Are you a WRN Ambassador?

Greg Gust - NWS Grand Forks ND
February 18, 2016
Bottom line up top: (largely unchanged from Jan 28th!)

- Sig runoff risk is low... below seasonal averages.
  - expect more than 2015, _perhaps less_ than 2014!

- Mild thaw cycle is expected... slight risk remains.
  - expect some snow and rain!

- Climate Outlook is for mild and dryish... _El Niño_ rules!
Winter Temperatures [mild]

Departure from Normal Temperatures Since Nov. 1, 2015

Average Temperature (°F): Departure from Mean November 1, 2015 to February 17, 2016

Warmer to Much Warmer than Normal, eastern two-thirds CONUS.

RRB and across MN nearly 8 degrees abv normal. Less ice formation and frost depth, due to mild temps and early snowcover.
Winter Precipitation

Percent of Normal Since Nov. 1, 2015

Accumulated Precipitation: Percent of Mean
November 1, 2015 to February 17, 2016

Mean period is 1981–2010.

Kind of dry

Much wetter than normal
Winter Precipitation

Precipitation Accumulated Since Nov. 1, 2015

Kind of dry:
1-2 inches west RRV
2-3 inches east RRV

Snow Content at 40-80% of normal.

Much wetter than normal:
Mississippi below St. Paul ← Ouch!
Soil Moisture
[near to below normal]

- Near to below normal in the RRV and Mid Missouri Basin.
- Midwest is still quite saturated, but So. Plains soils are drier.
- Frost depths in north less than normal.

February 13, 2016
**Drought Status**

[done!]

- Western U.S. (western NOAM) drought persists.
- Dry pockets in southern Red River Basin and southcentral ND.
- Mainly carryover deficit from low snow winter of 2014-2015.

**U.S. Drought Monitor**

February 16, 2016
(Released Thursday, Feb. 18, 2016)
Valid 7 a.m. EST

Drought Impact Types:
- Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g., agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g., hydrology, ecology)

Intensity:
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/
USGS Streamflow Conditions

As of February 18, 2016

- RRB/Souris flows at 25-75th percentiles.
- Ice thicknesses below normal.
- High flows persisting in the Central and Southern Plains.
Snow Depth ranges from 40 to 80 percent of normal across the area. Snow Water Equivalent is generally 0.5 to 1.5 inches.
In Feb of 2015...Snow Depth also ranged from 40 to 80 percent of normal across the area...as did Snow Water Equivalent.
• A mix of lgt rain, ice, and snow across ND and northern MN.

• Heavy rains /snow moving into the PacNW.
Friday Evening Weather...
Issued Thursday 12:51pm CDT

- Low pressure moves into the Great Lakes.
- Mixed precip lingers across NE ND and northern MN.
• Only minor events for RRB area next week.

• Hvy Snow across East, Southeast, and the PacNW.
February 25-Mar 2, 2016... Relatively Mild and Dryish.
Spring Outlook
[Mar-Apr-May]

Continued mild temperatures with near normal precipitation.
El Nino as Flood Drivers?

[Historic Risk: N. Plains is Lower, C. Plains is higher]

Dec: Dry RRB / Wet Midwest

Mar: Neut RRB / Wet Midwest

Strong El Niño Precipitation Percent of Average

Average Period: 1981–2010

Average Period: 1981–2010

Courtesy of Steve Buan
Drought Outlook

[Nada!]

Through May 2016

- Drought is **not** forecast to develop or persist over most of our Northern Plains region.
- Drought persists across portions of the northwest.
- Drought improves in the southwest.
At this point... Minor to Moderate spring flooding is indicated for the Red River near Oslo and the Two Rivers near Hallock. Otherwise Minor flooding or less is expected.

Note: the Minor Flood Stages along the Buffalo River near Sabin, Hawley and Dilworth have adjusted upward by one foot at each location as of March 5th, 2015. This graphic reflects those changes.
Wahpeton/Breckenridge

Chance of Exceeding River Stage at WHNN8
Forecast for the period 02/21/2016 - 05/21/2016
This is a conditional simulation based on the current conditions as of 02/14/2016

Risk is Less than Historical!
Fargo/Moorhead

Risk is Less than Historical!
Crookston

Risk is Less than Historical!
East Grand Forks/Grand Forks

Risk is Less than Historical!
Oslo

Chance of Exceeding River Stage at OSLM5
Forecast for the period 02/21/2016 - 05/21/2016
This is a conditional simulation based on the current conditions as of 02/14/2016

Risk is Less than Historical!
Oslo? Hallock? Pembina?

Risk is **Nearly** Historical!
Possible Lake Level (1 to 1.5 foot rise)

Inflows (below)

Risk is Slightly Higher than Historical!
Bottom line up top: (largely unchanged from Jan 28th!)

• Sig runoff risk is low... below seasonal averages.
  - expect more than 2015, *perhaps less* than 2014!

• Mild thaw cycle is expected... slight risk remains.
  - expect some snow and rain!

• Climate Outlook is for mild and dryish... *El Niño* rules!
NWS Grand Forks – Gregory.Gust@noaa.gov
Michael.Lukes@noaa.gov

NWS Chanhassen – Steve.Buan@noaa.gov

QUESTIONS?

http://www.weather.gov