Red River and Devils Lake Basins - 2025 Spring Flood Outlook

NWS Grand Forks • North Central River Forecast Center • February 27, 2025

This outlook is for the US portion of the basin and based on conditions through Monday, February 24, 2025. Visit our website at weather.gov/fgf/currentfloodoutlook for associated exceedance graphics, probabilities, and related discussions.
An additional spring flood outlook will be issued on March 13th.

Key Message: The risk for significant (moderate or higher) spring flooding is low with this outlook issuance, running below long-term historical averages across the the Red River Basin (US portion).

Key Points:

- Minor to isolated moderate spring flooding in this outlook (50% exceedance probability) for some locations.

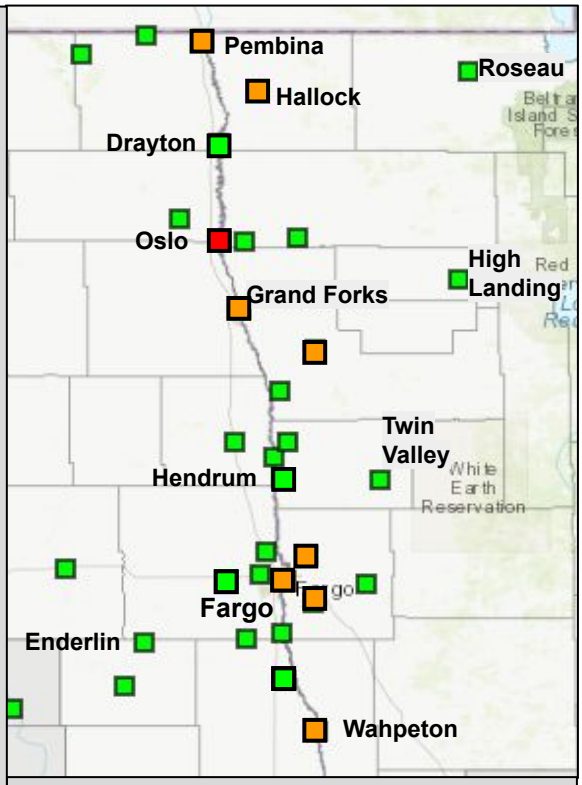
- Well above normal precipitation last November led to saturated soils and slightly elevated river levels before freeze-up. However, snowfall and associated precipitation has been well below normal this winter for the majority of the basin.

- Minimal snowpack early in the winter followed by below normal temperatures has led to a deep frost layer. Above normal temperatures are expected into March which will continue to erode any remaining snowpack and begin to thaw frozen soils.

- Spring precipitation, especially any rainfall on frozen ground, will be the most important flood risk factor in the coming months.

Flood Risk Indicated as > 50% of category:

- Major
- Moderate
- Minor
- < 50%



Valid March 3, 2025 - June 1, 2025

Snowmelt Flood Components:

1. Fall + Winter Precipitation and Soil Moisture: Below normal. Fall precipitation (Sep.-Nov. 2024) was below normal for much of the basin. However, the fall season did end with well above normal Nov. precipitation, especially across northeastern North Dakota, which saturated soils before freezing up. Below normal precipitation continued through the winter, allowing abnormally dry to severe drought conditions to persist across the southern basin and into north central Minnesota.

2. Base Streamflow: Near to slightly above normal. At the end of Dec., USGS analyses indicated the Red River and its tributaries were flowing near to slightly above normal (especially in the far south) due to above normal Nov. precipitation.

3. Frost Depth: Deeper than normal. Minimal to no snowpack early in the winter, followed by stretches of below normal temperatures, led to the formation of a deep frost layer. Currently, frost depth values range from 35-50 inches across the basin although some thawing of the top layer of soil has occurred due to recent above normal temperatures.

4. Snowpack and Associated Water Content: Below normal. Snowfall (and associated water content) since Dec. 1st is running 25-75 percent of normal, lowest across the southern and central basin and up into northwestern Minnesota. Recent above normal temperatures have allowed melting of the snowpack to commence with current snow depths ranging from zero across the southern basin to up to 10 inches in isolated areas near the international border.

5. Future Conditions: Climate outlooks now indicate above normal temperatures into March which will continue to melt any remaining snowpack and slowly thaw frozen soils. While near to below normal precipitation is currently predicted, any rainfall on frozen ground (or any lingering snowpack) will continue to be the most important flood risk factor.

