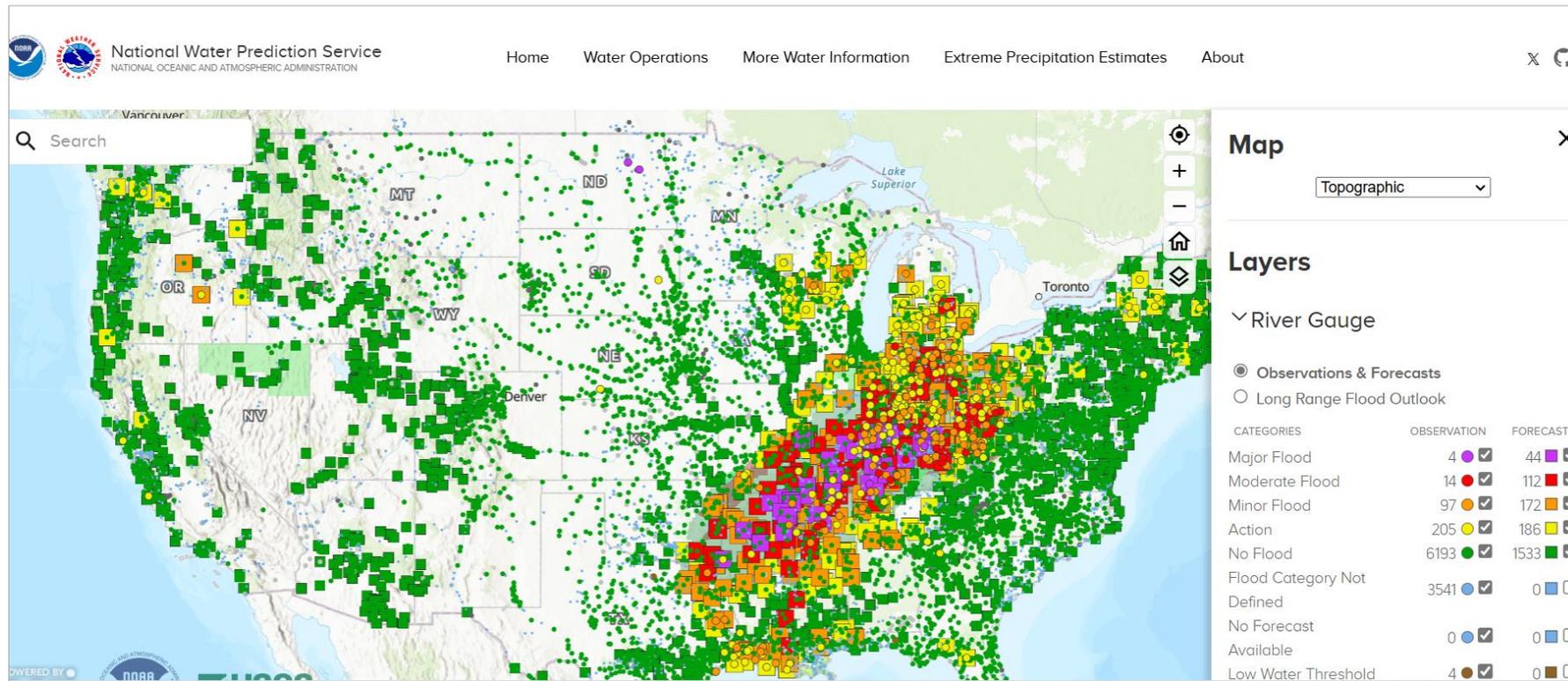


# Tutorial on National Water Prediction System

Prepared by Carson Pruitt and David Maidment  
4 April 2025

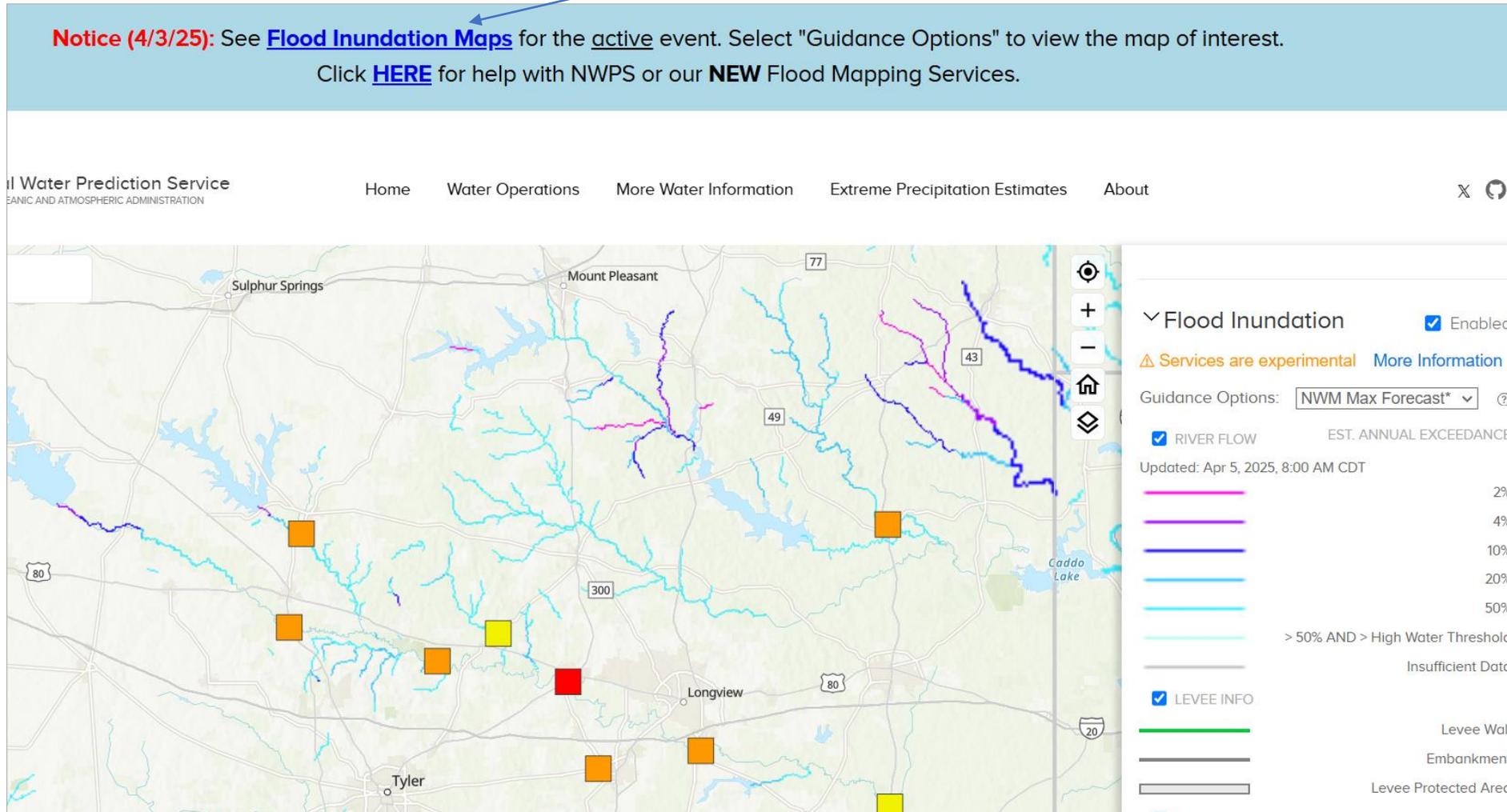
