



# Red River and Devils Lake Basin – 2016 Spring Flood Outlook

Discussion Points 1/29/2016

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This outlook is for the U.S. portion of the Red River Basin, based on conditions as of Thursday, 1/28/16. The latest graphics, probabilities, and discussion are available at [weather.gov/fgf](http://weather.gov/fgf). Next update is due out on 2/18/16.

## Bottom Line up Top!

- **The threat for significant, impactful, snowmelt flooding is low:**

- o Slightly less than historical risk for Red River Basin locales.
- o Slightly above historical risk for the Devils Lake Basin.

Snowpack in the sub-basins and streamflow conditions are **higher than in 2015, but generally less than the 2014** spring runoff.

- **The second half of winter will remain El Nino affected.** The NWS Climate Prediction Center expects Feb-Mar-Apr to have temperatures warmer and precipitation near to slightly less than long-term averages.

### Status of Key Spring Runoff Conditions:

**1. Base Streamflow: Near normal.** USGS analysis and streamgage reports indicate that the Red River and its North Dakota and Minnesota tributaries are ice covered and/or flowing near their long term normal levels.

**2. Soil Moisture at Freeze-up: Near to below normal.** The rain and snow (liquid) measured across the Basin from Nov 1<sup>st</sup> through Jan 28<sup>th</sup> have ranged from 1.5 to 3.3 inches, or roughly an inch below the long term normals. Overall soil moisture is near median levels, slightly high in the Devils Lake Basin, and a bit higher than last year at this time.

**3. Ice/Frost Depth: Slightly less than normal.** A mild autumnal season with an early blanket of snow has led to a) thinner than normal ice on area lakes and streams, and b) a somewhat shallow frost depth. The mid-January Arctic Outbreak helped to develop increased ice thicknesses on area waterbodies, and drove frost down to near normal ranges of from 20 to 26 inches.

**4. Winter Snowpack/SWE: Below normal, except for Devils Lake Basin.** Snowpack and Snow Water Equivalent (SWE) are at 50 to 90 percent of normal: snowdepths from 4 to 17 inches in most areas, water equivalents from 0.5 to 2.5 inches. Snowpack and SWE in the Devils Lake Basin are near normal.

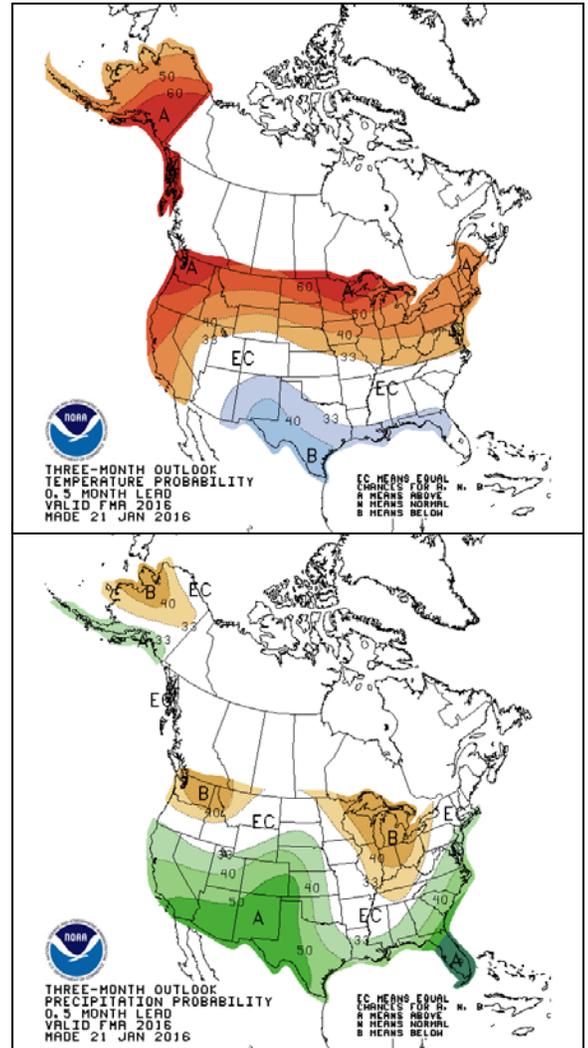
**5. Winter/Spring Outlook: Warmer and possibly drier than normal,** as per NWS Climate Outlook, issued 1/21/16.

