



# HISTORIC FLOOD ALONG TUG FORK RIVER



Courtesy of John Burchett

Nick Webb  
Senior Service Hydrologist/Meteorologist  
NWS Charleston WV



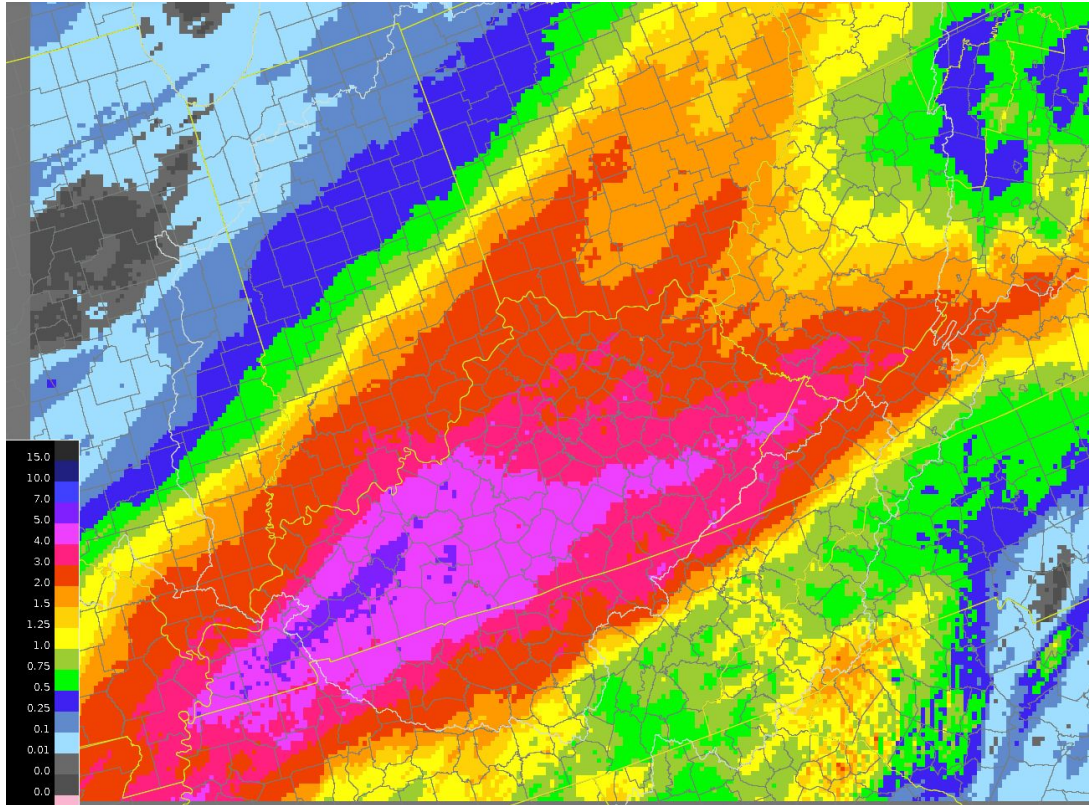
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# Rainfall Estimation

March 4, 2025  
1:06 PM



- Significant rainfall of 2 to 4 inches in a 6 to 12 hour period
  - Highest totals observed in the headwaters of the basin
  - Significant flash flooding occurred along Elkhorn Creek, Clear Fork, and Panther Creek in the upper basin





