



Red River and Devils Lake Basin – 2016 Spring Flood Outlook

Discussion Points 2/18/2016

prepared by

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This outlook is for the U.S. portion of the Red River Basin, based on conditions as of Thursday, 2/16/16. The latest graphics, probabilities, and discussion are available at weather.gov/fgf. Next update is due out on 3/3/16.

Bottom Line up Top! ← Largely unchanged since Jan 28th

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

- Slightly less than historical risk for Red River Basin locales.
- 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 Mar-Apr-May period will remain El Nino affected.** The NWS Climate Prediction Center expects spring to have temperatures warmer and precipitation very near long-term averages.

Status of Key Spring Runoff Conditions:

1. Base Streamflow: Near normal. USGS analyses and streamgage reports indicate that the Red River and its North Dakota and Minnesota tributaries are ice covered and/or flowing near their median (25-75th percentile) levels.

2. Soil Moisture at Freeze-up: Near to below normal. The rain and snow (liquid) measured across the Basin from Nov 1st through Feb 18th have ranged from 1.8 to 3.8 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 and early February Arctic Outbreaks helped to build increased ice thicknesses on area waterbodies, and drove frost down to just under normal ranges of from 20 to 30 inches.

4. Winter Snowpack/SWE: Below normal, except for Devils Lake Basin. Snowpack and Snow Water Equivalent (SWE) are at 40 to 80 percent of normal: snowdepths from 0 to 12 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. Spring Outlook: Warmer than normal with near normal precipitation, as per NWS/CPC Outlook, issued 2/18/16.

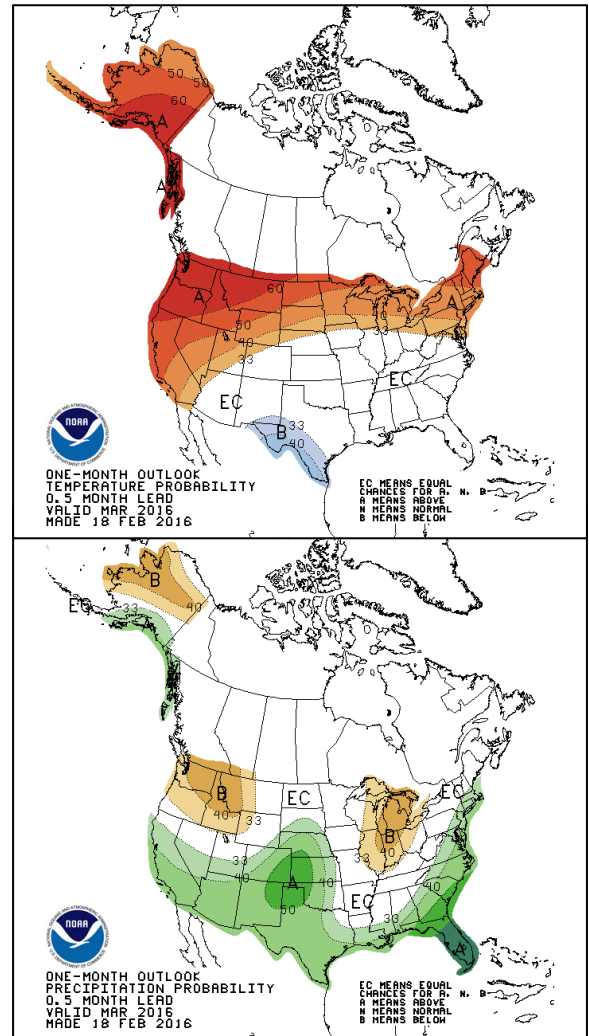
By the Numbers:

DEVILS AND STUMP LAKES LONG-RANGE PROBABILISTIC OUTLOOKS

VALID FEBRUARY 14, 2016 – SEPTEMBER 30, 2016

LOCATION	95%	90%	75%	50%	25%	10%	05%
CREEL BAY	1450.8	1450.9	1451.1	1451.3	1451.8	1452.4	1452.8
EAST STUMP LAKE	1450.8	1450.9	1451.1	1451.3	1451.8	1452.4	1452.8

