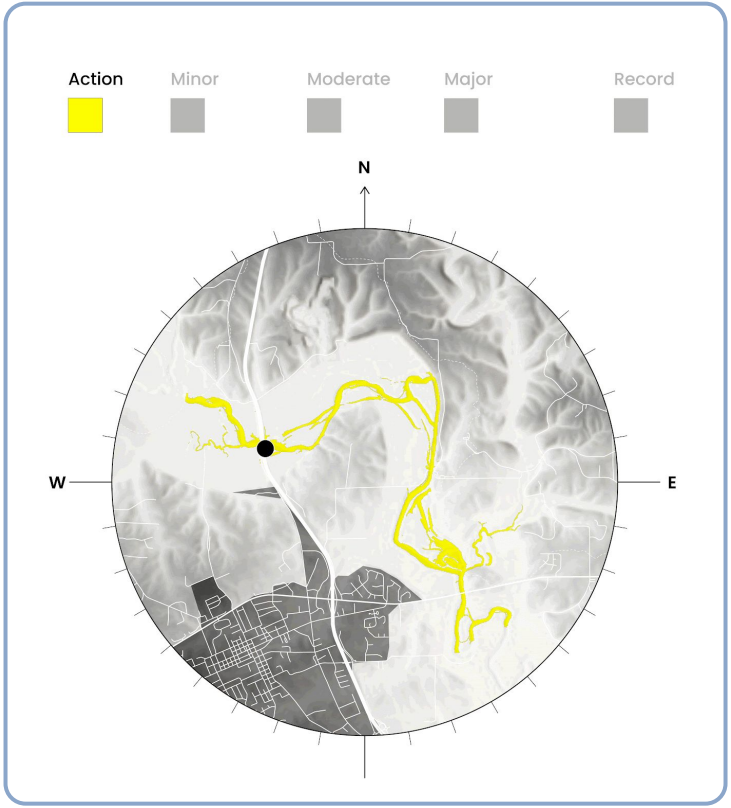
Categorical FIM

Key Characteristics:

- Static inundation extent mapping library produced at select official forecast point locations.
- Available at 1-foot increments, including the official NWS flood stage category thresholds (Action, Minor, Moderate, Major, and Record).
- An invaluable tool for emergency planning and informing best practices for anticipation of potential future flood events.

Limitation:

Only available at select sites.



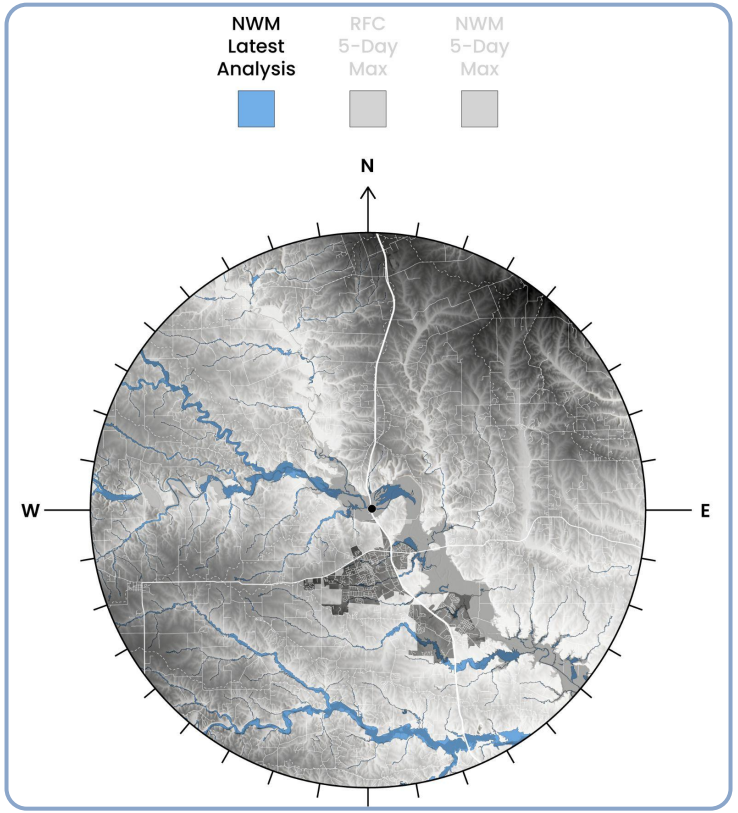
NWM Analysis FIM

Key Characteristics:

- Depicts closest reasonable inundation extent at the current time for locations exceeding the high water threshold
- High water threshold varies by region
- Available 55 minutes after the hour due to data gathering processing

Limitation:

Reliability decreases in ungaged areas or data voids where analysis cannot be tuned to observed info.