<https://water.noaa.gov>



# Flood Inundation Maps

<https://water.noaa.gov>

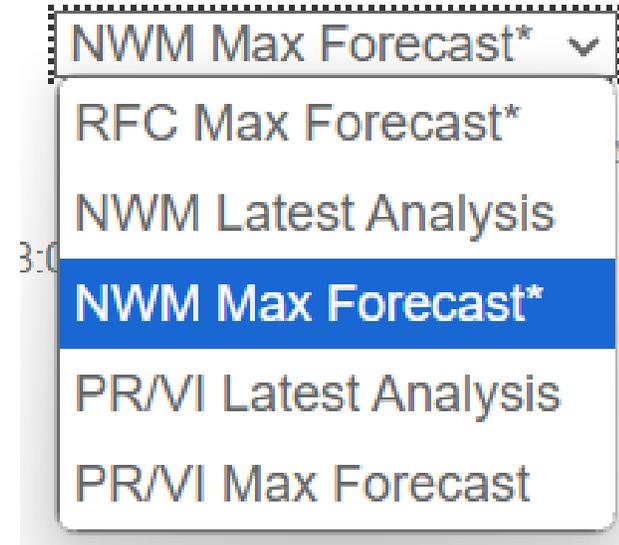
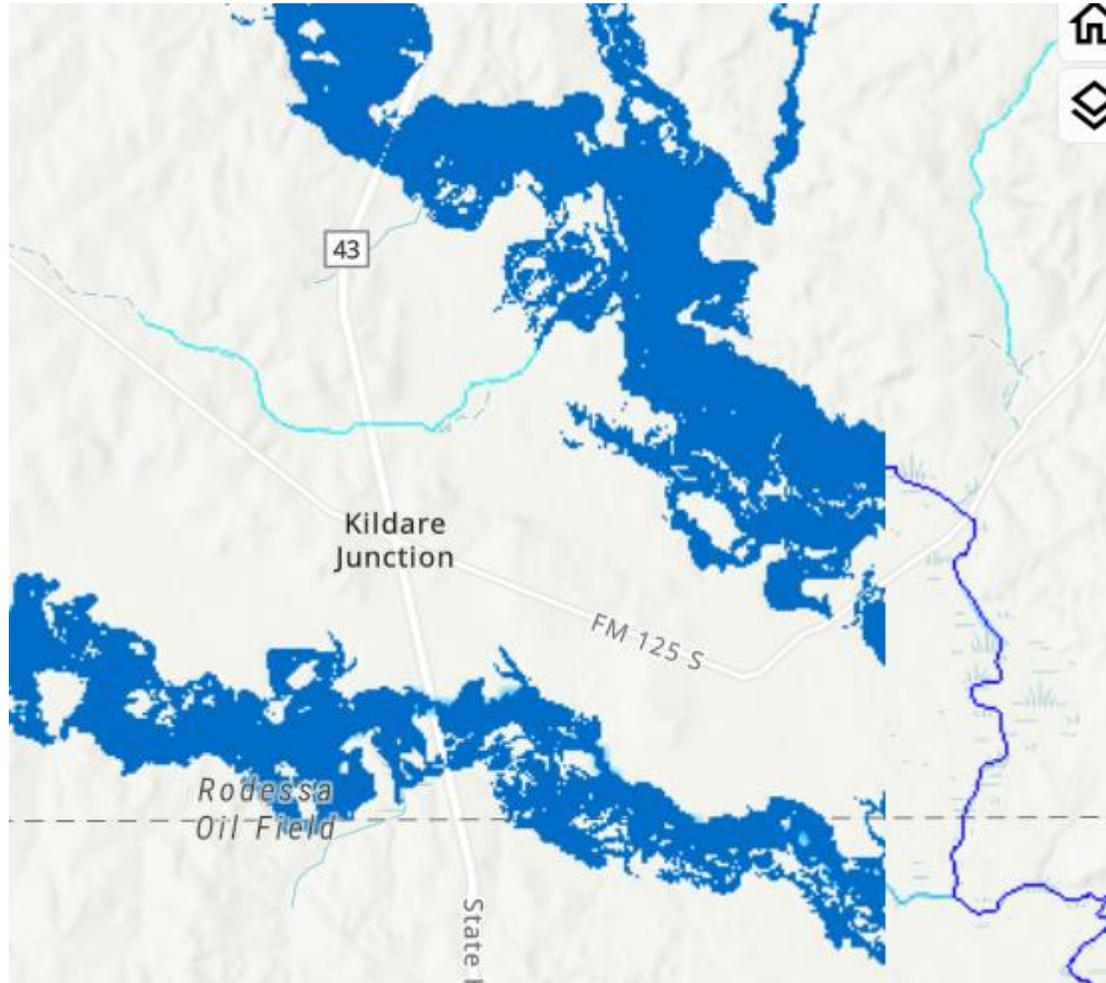
Click on “Flood Inundation Maps” to get this display