THE CURRENT HEIGHT OF DEVILS LAKE AT CREEL BAY IS NEAR 1450.0 FEET
 THE CURRENT HEIGHT OF STUMP LAKE NEAR LAKOTA IS NEAR 1450.0 FEET



CHANCE OF EXCEEDING STAGES AT MAINSTEM RED RIVER LOCATIONS
 VALID: 2/21/2016 - 5/21/2016; Risk: **Minor**, **Moderate**, **Major**

LOCATION	95%	90%	75%	50%	25%	10%	05%
WAHPETON	7.7	8.1	9.1	10.1	11.8	13.3	14.7
HICKSON	15.2	15.5	18.3	20.0	25.3	29.9	32.9
FARGO	16.7	17.1	18.3	20.0	24.2	30.6	32.2
HALSTAD	11.7	13.9	16.7	19.2	24.0	29.7	33.8
GRAND FORKS	20.7	21.2	23.6	29.5	36.0	40.6	45.3
OSLO	18.6	19.8	23.4	30.2	33.8	34.9	36.8
DRAYTON	20.2	21.4	25.0	29.7	35.8	39.0	41.5
PEMBINA	29.8	30.2	34.2	39.5	45.4	47.0	50.5

AT MINNESOTA TRIBUTARY LOCATIONS

South Fork Buffalo River.....							
SABIN	11.2	11.7	12.7	13.1	13.7	14.6	15.2
Buffalo River.....							
HAWLEY	4.5	4.9	5.6	6.1	7.5	9.0	9.6
DILWORTH	10.1	11.0	13.4	14.8	17.4	19.3	20.5
Wild Rice River.....							
TWIN VALLEY	4.9	5.2	5.7	6.7	7.8	9.8	10.7
HENDRUM	13.2	14.6	17.6	19.9	22.9	27.3	29.1
Marsh River.....							
SHELLY	6.8	7.1	8.1	9.0	10.6	12.6	15.0
Sand Hill River.....							
CLIMAX	7.8	7.9	9.5	11.4	12.4	16.5	23.0
Red Lake River.....							
HIGH LANDING	10.7	11.1	11.6	12.4	13.0	13.2	13.4
CROOKSTON	9.6	10.0	11.0	13.4	16.4	19.2	22.0
Snake River.....							
ABOVE WARREN	62.3	62.5	62.8	63.3	64.3	65.9	67.4
ALVARADO	98.9	99.1	99.9	101.6	104.6	106.5	109.4
Two Rivers River.....							
HALLOCK	801.8	802.4	803.4	804.8	806.7	808.0	808.8
Roseau River.....							
ROSEAU	9.1	9.5	9.9	11.4	12.6	14.7	15.3

AT NORTH DAKOTA TRIBUTARY LOCATIONS

Wild Rice River.....							
ABERCROMBIE	2.9	3.2	4.7	6.3	10.4	16.7	17.8
Sheyenne River.....							
VALLEY CITY	5.6	5.8	6.4	7.7	9.1	11.4	12.5
LISBON	4.6	4.7	5.8	7.2	8.8	11.6	13.5
KINDRED	5.3	5.6	7.1	9.0	11.3	14.1	18.3
WEST FARGO DVRSN	11.7	11.9	12.4	14.1	14.9	16.5	21.3
HARWOOD	872.3	873.1	875.0	877.6	879.6	883.8	890.6
Maple River.....							
ENDERLIN	4.9	5.3	6.3	7.2	8.5	10.0	12.6
MAPLETON	897.9	898.2	900.5	902.7	905.0	907.2	908.5
Goose River.....							
HILLSBORO	3.4	3.5	4.2	5.1	6.7	9.4	12.0
Forest River.....							
MINTO	3.3	3.5	3.7	4.5	5.6	7.1	7.4
Park River.....							
GRAFTON	9.1	9.3	9.5	10.2	11.1	12.3	12.8
Pembina River.....							
WALHALLA	4.6	4.8	5.3	6.0	7.4	10.2	10.5
NECHE	7.2	7.5	8.6	10.1	14.2	18.5	18.9