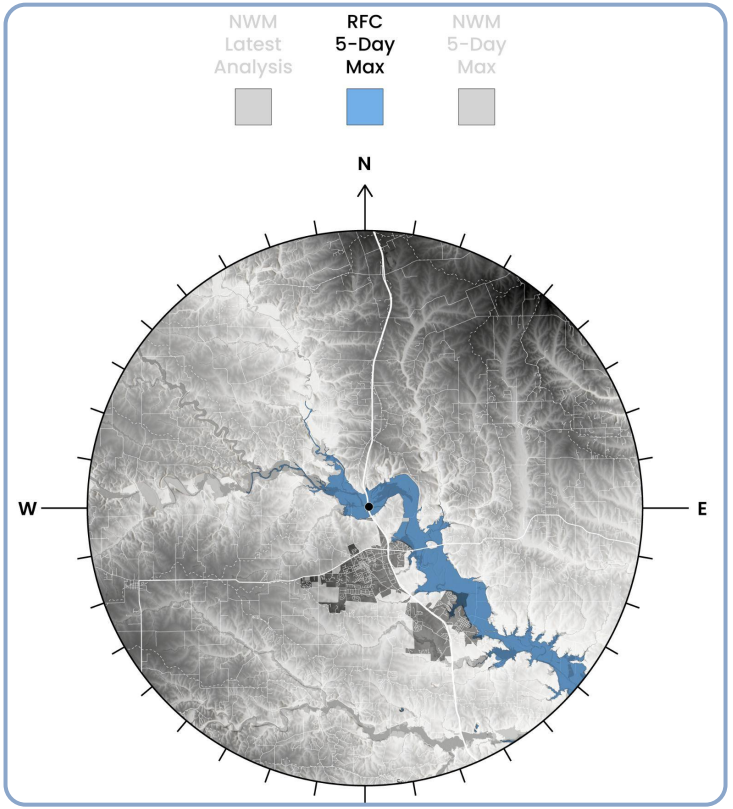
RFC Max 5-Day Forecast FIM

Key Characteristics:

- Depicts maximum inundation extent over the next five days derived from the official River Forecast Center (RFC) forecast
- Maximum streamflows are available downstream of RFC forecast points whose forecast reaches Action-Stage or higher flow threshold categories

Limitation:

Only available downstream of NWPS forecast points



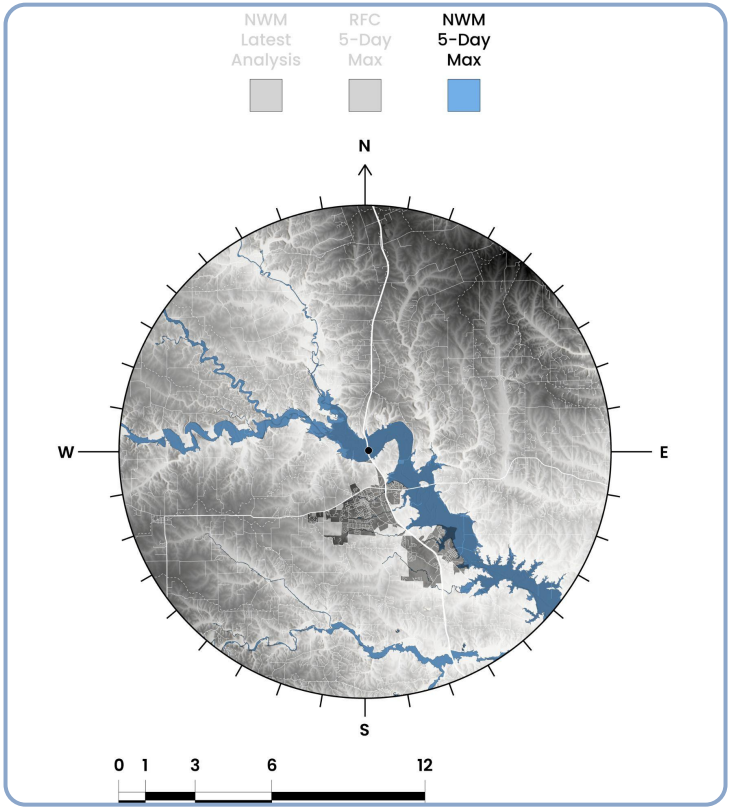
NWM Max 5-Day Forecast FIM

Key Characteristics:

- Depicts inundation extent of the peak National Water Model (NWM) streamflow forecast over the next five days where flows meet or exceed high water thresholds.
- Based on the National Blend of Models rainfall forecast.
- High water thresholds vary by region.