**Return Period**  
2% = 50 years  
4% = 25 years  
10% = 10 years  
20% = 5 years  
50% = 2 years  
>50% and High Water Threshold means “Out of banks”

# Inundation Maps – zoom in so that they display

[nws\\_fim\\_api\\_instructions.pdf](#)

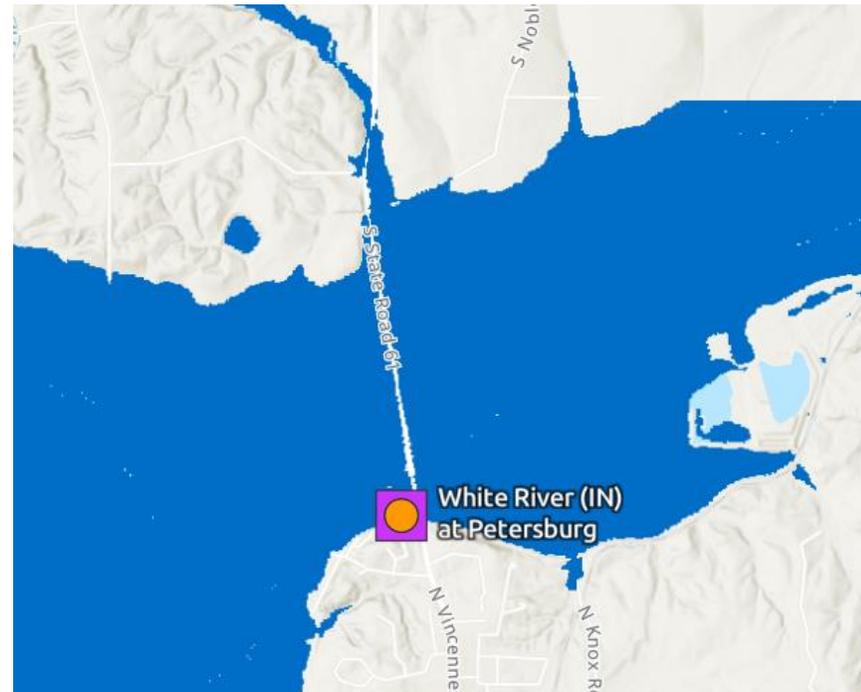


RFC and NWM Max Forecast means max inundation from RFC forecast in next five days

NWM Latest Analysis means current inundation

# White River at Petersburg, Indiana

<https://water.noaa.gov/#@=-87.2878077,38.5176084,12.5605413&b=topographic&g=obsFcst,1!1!1!1!0!0!0!0!0!1!1!1!1!0!0!0!0!0,0.5,1!1!1!1!0,0,0,true&ab=0,0,#D94B4A,1,1,1,#cccccc,1,0,0,#B243B1,1,0,0,#98E09A,1,false&a=hide,0.35,false&s=0,0,0.9,0.9,false&n=false,#72afe9,0.9,0,0.9,0,0.9,false&p=false,0.75,0,7,0,1,2025,4,4,0,false&d=1,1,1,1,1,1,1,1,#006EFF,1,#006EFF,0.62,#006EFF,1,#006EFF,1,#006EFF,true&q=>