# UNOFFICIAL RIVER CRESTS

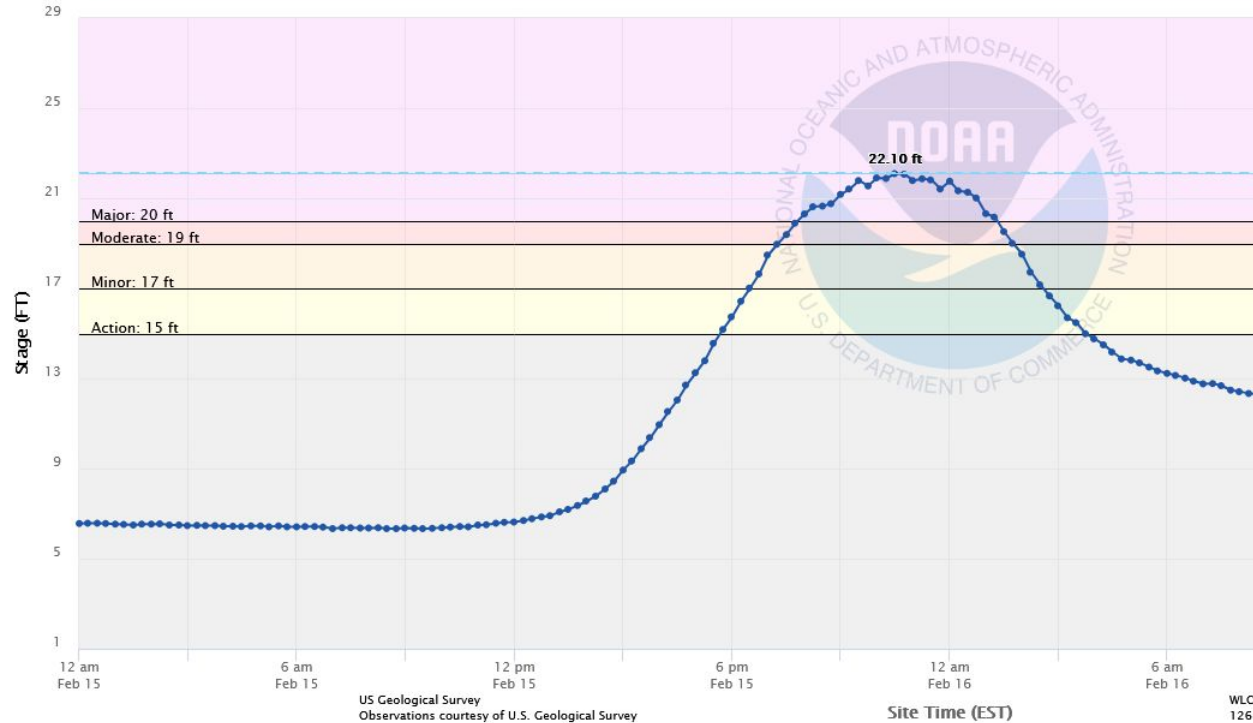
March 4, 2025  
1:06 PM

## Tug Fork River at Welch

Latest observed value: 6.45 ft  
8:45 AM EST 20-Feb-2025  
Flood Stage is 17 ft

Tug Fork River at Welch

NWSLI: WLCW2, Reach ID: 436048



- Unofficially tied record crest
  - 2002 record crest was 22.1 ft
  - Awaiting USGS finalized data before becoming official
  - Much more “flashy” in nature in the headwaters than 1977 event which occurred over a 1-2 day period
  - Damage concentrated along business district
  - Notable damage to homes along Lake Drive and Riverside Drive south of town
  - 3 fatalities