Limitation:

Quality Control (QC) limitation exists because no forecaster is involved in decision-making regarding the forecast.



Strengths of RFC and NWM FIM

- **Visualize flood forecasts and impacts for every river across the nation**
  (including portions of Alaska, Hawaii, Puerto Rico, and the Virgin Islands)
- **Creating a common picture of the river/stream flood threat in a given area**
- **Improve ability to target areas and preposition resources** (regional, not local)
- **Large scale regional response and reaction**
  - National, Regional, and County Partners

"Had I have had this tool in 2011, we would have had a larger evacuation area established earlier, would have moved emergency assets out of the flood zone, pre-positioned support resources and been able to provide better information to the residents of the affected area."

- County Emergency Manager

Limitations of RFC and NWM FIM

Simplified Physics & Modeling

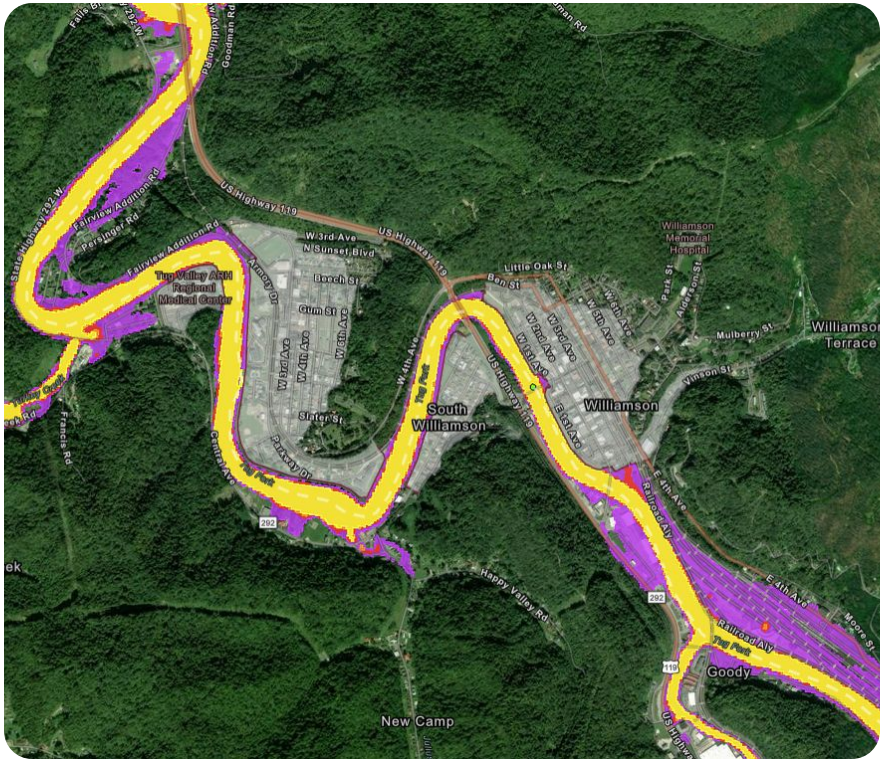
- Simpler equations with more assumptions than HECRAS. HAND technique limitations (currently being addressed)
- Of limited use for urban areas away from river reaches

Inputs & Human Influence

- Rainfall based on NBM; cannot be adjusted or manipulated.
- No ability to manually adjust flow generating the map.

Extent & Physical Features

- Maps show flood extent only; depth is not provided.
- Levees always masked; bridges generally not masked.