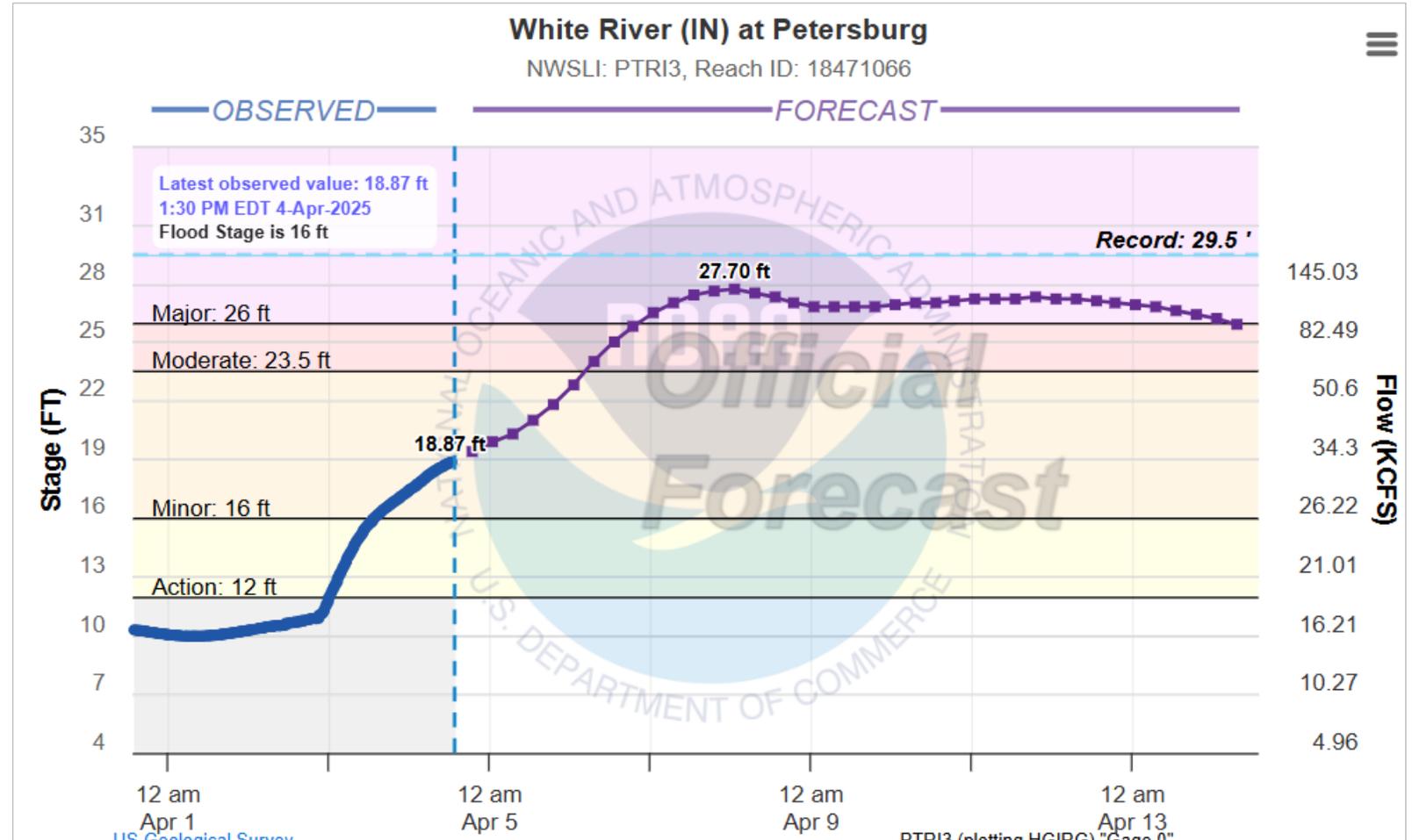


# River Forecast Center (RFC) Forecast

Click on gauge point to get this



CATEGORY	STAGE
> Major Flooding	26 ft
> Moderate Flooding	23.5 ft
> Minor Flooding	16 ft
> Action	12 ft



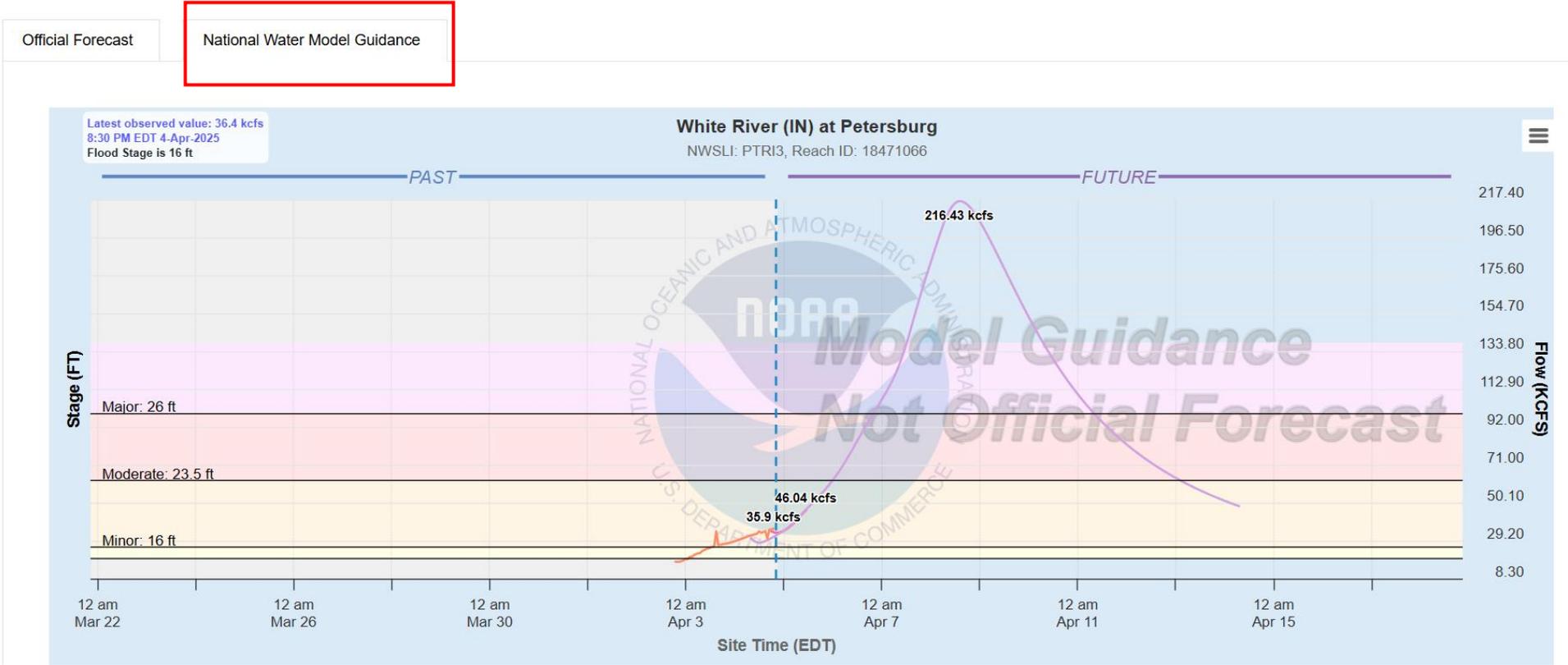
# National Water Model Forecast

Click below for more information including National Water Model guidance.

← Upstream gauge (PETI3)

[Full Gauge Page >](#)

