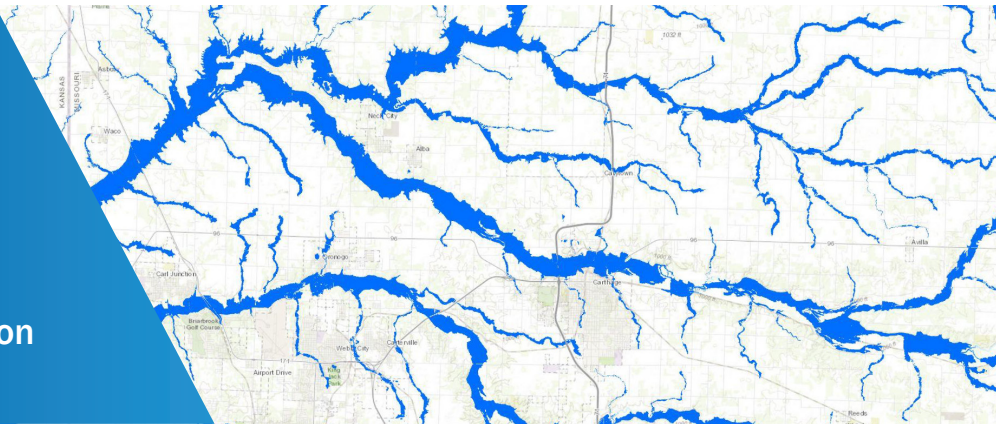




## NEIGHBORHOOD LEVEL FLOOD INUNDATION MAPS:

Transforming NWS Water Prediction  
across the U.S.



The longstanding demand for event-driven flood inundation mapping (FIM) has increased dramatically in recent years as a high value source of actionable information for emergency and water resource managers to prepare, mitigate, and respond to flood impacts. In response, the National Water Center (NWC) of the National Weather Service (NWS), in coordination with NWS River Forecast Centers (RFC) and Weather Forecast Offices (WFO) along with Federal and other partners, has developed and demonstrated high-resolution inundation modeling capabilities which complement and expand upon existing static FIM libraries providing geo-referenced visualizations of forecast flooding extent at the continental scale.

New inundation mapping capabilities translate analysis and forecasts of streamflow into operational maps that communicate impact by showing where flooding may occur.

Flood inundation mapping will be provided based on the RFC streamflow forecasts as well as from the National Water Model (NWM) streamflow analysis and forecasts. RFC-based inundation mapping will be provided at and downstream of official RFC forecast locations and will provide a forecast of maximum inundation extent over the next 5 days.

“ Had I 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. ”

*New York state emergency manager  
from 2021 tabletop exercise*

### NWM Latest Analysis



- Observation-based
- Updated hourly
- To be used as a snapshot of the most recent modeled flooding
- Generated where NWM analysis indicates flows exceed the high flow threshold

### RFC 5-Day Max Forecast



- Based on up-to-5-day RFC forecasts
- National Water Prediction Service (NWPS) forecast points
- To be used where and when an RFC forecast is available
- Generated when RFC forecast reaches “action stage”

### NWM 5-Day Max Forecast



- Based on 5-day weather forecast
- Updated every 6 hours
- To be used for rivers and streams not covered by an RFC forecast
- Generated only where NWM forecast indicates flows exceed the high flow threshold

### NWM 48-Hour Max Forecast for Puerto Rico, U.S. Virgin Islands, and Hawaii



- Based on the 48-hour weather forecast
- Updated twice a day
- Generated where NWM forecast indicates flows exceed the high flow threshold

Scan the QR codes to view our Fact Sheets.