NOT Regulatory | NOT Related to FEMA Maps

Reservoir Impacts FIM

- **Reservoir operations and outflows impact NWM streamflow accuracy and, as a result, the resulting FIM.** Flows could change if there has been significant impact.
- **Several thousand reservoirs represented in NWM in one of three methods:**
  - Level Pool
  - Persistence
  - RFC Forecast informed

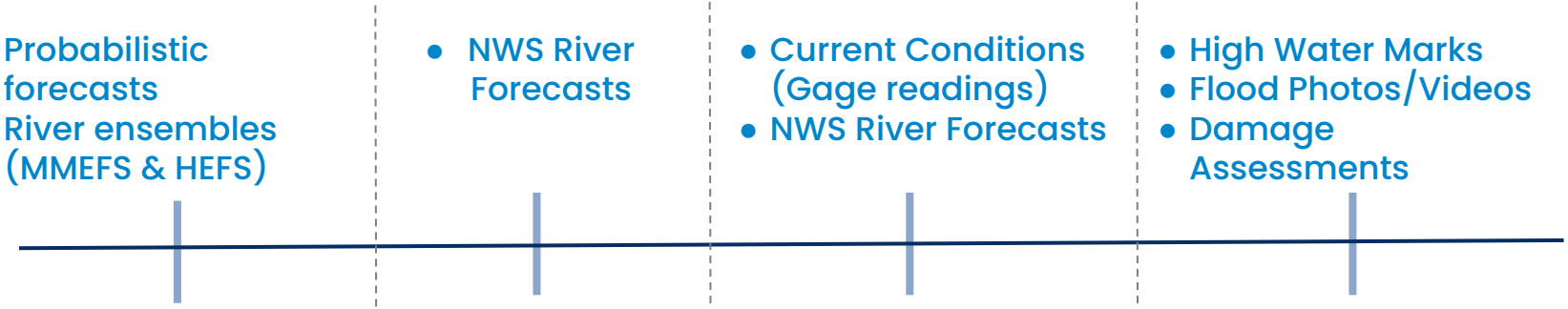
Interactive Map Access

An interactive map of these reservoir types is available in the “Using the National Water Model Within NWPS” storymap:

https://storymaps.arcgis.com/stories/c4964f08ffcf4d9286bd1fd545ddfbab

FIM Use Before, During, and After a Flood Event

Forecasts & Data:



Day 4-7+ Pre-Flood
or "Blue Sky" Planning

- NWPS Partner FIM
- CatFIM

- Probabilistic forecasts
- River ensembles (MMEFS & HEFS)

Days 1-3 Pre-Flood

- NWPS Partner FIM
- CatFIM
- RFC FIM
- NWM 5-Day FIM

- NWS River Forecasts

Flood

- NWPS Partner FIM
- CatFIM
- RFC FIM
- NWM Latest Analysis FIM
- NWM 5-Day FIM

- Current Conditions (Gage readings)
- NWS River Forecasts

Post-Flood

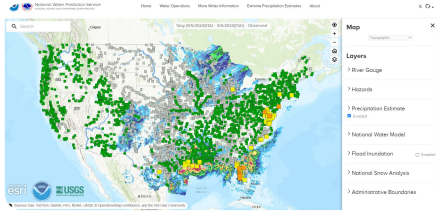
- NWPS Partner FIM
- CatFIM
- NWM Latest Analysis FIM

- High Water Marks
- Flood Photos/Videos
- Damage Assessments

FIM Impact-Based Decision Support Services

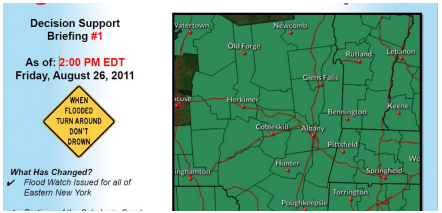
Increasing direct interaction with core partners based on various scenarios and needs

Public Services



NWPS, National Viewer, providing visualizations and FIM for the partners to ingest into their system (i.e. REST services via HydroVis).

Baseline IDSS

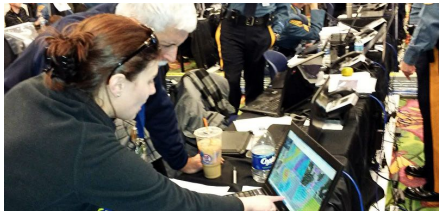


Providing graphics, email packages, webinars, NWSChat, etc. to all core partners to convey general impacts.

Targeted IDSS

Providing targeted graphics, email packages, webinars, etc. to core partners to convey specific impacts based on their specific needs and thresholds.

Integrated IDSS



Providing onsite, integrated support within a core partner's operations with detailed impact information tailored to the partner's needs and thresholds.