Downstream gauge (HAZI3) →



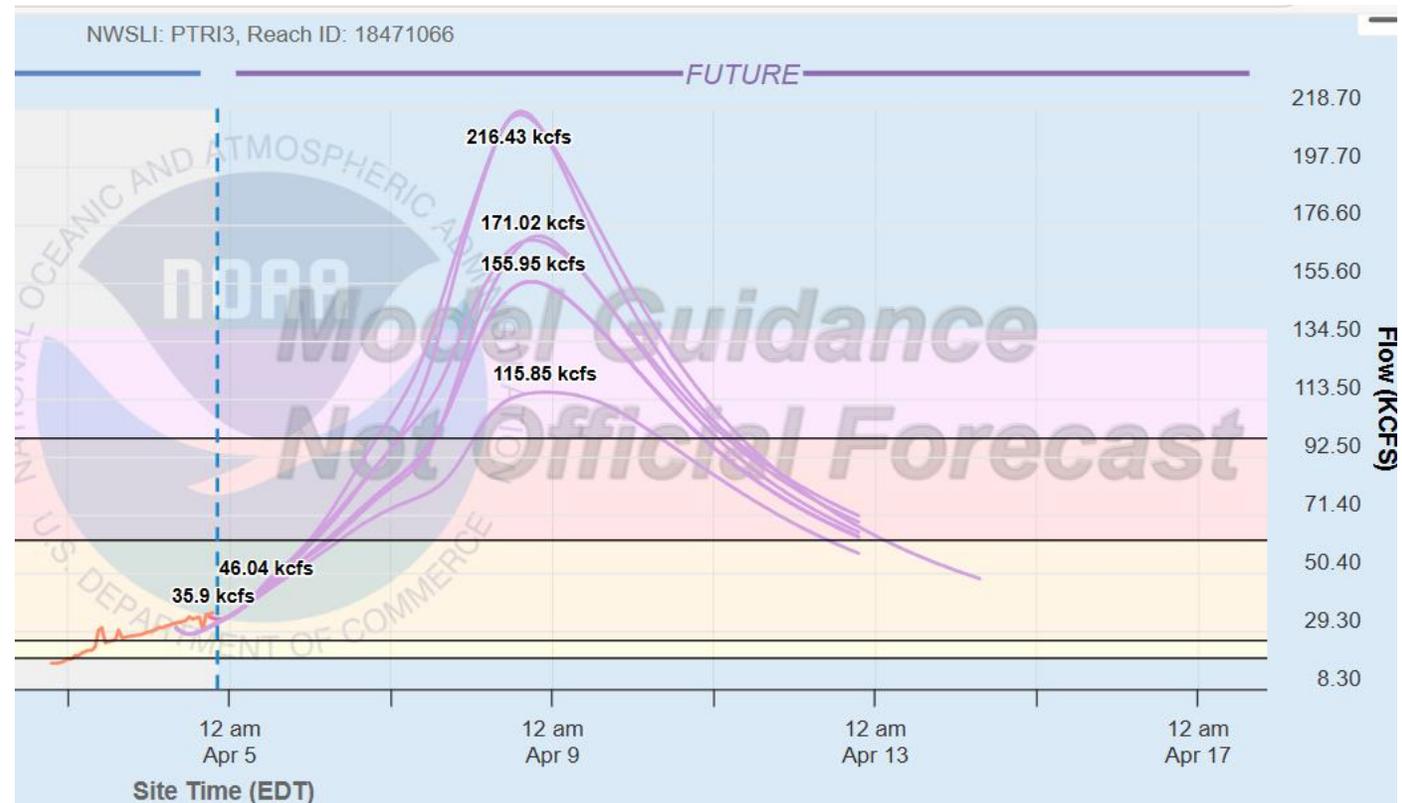
Click on [Full Gauge Page](#), then [National Water Model Guidance](#) tab to get the NMW Medium Range forecast

# Medium Range Forecast Ensemble Forecasts

Scroll down the page and click on the [Medium Range Ensembles](#) to get a sense of the uncertainty in the forecast