## By the Numbers:

DEVILS AND STUMP LAKES LONG-RANGE PROBABILISTIC OUTLOOKS  
 VALID JANUARY 24, 2016 – SEPTEMBER 30, 2016

LOCATION	95%	90%	75%	50%	25%	10%	05%
CREEL BAY	1450.9	1451.0	1451.2	1451.5	1452.1	1452.7	1453.1
EAST STUMP LAKE	1450.9	1451.0	1451.2	1451.5	1452.1	1452.7	1453.1

THE CURRENT HEIGHT OF DEVILS LAKE AT CREEL BAY IS NEAR 1450.1 FEET  
 THE CURRENT HEIGHT OF STUMP LAKE NEAR LAKOTA IS NEAR 1450.1 FEET



CHANCE OF EXCEEDING STAGES AT MAINSTEM RED RIVER LOCATIONS  
 VALID: 1/31/2016 - 4/30/2016; Risk: **Minor**, **Moderate**, **Major**

LOCATION	95%	90%	75%	50%	25%	10%	05%
WAHPETON	7.4	7.5	8.5	9.8	<b>11.3</b>	<b>12.7</b>	<b>13.9</b>
HICKSON	14.1	14.4	16.6	19.4	23.9	29.1	<b>32.0</b>
FARGO	16.3	16.5	17.4	<b>19.6</b>	<b>22.8</b>	<b>29.9</b>	<b>33.2</b>
HALSTAD	9.7	12.7	14.8	18.2	22.8	<b>28.3</b>	<b>31.6</b>
GRAND FORKS	19.1	20.3	22.5	27.8	<b>34.3</b>	<b>40.1</b>	<b>42.1</b>
OSLO	14.8	17.5	21.5	<b>28.4</b>	<b>33.5</b>	<b>34.7</b>	<b>35.5</b>
DRAYTON	18.5	20.2	24.4	29.1	<b>37.0</b>	<b>40.1</b>	<b>40.6</b>
PEMBINA	27.8	28.0	33.3	<b>39.4</b>	<b>46.3</b>	<b>48.6</b>	<b>49.6</b>

AT MINNESOTA TRIBUTARY LOCATIONS

South Fork Buffalo River.....							
SABIN	10.5	11.2	12.0	<b>13.0</b>	<b>13.6</b>	<b>14.2</b>	<b>15.1</b>
Buffalo River.....							
HAWLEY	4.2	4.4	5.1	5.7	7.3	<b>8.3</b>	<b>8.9</b>
DILWORTH	8.8	9.8	11.0	<b>13.7</b>	<b>16.6</b>	<b>17.9</b>	<b>20.1</b>
Wild Rice River.....							
TWIN VALLEY	3.7	4.1	4.7	5.7	7.0	8.1	9.9
HENDRUM	10.9	12.8	16.5	19.2	<b>22.3</b>	<b>25.7</b>	<b>27.8</b>
Marsh River.....							
SHELLY	6.4	7.0	8.0	9.2	10.6	11.8	<b>15.1</b>
Sand Hill River.....							
CLIMAX	7.3	7.6	8.2	11.1	12.0	16.1	19.9
Red Lake River.....							
HIGH LANDING	8.9	9.0	9.5	10.0	11.2	<b>12.5</b>	<b>13.0</b>
CROOKSTON	8.3	8.7	10.2	12.6	<b>15.9</b>	<b>18.4</b>	<b>20.5</b>
Snake River.....							
ABOVE WARREN	62.1	62.3	62.9	63.3	64.4	65.1	66.4
ALVARADO	98.7	99.3	100.4	101.4	104.3	<b>106.7</b>	<b>108.2</b>
Two Rivers River.....							
HALLOCK	801.0	801.8	<b>803.7</b>	<b>804.9</b>	<b>806.9</b>	<b>807.8</b>	<b>808.8</b>
Roseau River.....							
ROSEAU	[New diversion. Rating not yet available.]						

AT NORTH DAKOTA TRIBUTARY LOCATIONS

Wild Rice River.....							
ABERCROMBIE	2.6	2.9	4.0	6.0	8.8	<b>15.7</b>	<b>17.5</b>
Sheyenne River.....							
VALLEY CITY	5.9	6.2	6.7	8.0	9.9	11.8	12.7
LISBON	4.8	5.3	6.0	7.6	9.9	12.1	13.3
KINDRED	5.6	6.4	7.5	9.8	11.9	14.9	<b>16.9</b>
WEST FARGO DVRSN	11.8	12.2	12.6	14.3	15.6	17.4	<b>20.6</b>
HARWOOD	873.2	874.2	875.4	877.9	880.5	<b>884.0</b>	<b>889.9</b>
Maple River.....							
ENDERLIN	5.3	5.7	6.6	7.5	8.8	<b>10.1</b>	<b>11.6</b>
MAPLETON	898.4	898.7	900.3	902.8	<b>905.7</b>	<b>907.1</b>	<b>908.3</b>
Goose River.....							
HILLSBORO	3.4	3.6	4.4	5.5	7.2	<b>10.5</b>	<b>13.1</b>
Forest River.....							
MINTO	3.2	3.5	3.9	4.8	<b>6.3</b>	<b>7.8</b>	<b>8.2</b>
Park River.....							
GRAFTON	9.2	9.3	9.7	10.4	11.7	<b>12.9</b>	<b>13.5</b>
Pembina River.....							
WALHALLA	4.8	4.9	5.4	6.2	7.9	9.7	10.6
NECHE	7.5	7.9	8.8	10.7	14.3	<b>18.2</b>	<b>19.1</b>