NWS Flood Inundation Mapping Services

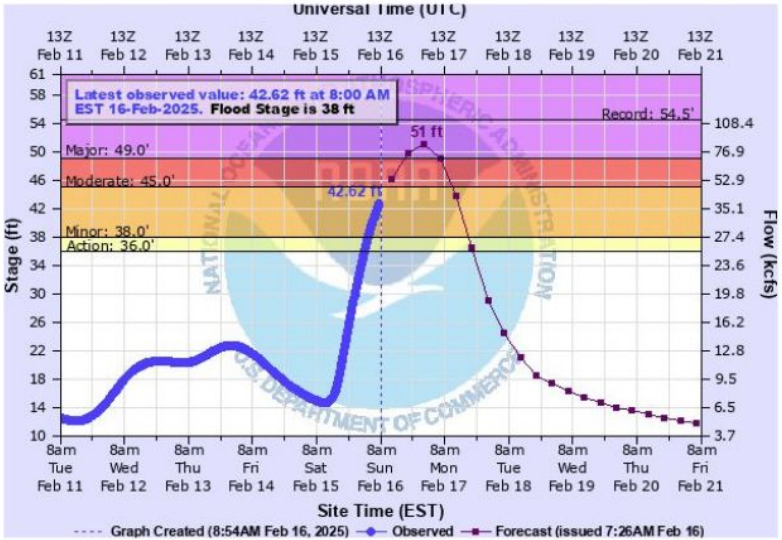
February 16, 2025
9:30 AM

Tug Fork River - Kermit, WV (KRMW2)

- **Forecast Crest Height:** 51 Feet
- **FIM Type:** Stage-Based Categorical (Depth NOT Included)
- **FIM Creation Time:** 2/16/25 @ 9:30 am

Confidence:

Low	**Medium**	High



Latest Observations/Forecasts: Tug Fork River at Kermit

Disclaimer: This map shows the flood extent based on a river crest of a Major Flood. This is an approximate-based FIM which should be used more conservatively.

NWS Flood Inundation Mapping Services

April 14, 2025
1:00 PM

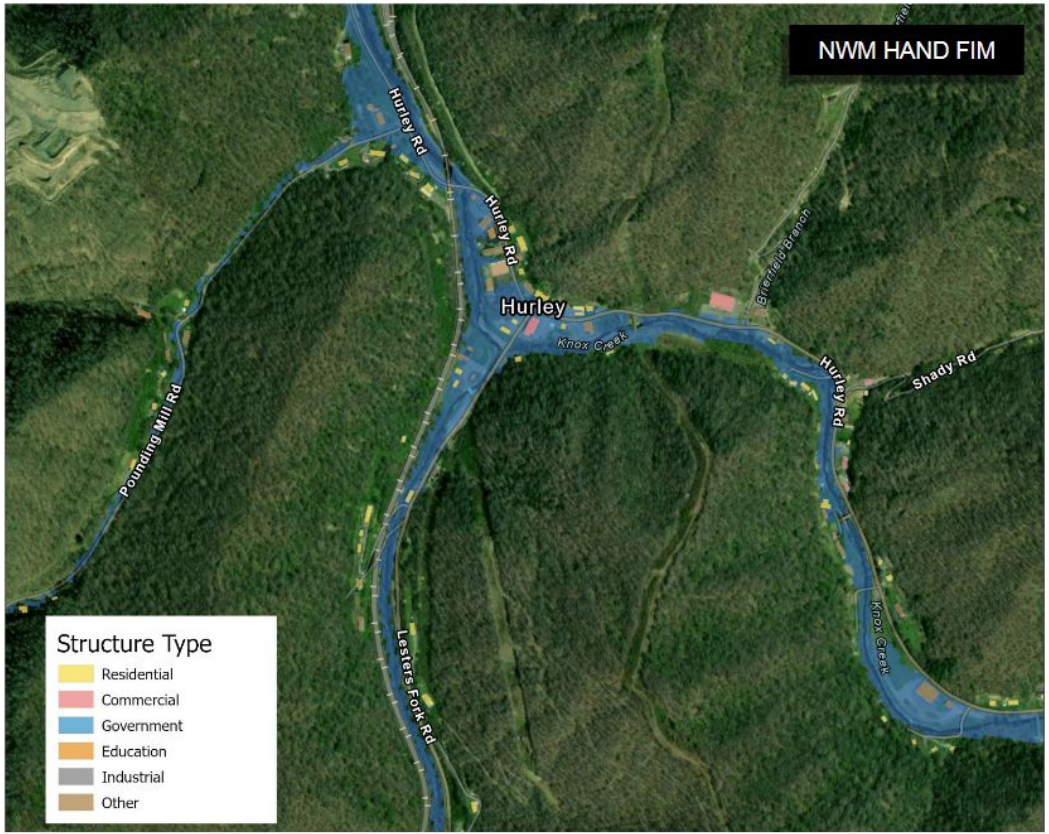
Knox Creek: Hurley, VA

- **FIM Type:** NWM 7 Day Past Max Inundation
  (Depth NOT Included)
- **FIM Creation Time:** 4/14/25 @ 1:00 pm
- **FIM Valid Time:** 2/18/25 @ 7:00 pm