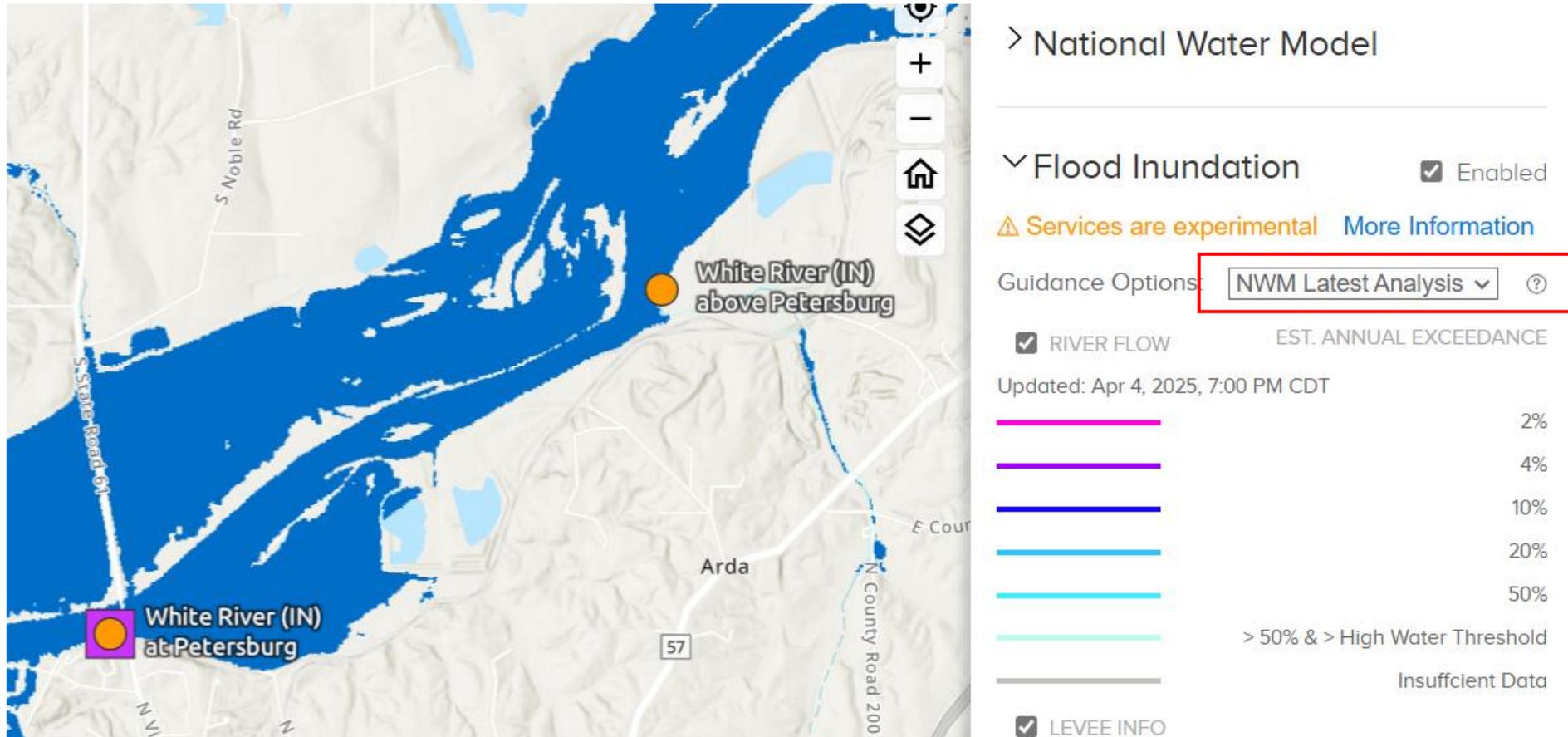
## ✓ Medium Range Ensembles

- Medium Range Ensemble Mean (MRM)  
04/04/2025 8:00 AM EDT
- Medium Range Member 2 (MR 2) 04/04/2025  
8:00 AM EDT
- Medium Range Member 3 (MR 3) 04/04/2025  
8:00 AM EDT
- Medium Range Member 4 (MR 4) 04/04/2025  
8:00 AM EDT
- Medium Range Member 5 (MR 5) 04/04/2025  
8:00 AM EDT
- Medium Range Member 6 (MR 6) 04/04/2025  
8:00 AM EDT



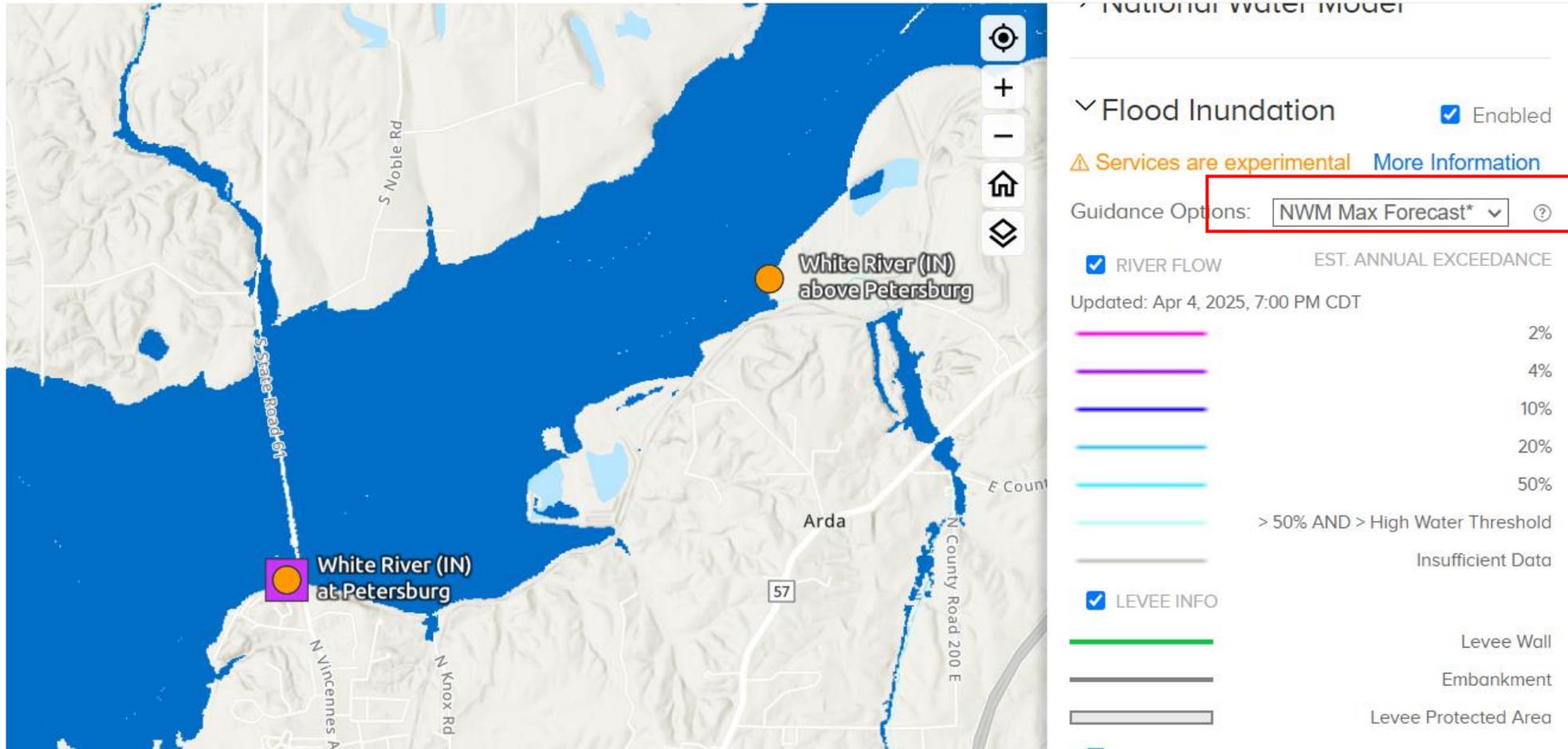
# Current Flood Inundation

Scroll further down the page to “Flood Inundation” and select “NWM Latest Analysis”



