



Experimental NWM High Water Probability

Depicts the probability of forecast high water over the next 12 hours and 5 days, using a time-lagged ensemble from the short-range and medium-range forecast, respectively, of the National Water Model (NWM) over the contiguous U.S.

For the short-range display, only reaches that are forecast to have flow at or above high water within the next 12 hours for at least one of the last 7 forecasts are shown. These reaches are colored by the probability that they will meet or exceed the high water threshold across the last 7 forecasts. Probabilities are derived by counting the number of forecasts that meet the high water condition within the next 12 hours, equally weighted (Figure 1).

The short-range displays also show United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 10 polygons for basins with greater than 50% of NWM reaches with flow expected to be at or above high water over the next 12 hours. These USGS HUC 10 “hotspots” are colored by the average probability of the reaches within. (Figure 2).

Similar to the 12-hour forecast, the medium-range displays show reaches that are expected to have flow at or above high water on Day 1, Day 2, Day 3, and Days 4-5, using the 7 ensemble members of the medium-range forecast. These reaches are colored by the probability that they will meet or exceed the high water threshold on Day 1, 2, 3 and Days 4-5. Probabilities are computed as the % agreement across the 7 ensemble members, equally weighted.

The medium range displays also show USGS HUC8 polygons for basins with greater than 50% of NWM reaches with flow expected to be at or above high water over the next 5 days. USGS HUC 8 “hotspots” are colored by the average probability of the reaches within.

All high water thresholds (regionally varied) were derived using the 40-year NWM v2.1 reanalysis simulation.

Configurations Available:

- Short-Range 12-Hour – High Water Prob & Hotspots
- Medium-Range Day 1, 2, and 3 – High Water Probability
- Medium-Range Day 4-5 – High Water Probability
- Medium-Range Day 1-5 - High Water Prob & Hotspots

Domains Available:

- CONUS (All Configurations)

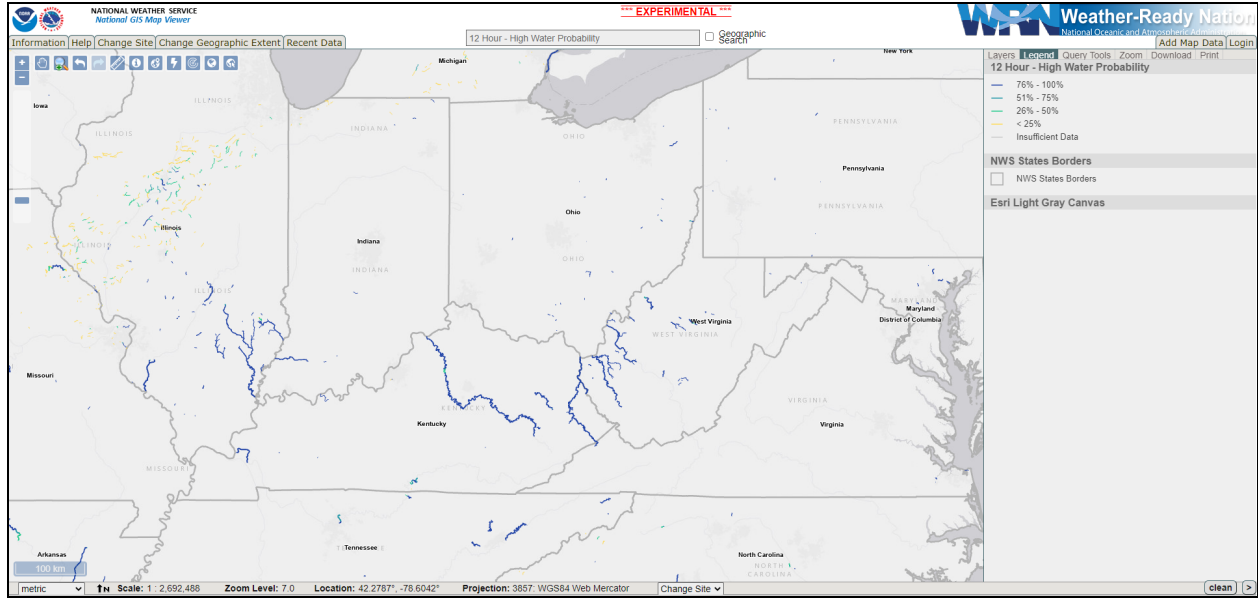


Figure 1 : National GIS Map Viewer, depicting NWM-HydroVIS 12-Hour High Water Probability. Image from 03 August 2022

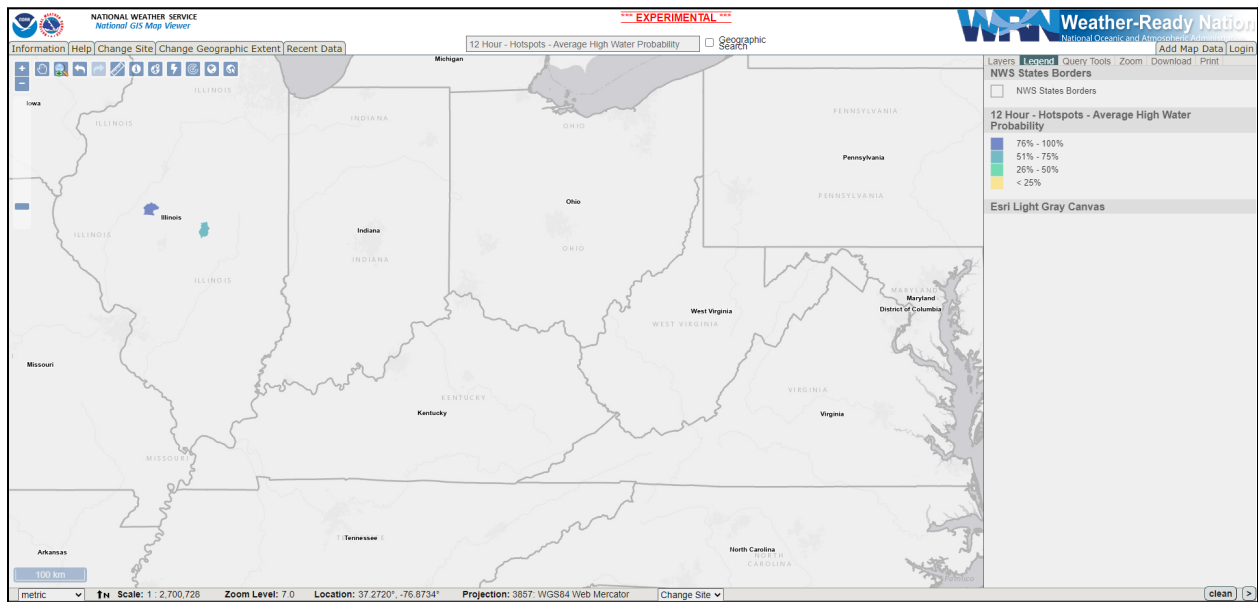


Figure 2: National GIS Map Viewer, depicting NWM-HydroVIS 12-Hour - Hotspots - Average High Water Probability. Image from 03 August 2022

[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