Confidence:

Low	Medium	**High**

** Confidence based on review of post flood aerial photos*



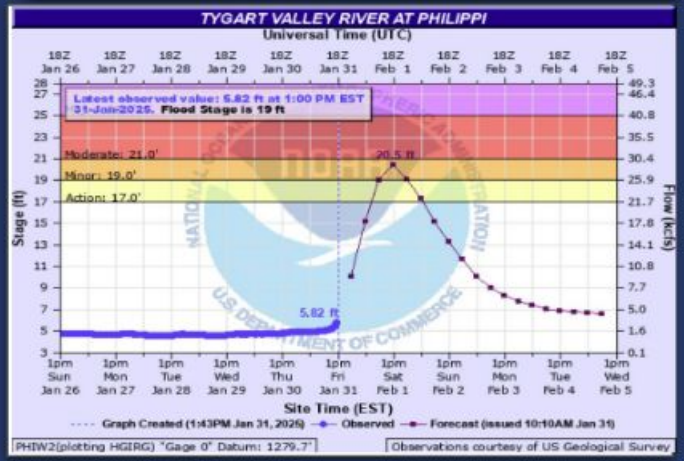
Disclaimer: This map shows the flood extent based on modeled flow. This is an approximate-based FIM which should be used more conservatively.

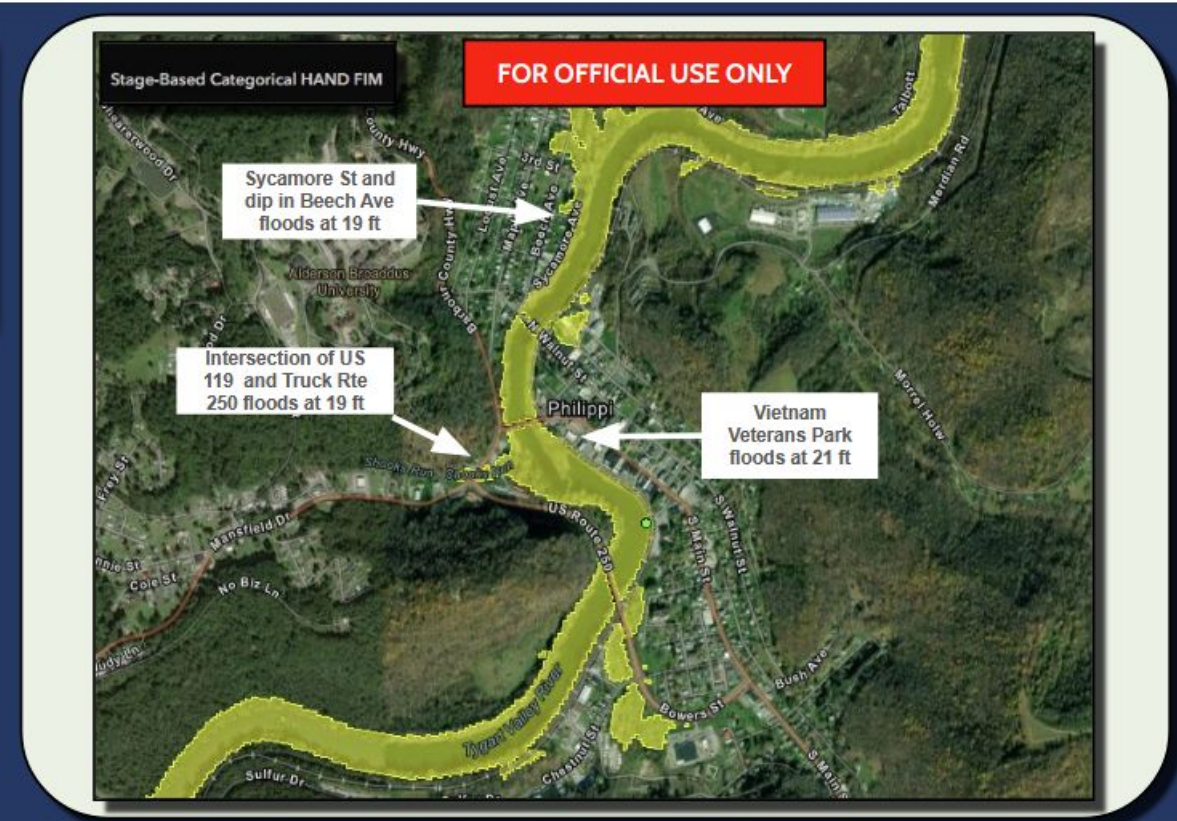
NWS Flood Inundation Mapping Services

Disclaimer: This map shows the flood extent based on a river crest of a Minor Flood. This is an approximate-based FIM which should be used more conservatively.

Tygart River
Philippi, WV (PHIW2)

Forecast Crest Height: **20.5 Feet**
FIM Type: **Stage-Based Categorical (Depth NOT Included)**
FIM Creation Time: **1/31/25 @ 2:30 pm**
Confidence: **Medium (QPF confidence is high / Snowmelt extent confidence is low)**