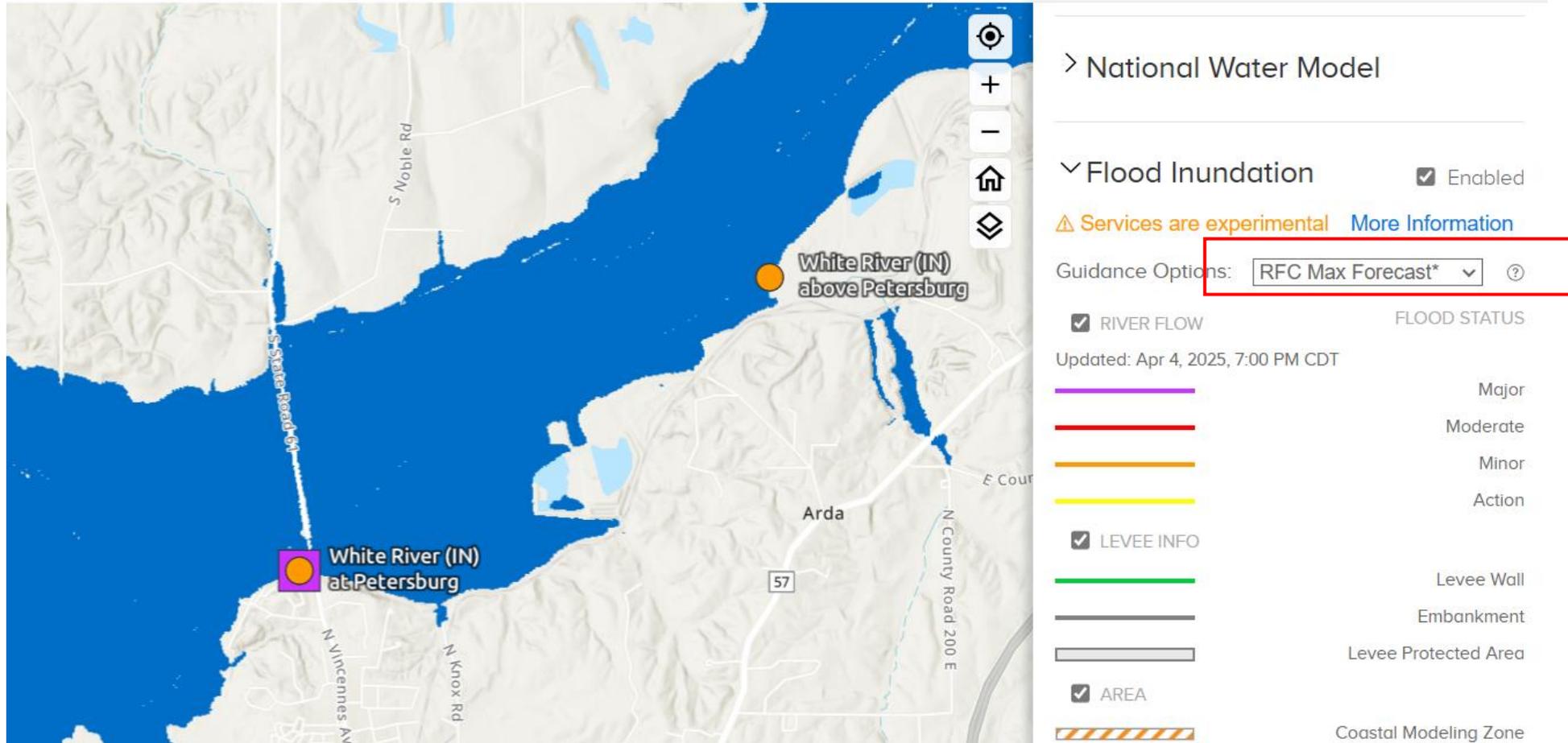
# Inundation for NWM Max Forecast

Change selection to “NWM Max Forecast”



# Flood Inundation Mapping

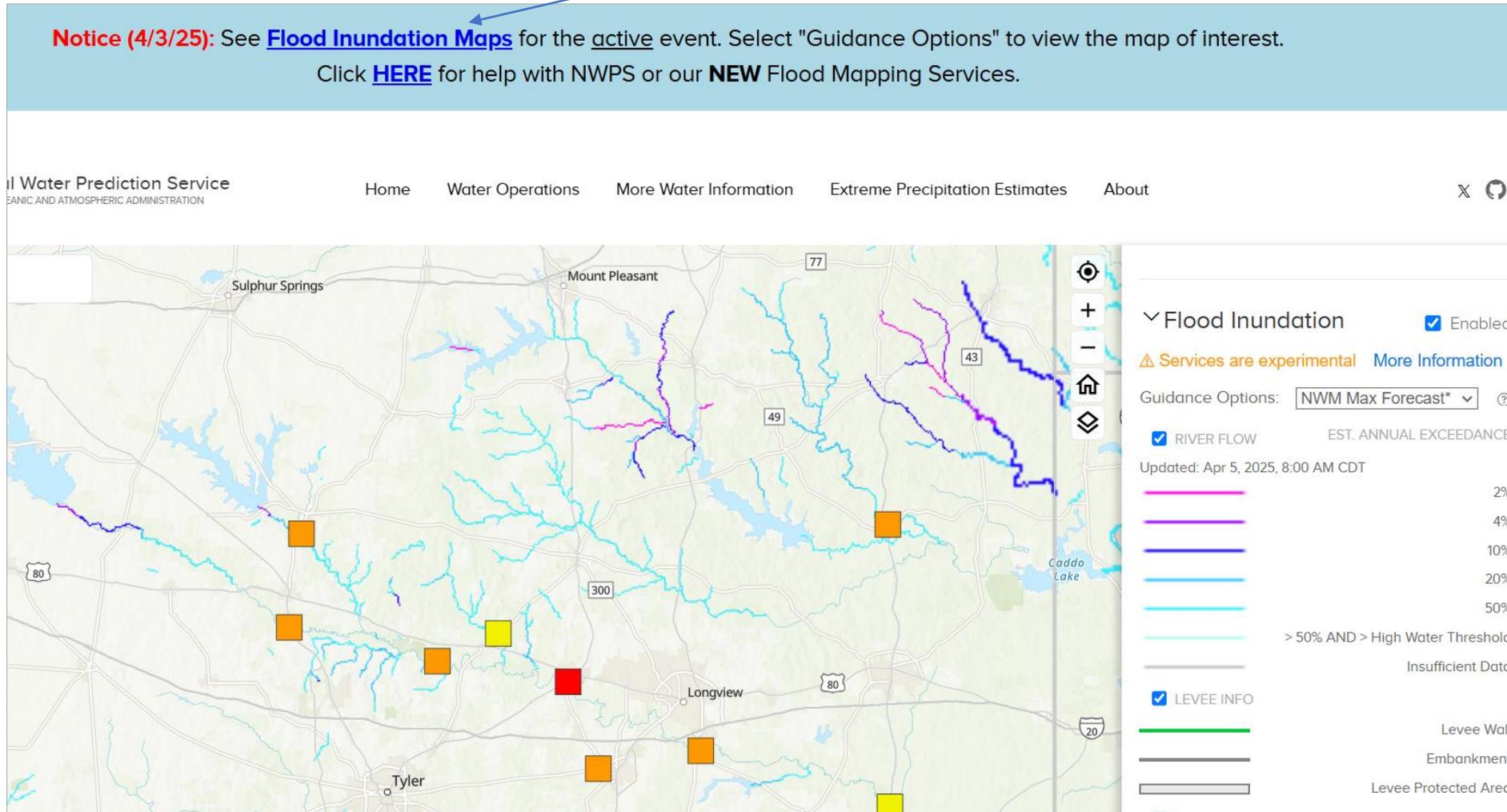
Change selection to “RFC Max Forecast”



