



Experimental NWM Rapid Onset Flooding (ROF) Probability

Depicts the probability of a forecast rapid onset using a time-lagged ensemble from the short-range and medium-range configuration of the National Water Model (NWM) over the contiguous U.S. This only shows those reaches that are stream order 4 and below, and that are expected to meet rapid onset flooding criteria, based on forecasts from the most recent 7 short-range model runs. The criteria limits consideration to only those stream reaches with a flow increase of 100% or greater within one hour and which meet high water threshold conditions within 6 hours (Figure 1).

Also shown are reaches that are expected to have flow at or above high water thresholds on Day 1, 2, 3, Days 4-5, and Days 1-5 using the 7 ensemble members of the medium-range forecast. Reaches are colored by the probability that they will meet or exceed rapid onset conditions either within hours 1-6, 7-12, and 1-12, or they will meet or exceed rapid onset conditions on Day 1, 2, 3, Days 4-5, and Days 1-5.

Probabilities are computed as the % agreement across the 7 ensemble members that a given reach will meet rapid onset criteria at some point during the time period of interest. Also shown are United States Geological Survey (USGS) Hydrologic Unit Code (HUC) basins colored by the percent of NWM feature length meeting rapid onset flooding criteria over the next 12 hours or 5 days. This “hotspot” layer helps draw the eye to basin with higher percentages of forecast rapid onset flooding (Figure 2) . High water thresholds (regionally varied) were derived using the 40-year NWM v2.1 reanalysis simulation.

Configurations Available:

- Short-Range 1-6-Hour & 7-12 Hour ROF Probability
- Short-Range 1-12-Hour ROF Probability & Hotspots Average ROF Probability
- Medium-Range Day 1, 2, and 3 ROF Probability
- Medium-Range Day 4-5 ROF Probability
- Medium-Range Day 1-5 - ROF Prob & Hotspots Average ROF Probability

Domains Available:

- CONUS (All Configurations)

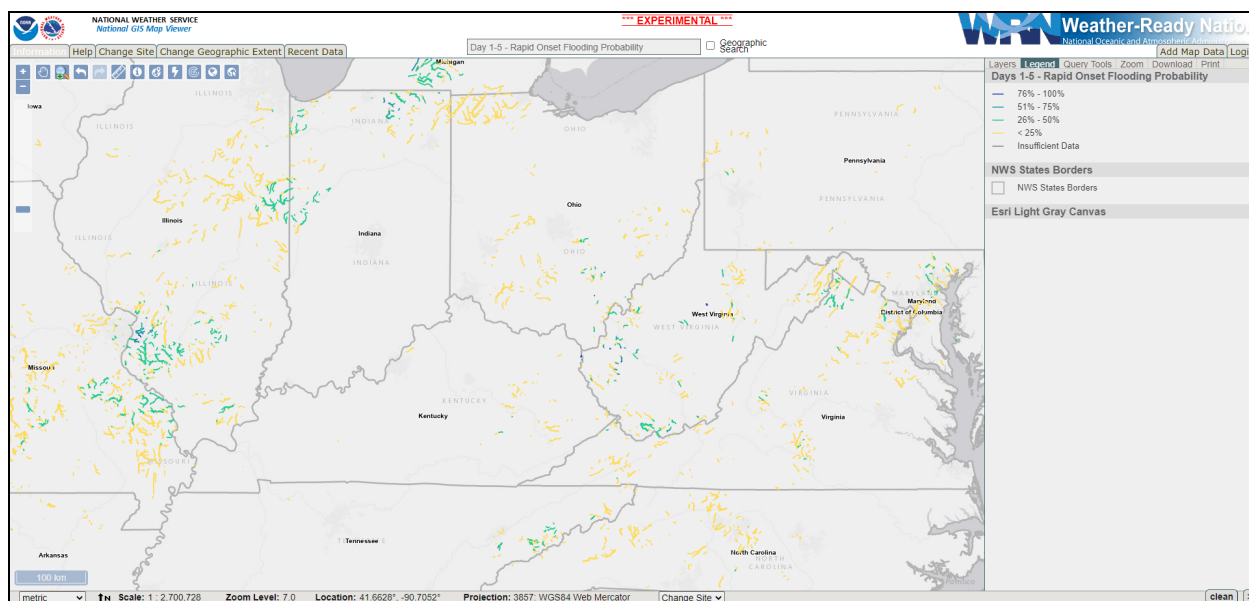


Figure 1: National GIS Map Viewer, depicting NWM-HydroVIS 1-5-Day Rapid Onset Flooding Probability.
Image 03 Aug 2022

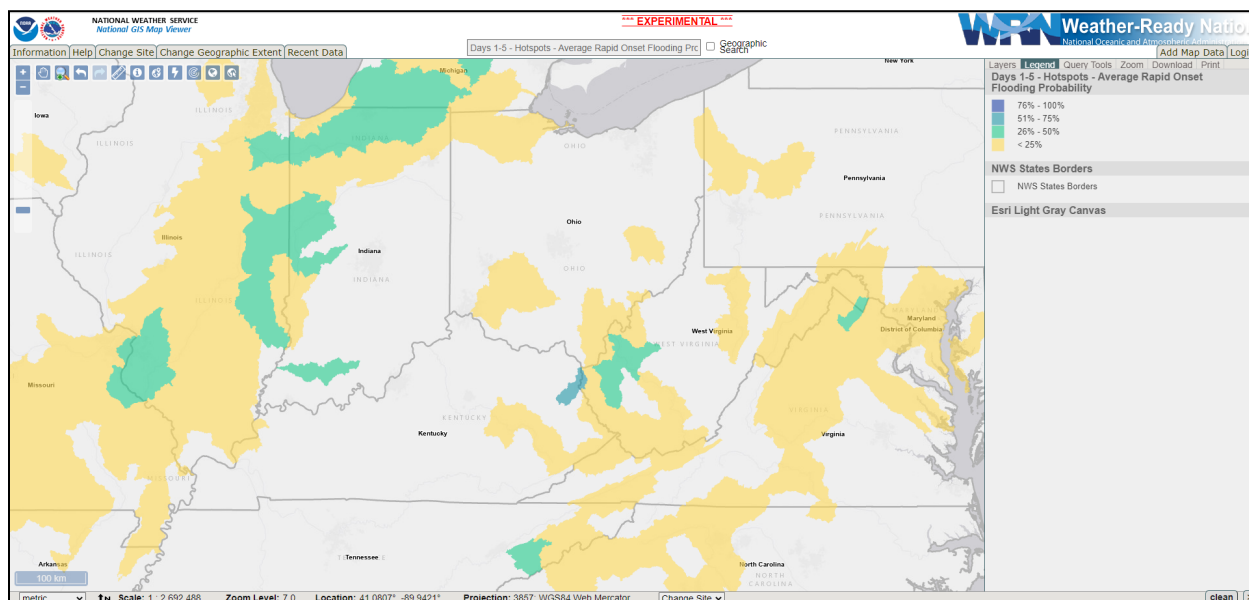


Figure: National GIS Map Viewer, depicting NWM-HydroVIS 1-5-Day Hotspots Average Rapid Onset Flooding Probability.
Image 03 Aug 2022

[Public Handbook: NWC Visualization Services](#)

The NWS is accepting comments through December 31, 2022 on the Experimental NWC Visualization Services. This service is one of many Experimental NWC Visualization Services. Please provide feedback on the Experimental NWC Visualization Services at: https://www.surveymonkey.com/r/Exp_NWCVisSvcs_2022