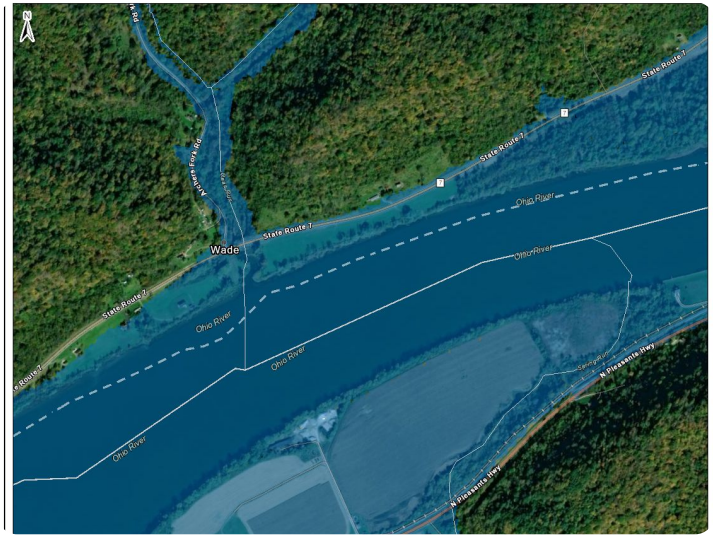


For the latest observations: Tygart River at Philippi

1/31/25 @ 2:30 pm

Evaluating Performance of NWS FIM

Ohio River at Willow Island



Location/Date: April 5, 2024 Wade, OH at ~41.5 feet

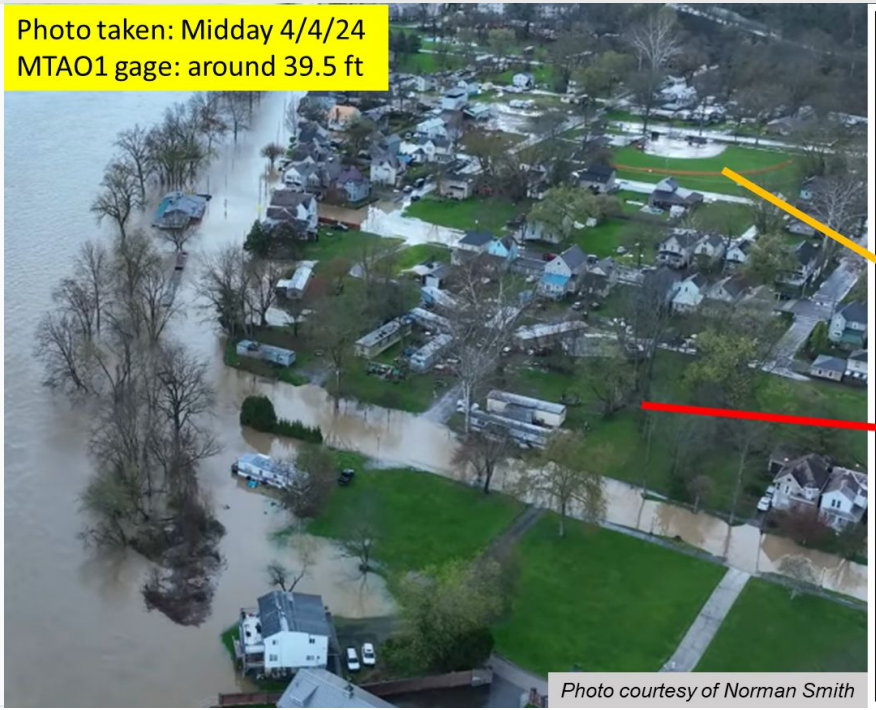
Moderate Flood Stage: 41 feet

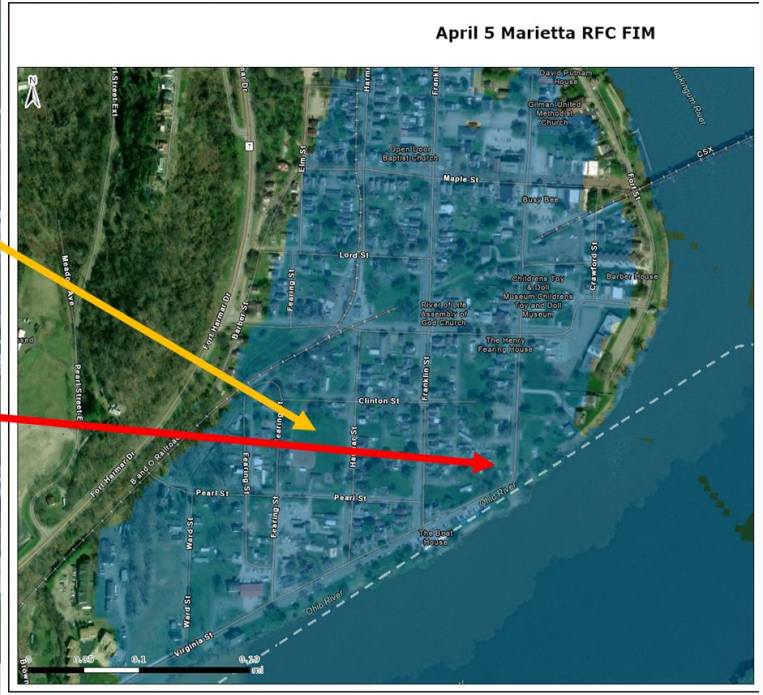
Impact: Ohio State Route 7, Township Road 443, and Township Road 19 at Newell Run and Lenards Landing floods.

"Person drove into this on Route 7, 7 miles upstream from Willow Island Locks gage. Water was so deep officials used underwater sonar to locate this person and their vehicle."

Evaluating Performance of NWS FIM

Ohio River at Marrietta





Location/Date: April 5, 2024 Harmar, OH at ~40.2 feet

Moderate Flood Stage: 38 feet

Evaluating Performance of NWS FIM

Ohio River at Parkersburg

Location/Date: April 5, 2024 Vienna, OH at ~40.2 feet

Moderate Flood Stage: 38 feet

Impact: Annas Drive flooded

Evaluating Performance of NWS FIM

Mud River at Hamlin

Location/Date: February 12, 2024 Hamlin at ~13.6 feet

Minor Flood Stage: 13 feet

