

Fargo-Moorhead Hydrology

Official estimates vary for the 100-year flood flow and stage.

Table 3.1 from DNR Final EIS, May 2016

This table shows the flow and stage information used by FEMA and USACE and estimates of stages that would be used if the USACE simply used an updated standard hydrologic analysis (period of record hydrologic analysis) for the flows. The following table is a subset of the USACE Supplemental EA.

Table 3.1 Peak Flow and Stage Data - USGS Gage 05054000 Red River at Fargo, ND

Event and Method	Discharge (cfs) at USGS Gage at Fargo	Stage (ft) at USGS Gage at Fargo	Years Included
100-year FEMA	29,300	39.3	Up to 1971
100-year USACE Updated Period of Record	33,000	41.3	1902 through 2009, plus 1882 and 1897
100-year USACE Expert Panel (EOEP)	34,700	42.1	1942 through 2009

Notes about FEMA numbers:

FEMA has raised their 100-year flood stage from 38.3 to 39.3 feet. Flood Damage Reduction projects have been designed for protection at the current, effective FEMA 100-year flood.

Notes about Updated Period of Record numbers:

An updated Period Of Record would increase the 100-year flow from 29,300 cfs to 33,000 cfs, which would increase the 100-yr flood stage to something between 40.7 feet and about 41.5 feet, the exact value depending on levee effectiveness and a more detailed analysis than has been completed to date.

Notes about USACE Expert Panel numbers:

The USACE went beyond a standard hydrologic analysis by engaging a panel of experts (Expert Opinion Elicitation Panel (EOEP)) in hydrology and climate change to discuss flooding trends in the Red River basin. While the EOEP recommendations result in a larger 100-year flood flow, they result in a lower 500-year flood flow. Both of these flows are greater than the 500-year flood flow of 50,000 cfs being used by FEMA.