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# UNOFFICIAL RIVER CRESTS

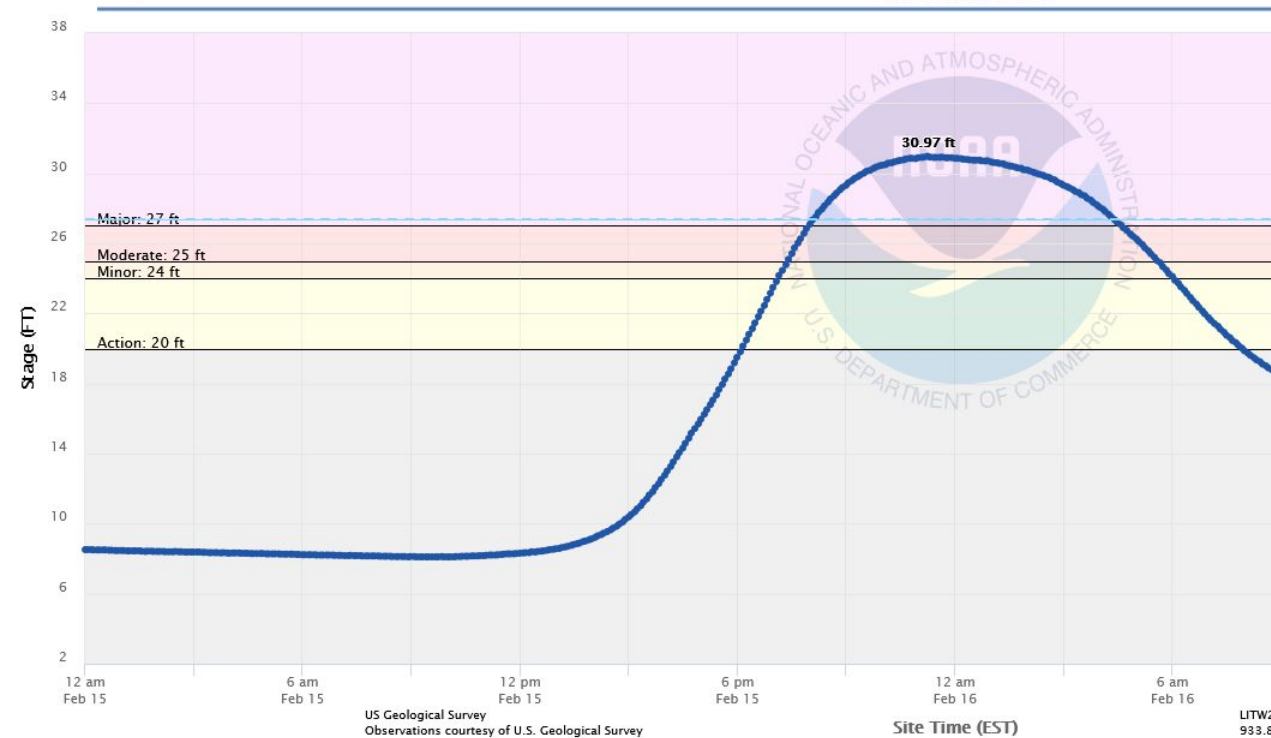
March 4, 2025  
1:06 PM

## Tug Fork River at Litwar

Latest observed value: 7.45 ft  
8:40 AM EST 20-Feb-2025  
Flood Stage is 24 ft

Tug Fork River at Litwar

NWSLI: LITW2, Reach ID:



Graph Created: (09:23 AM EST Feb 20 2025) - Forecast Issued (08:00 PM EST Feb 19 2025)

- Unofficial record crest
  - 1977 crest was 27.4 ft
  - Awaiting USGS finalized data before becoming official
  - Much more “flashy” in nature in the headwaters than 1977 event which occurred over a 1-2 day period