# Flood Inundation Maps

<https://water.noaa.gov>

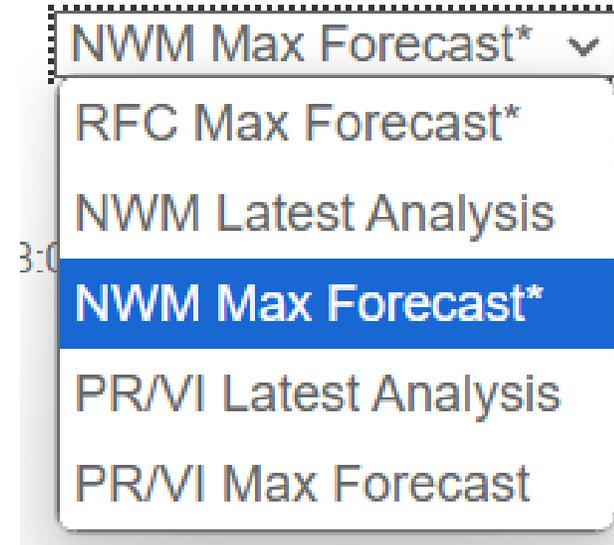
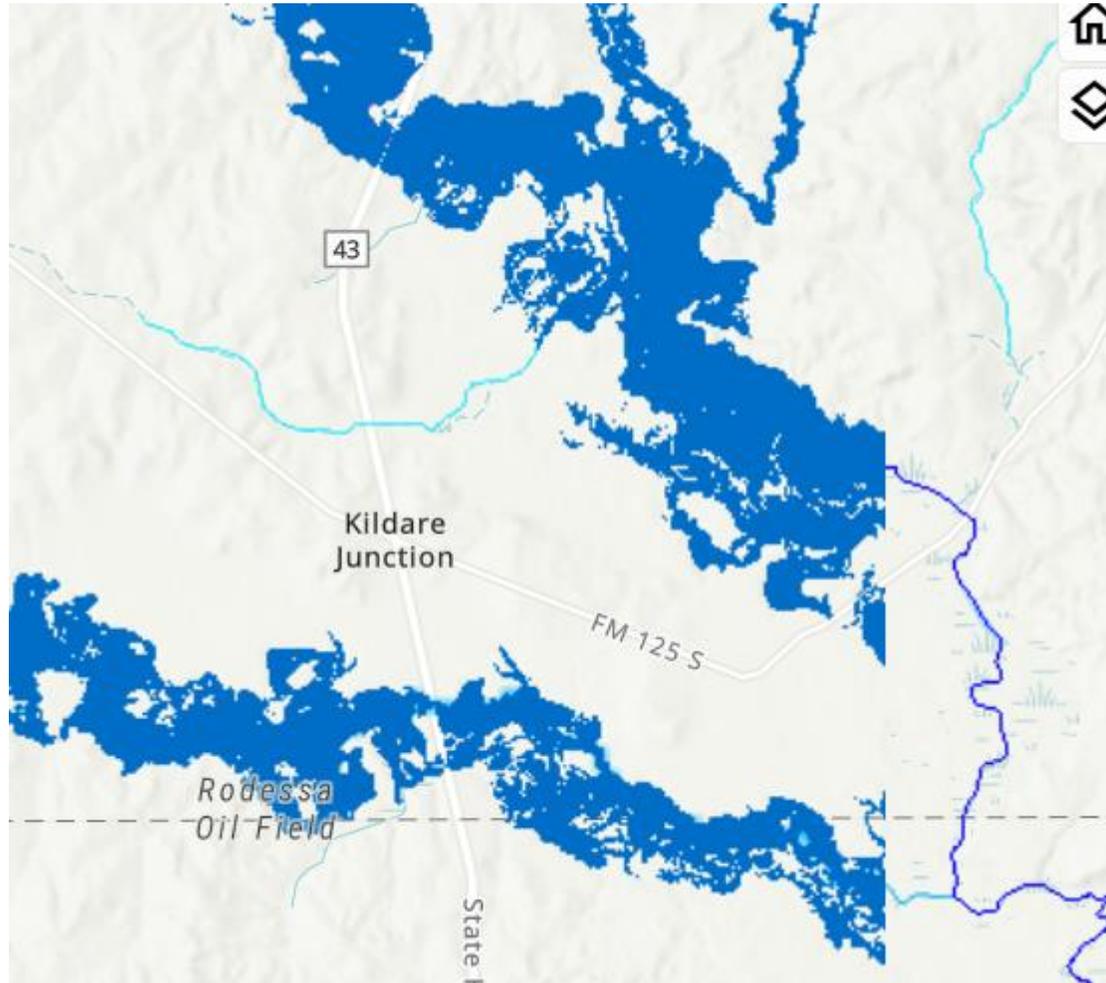
Click on “Flood Inundation Maps” to get this display



**Return Period**  
2% = 50 years  
4% = 25 years  
10% = 10 years  
20% = 5 years  
50% = 2 years  
>50% and High Water Threshold means “Out of banks”

# Inundation Maps – zoom in so that they display

[nws\\_fim\\_api\\_instructions.pdf](#)



RFC and NWM Max Forecast means max inundation from RFC forecast in next five days

NWM Latest Analysis means current inundation