Puerto Rico  
& U.S. Virgin  
Islands



Dynamic  
FIM Services  
Factsheet



Dynamic  
FIM Services  
Comparison  
Table



Alaska Dynamic  
FIM Services  
Factsheet



Hawaii Dynamic  
FIM Services  
Factsheet



## Where Will These Services Be Accessible?

FIM services will be made available for 60% of the U.S. population in **September 2025**:

- ◆ [The National Water Prediction Service \(NWPS\)](#)
- ◆ The NWC Operations Page at [National Water Center Products and Services](#)
- ◆ [The NWS National GIS Viewer](#)
- ◆ Directly via [URLs](#) hosted on the Hydrologic Visualization and Inundation Services (HydroVIS) cloud system

## Service Delivery Timeline

2025

### Operational FIM for 60% of the U.S. population

- Expands services to include Hawaii, Cook Inlet and the Copper River basin portion of Alaska, as well as, further expansion along the West Coast, the Southwest, Great Plains, Great Lakes, and interior Southeast.

2025-26

### Operational FIM for nearly 100% of the U.S. population

- Expands services across the remaining U.S., except portions of Alaska, American Samoa, and Guam.
- Introduces Total Water Level FIM forecasts along the coast.

Scan the QR codes for more information on our services.



NWC Operations Page



NWS National GIS Viewer

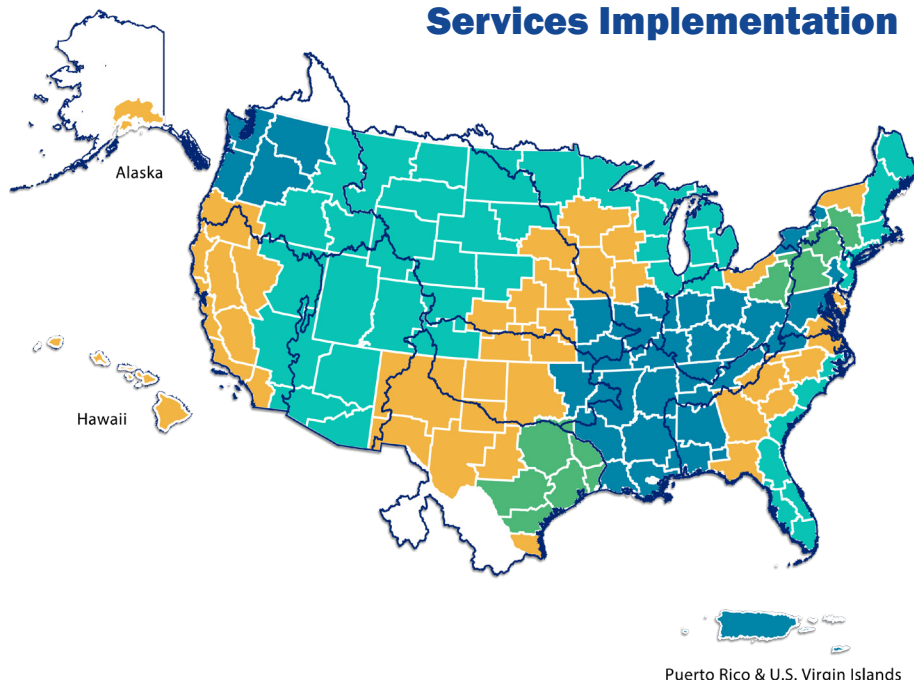


HydroVIS Cloud System

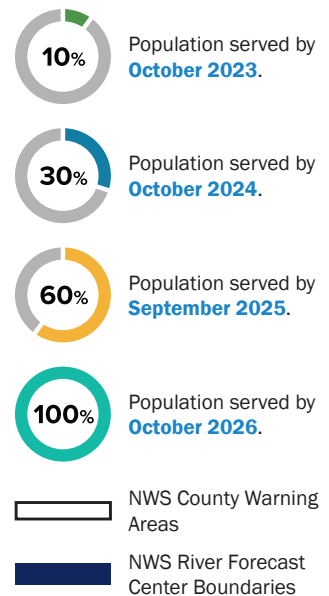


NWPS

## NWS Flood Inundation Mapping Services Implementation



### Map Legend



\*100% is approximate. Does not include all parts of Alaska, American Samoa, and Guam. Implementation areas are subject to change.