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# UNOFFICIAL RIVER CRESTS

March 4, 2025

1:06 PM

## Tug Fork River at Williamson

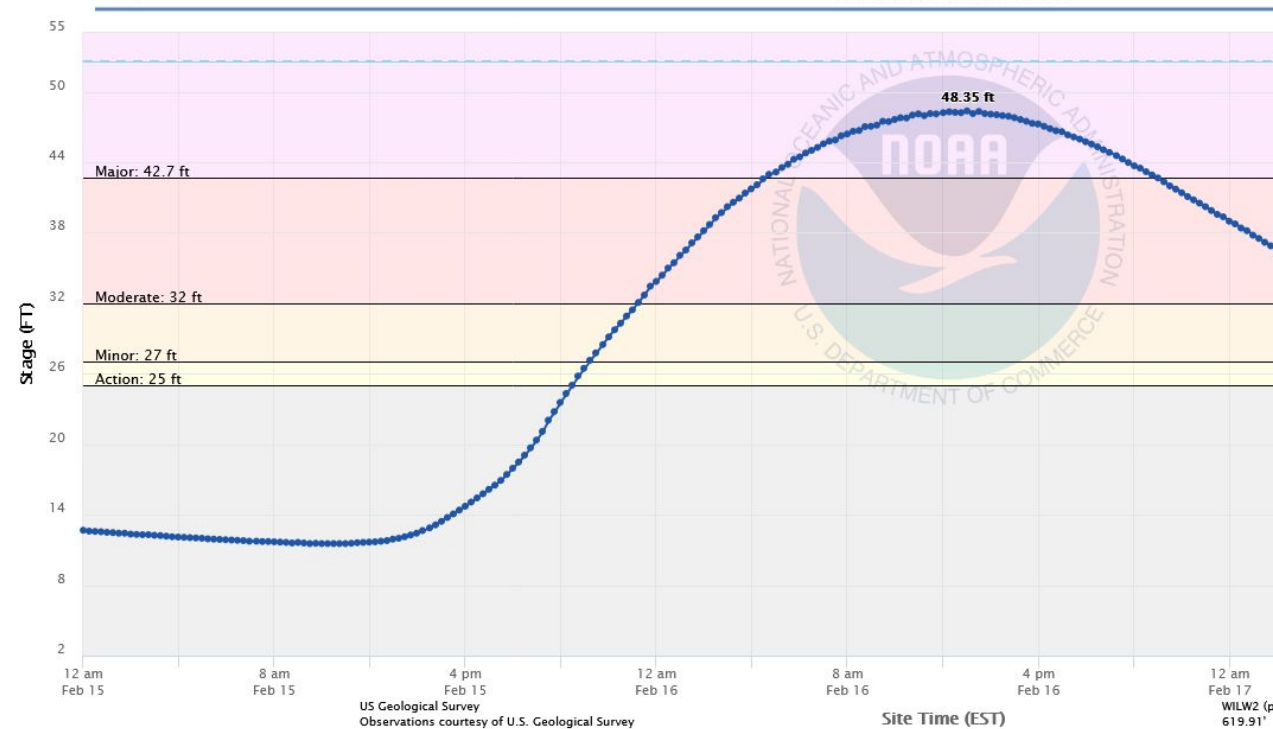
Latest observed value: 10.17 ft

9:00 AM EST 20-Feb-2025

Flood Stage is 27 ft

Tug Fork River at Williamson

NWSLI: WILW2, Reach ID: 435154



- Highest crest since 1977 flood
  - 2nd highest crest on record (1977 crest of record)
  - Awaiting USGS finalized data before becoming official
  - Numerous structures affected, primarily residences on WV side outside of the flood wall
    - Many businesses affected on KY side
  - High water marks ranged from 2 to as much as 12 ft
  - USACE mitigation efforts in 1980s proved effective
    - Many escaped first floor damage



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# UNOFFICIAL RIVER CRESTS

March 4, 2025  
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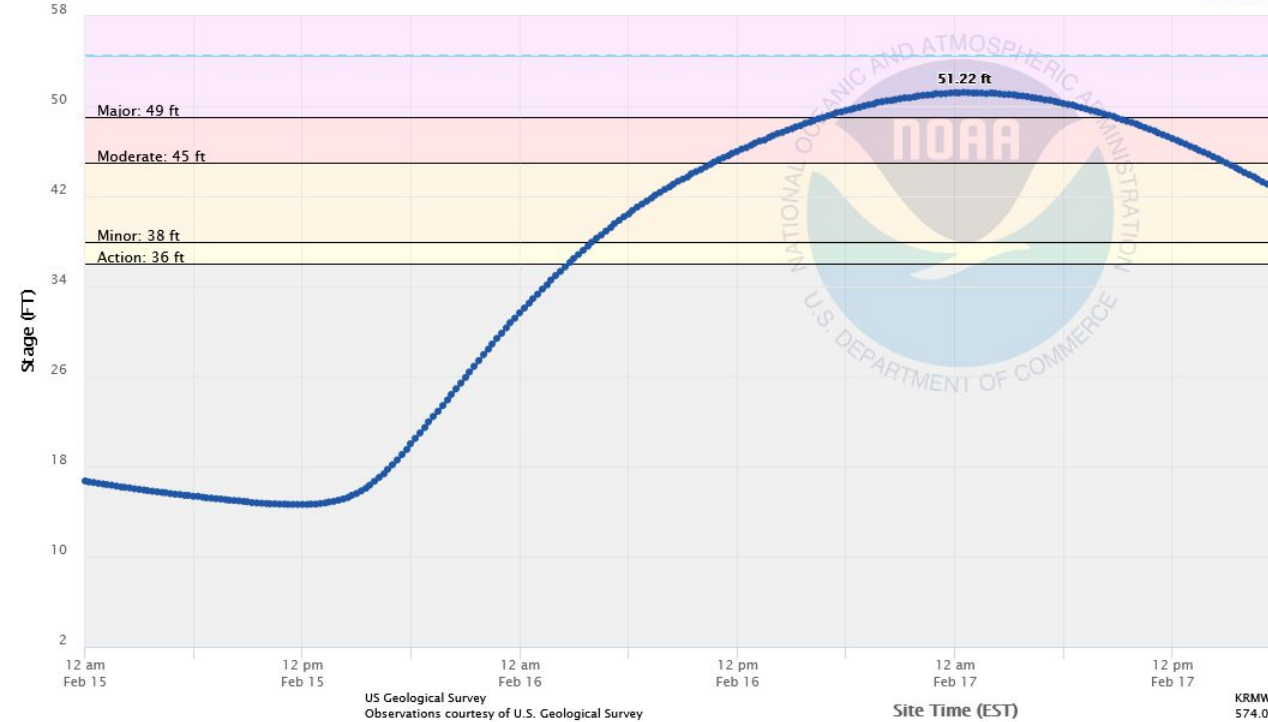
## Tug Fork River at Kermit