DEVILS LAKE AND STUMP LAKE

Valid February 24, 2025 - September 30, 2025

DEVILS LAKE	95%	90%	75%	50%	25%	10%	5%
Creel Bay	1450.3	1450.4	1450.6	1450.8	1451.3	1451.8	1452.4
Eastern Stump Lake	1450.3	1450.4	1450.6	1450.8	1451.3	1451.8	1452.4

Devils Lake and Stump Lake are currently at ~1449.4 ft (zero datum 1400.00 NGVD29).

RED RIVER AND TRIBUTARIES

Valid March 3, 2025 - June 1, 2025

RED RIVER MAINSTEM	95%	90%	75%	50%	25%	10%	5%
Wahpeton	8.5	9.0	10.1	11.2	12.6	14.3	14.7
Hickson	15.3	16.6	19.4	22.1	26.8	31.5	33.1
Fargo	17.0	17.5	19.7	22.4	27.2	32.2	34.6
Halstad	12.7	13.4	16.9	21.3	26.5	31.7	35.6
Grand Forks	21.8	22.7	26.7	31.5	38.1	42.0	44.3
Oslo	19.5	20.7	26.2	31.7	34.3	35.5	36.4
Drayton	20.8	21.4	26.1	31.7	37.3	39.7	41.1
Pembina	30.3	32.1	36.9	42.2	46.2	48.6	50.4
MINNESOTA TRIBUTARIES	95%	90%	75%	50%	25%	10%	5%
South Fork Buffalo River							
Sabin	12.6	12.7	13.4	13.9	14.5	15.1	16.1
Buffalo River							
Hawley	5.3	5.6	6.2	7.3	8.6	9.0	9.3
Dilworth	12.3	12.9	15.1	17.1	19.3	20.9	21.6
Wild Rice River							
Twin Valley	4.6	4.8	5.6	6.5	7.7	8.7	10.0
Hendrum	12.2	13.8	17.0	19.9	23.6	27.4	28.9
Marsh River							
Shelly	6.9	7.7	8.8	9.5	11.2	12.9	14.9
Sand Hill River							
Climax	9.1	9.7	11.2	11.8	15.5	19.1	22.2
Red Lake River							
High Landing	3.6	4.2	5.0	6.3	8.2	9.1	10.0
Crookston	10.2	10.6	12.6	15.5	17.4	20.7	23.2
Snake River							
Above Warren	62.6	62.8	63.3	64.1	65.1	66.5	68.1
Alvarado	99.6	100.3	101.1	103.1	106.3	108.0	109.4
Two Rivers River							
Hallock	799.6	800.2	801.7	804.0	805.5	807.5	808.8
Roseau River							
Roseau	8.8	9.0	9.7	11.1	13.1	15.5	16.0
NORTH DAKOTA TRIBUTARIES	95%	90%	75%	50%	25%	10%	5%
Wild Rice River							
Abercrombie*	12.7	13.5	15.2	19.5	24.2	27.4	29.3
Sheyenne River							
Valley City	5.8	6.1	6.9	8.4	11.0	12.0	12.8
Lisbon	5.3	5.5	6.4	8.1	10.8	11.9	14.5
Kindred	6.7	6.9	7.9	9.9	12.9	15.8	18.8
West Fargo Diversion	10.7	10.8	10.9	11.6	13.0	15.4	18.7
Harwood	75.3	75.5	76.0	78.2	80.1	86.6	91.2
Maple River							
Enderlin	5.4	5.8	7.0	8.0	9.7	11.3	12.4
Mapleton	11.8	12.7	14.0	16.9	19.5	21.2	22.5
Goose River							
Hillsboro	3.4	3.6	4.2	5.3	7.5	10.3	12.6
Forest River							
Minto	3.2	3.3	3.8	4.3	5.1	6.5	7.5
Pembina River							
Walhalla	6.0	6.2	7.0	7.8	9.6	12.0	13.3
Neche	10.8	11.4	13.1	15.0	18.1	20.9	21.1

Note:
Probabilities for all river points do not take into account effects due to ice, jamming, etc. Higher stages than depicted may occur.

Legend:
Below Flood Stage
Minor
Moderate
Major
Flood of Record

* Flood stages increased by 10.0 ft October 2023