Impact: Ohio State Route 7, Township Road 443, and Township Road 19 at Newell Run and Lenards Landing floods.

Evaluating Performance of NWS FIM

Tug Fork River at Williamson

Location/Date: February 16, 2025 Williamson at USACE FIM 48 feet

Major Flood Stage: 42.7 feet

Impact: Railyard and Route 52

Evaluating Performance of NWS FIM

Tug Fork River at Williamson

Location/Date: February 16, 2025 Williamson at USACE FIM 48 feet. Photo taken ~48 feet

Major Flood Stage: 42.7 feet

Impact: Railyard and Route 52

Evaluating Performance of NWS FIM

Tug Fork River at Williamson

Location/Date: February 16, 2025 South Williamson at 48.35 feet. Photo taken ~47.5 feet

Major Flood Stage: 42.7 feet

Impact: Homes outside ARH floodwall

Evaluating Performance of NWS FIM

Tug Fork River at Kermit

Location/Date: February 16, 2025 Kermit at RFC FIM 51 feet. Photo taken ~49 feet

Major Flood Stage: 49 feet

Impact: Homes in Kermit

Questions / Comments

NWS Flood Inundation Mapping

“Putting Water on the Map”

Nick Webb
Senior Service Hydrologist/Meteorologist

nicholas.webb@noaa.gov