Latest observed value: 12.87 ft  
9:00 AM EST 20-Feb-2025  
Flood Stage is 38 ft

Tug Fork River at Kermit

NWSLI: KRMW2, Reach ID: 434540

OBSERV



Graph Created: (09:23 AM EST Feb 20 2025) - Forecast Issued (08:08 PM EST Feb 17 2025)

- Highest crest since 1977 flood
  - 2nd highest crest on record (1977 crest of record)
  - Awaiting USGS finalized data before becoming official
  - Numerous structures affected, primarily residences on WV side
  - High water marks ranged from 2 to 4 ft
    - Much higher on the KY side where several businesses were affected



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# NWS Flood Inundation Mapping Services

February 16, 2025  
9:30 AM

## Tug Fork River - Kermit, WV (KRMW2)

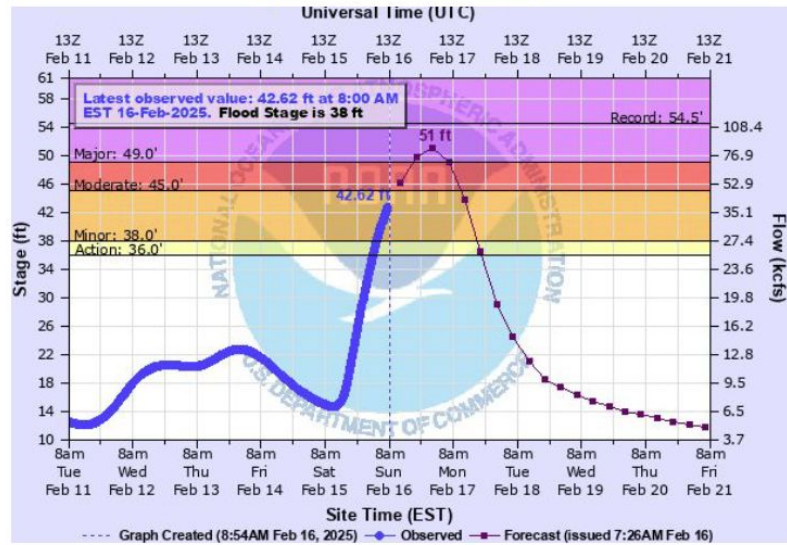
- **Forecast Crest Height:** 51 Feet
- **FIM Type:** Stage-Based Categorical (Depth NOT Included)
- **FIM Creation Time:** 2/16/25 @ 9:30 am

### 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.



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# Flood Inundation Mapping Performance

March 4, 2025  
1:06 PM

NWS RFC Forecast FIM



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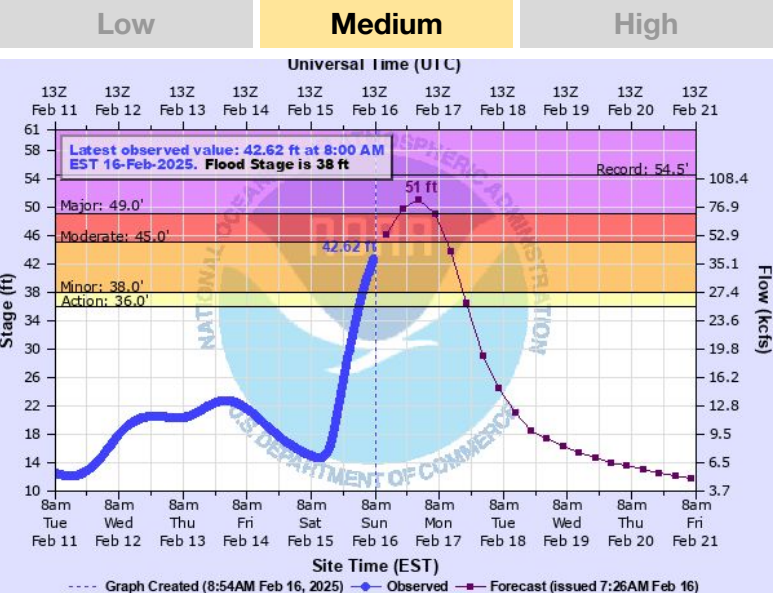
# NWS Flood Inundation Mapping Services

February 16, 2025  
9:30 AM

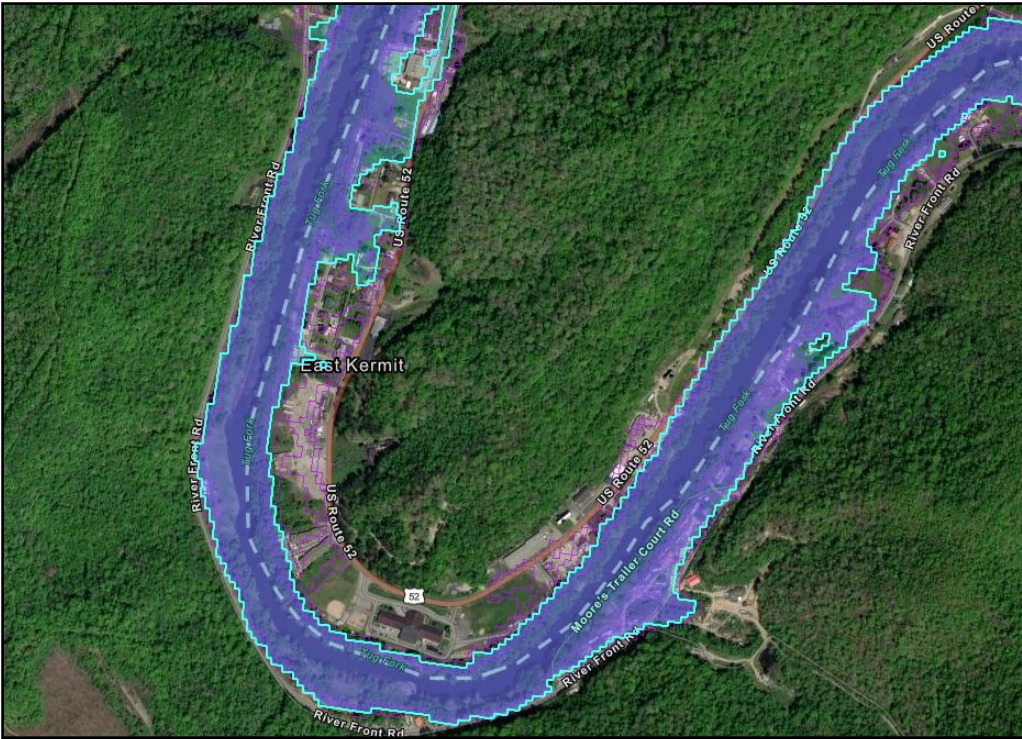
## Tug Fork River - East Kermit, WV (KRMW2)

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

### Confidence:



Latest Observations/Forecasts: [Tug Fork River at Kermit](#)



**Disclaimer:** This map shows the flood extent based on a river crest of a Major Flood.  
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# Flood Inundation Mapping Performance

March 4, 2025  
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NWS RFC Forecast FIM



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# Flood Inundation Mapping Performance

March 4, 2025  
1:06 PM

## USACE Williamson FIM

- Route 52 (4th Ave) at Sycamore Creek
  - Excellent depiction even with backwater flooding



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# Flood Inundation Mapping Performance

March 4, 2025  
1:06 PM

## USACE Williamson FIM

- Route 119 at W 3rd Street
  - Excellent inundation depiction of railroad tracks
  - Time of photo around 48 ft







# Flood Inundation Mapping Performance

March 4, 2025  
1:06 PM

## USACE Williamson FIM

- Route 52 (4th Ave) at Peter Street
  - Excellent inundation depiction of backwater flooding



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# Flood Inundation Mapping Performance

March 4, 2025  
1:06 PM

## USACE Williamson FIM

- Homes outside of ARH flood wall
  - Excellent inundation depiction of inundation outside the flood wall
  - Time of photo around 47.5 ft



Courtesy of Hillbilly Flies



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