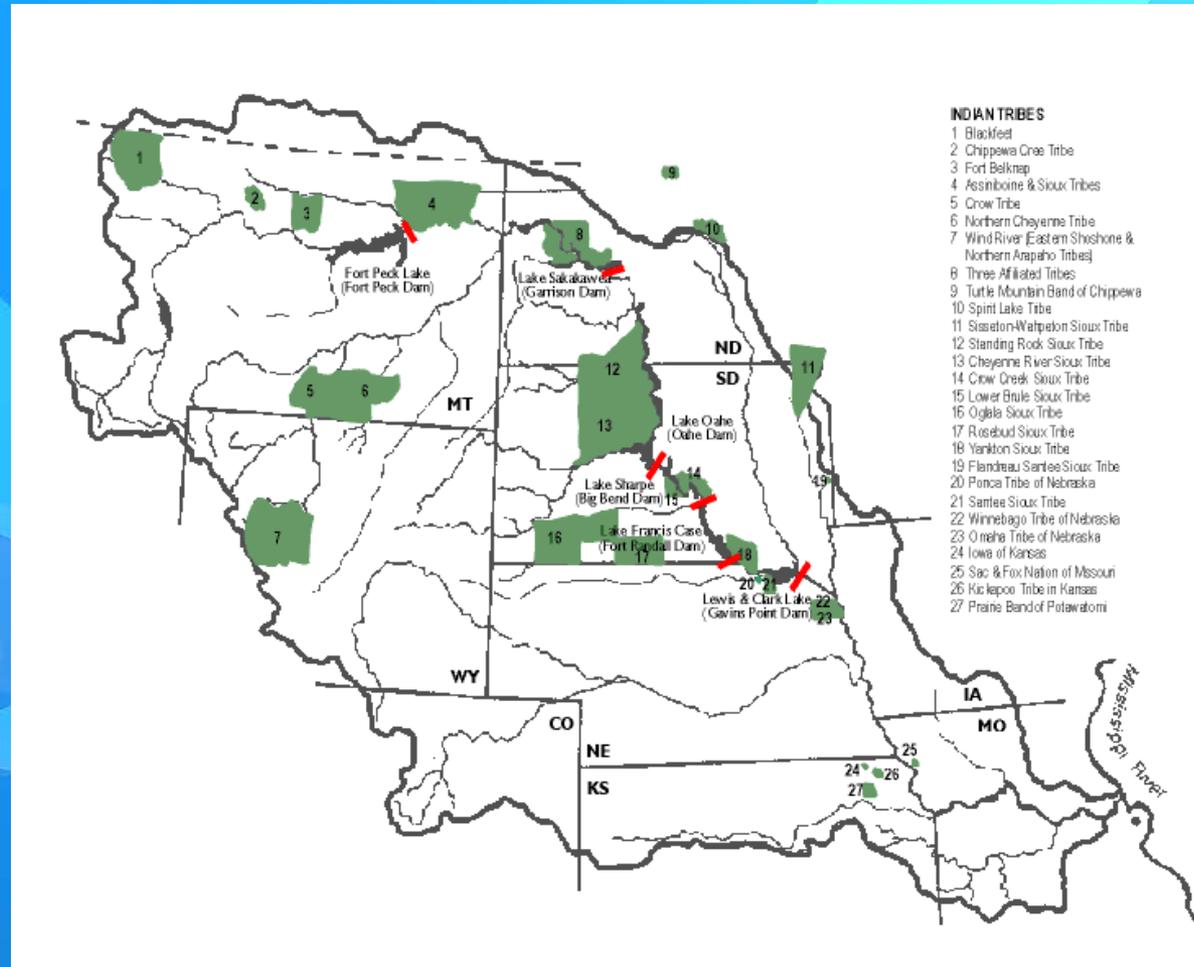


# Regional Climate and Drought Services For Missouri Basin



# Topics

- Quarterly Climate Summary
- Monthly Climate/Drought Webinars
- 2011 Flood Attribution Study
- Federal Climate Collaboration
- NIDIS Tribal Engagement

## Quarterly Climate Impacts and Outlook

National - Significant Events for September 2013 - November 2013

### Significant Events for November and Autumn 2013

The average U.S. temperature during November was 41.6°F, 0.3°F below average. The autumn U.S. temperature was 34.1°F, 0.2°F above average. November U.S. precipitation was 2.04 inches, 0.11 inch below average. The autumn precipitation total was 7.23 inches, 0.53 inch above average.

## Missouri River Basin

December 2013

### Highlights for the Basin

It was a wet autumn for the Basin as many states ranked in the top 5 wettest autumns on record. These states included Colorado (2), Wyoming (2), North Dakota (2), and South Dakota (4). The bulk of the precipitation came during September and October as November brought near to below normal precipitation.

Extremely heavy rainfall and flooding impacted the Front Range from September 9-15. Precipitation totals topping 10 inches were common. Boulder, CO received 9.06 inches in just one day, setting many records.

An early-season blizzard hit the Dakotas, Wyoming, and Nebraska dumping up to 5 feet of snow in some locations. Lead, SD set a new 1-day snowfall record for the month of October with 42.0 inches. Rare for October, this same system also caused 15 tornadoes - 2 of which were rated EF-4. One hit Wayne, NE and injured 15.

Even with a month left in the year, some locations in the Basin have already set new records for wettest year. Examples include Boulder, CO and Lead, SD.

### Regional - Climate Overview for September 2013 - November 2013

#### Temperature and Precipitation Anomalies

September 1 - November 30, 2013

#### Soil Moisture

Soil Moisture Anomaly  
12/14/2013

Overall, autumn temperatures were near normal across the Basin, but each month was distinct. The season started off warm as September temperature departures generally ranged from 2.0-6.0 degrees above normal. October was the opposite, with most of the Basin having below normal temperatures, especially in Wyoming, western South Dakota, and northern Nebraska where departures were up to 5.0 degrees below normal. Finally, November was warm in the west and cool in the north and east.

Precipitation was generally near or above normal this autumn. The highlights were dominated by two major events - the flooding in September and the blizzard in October. These events caused precipitation totals to range from 150-300% of normal for a large portion of the Basin including much of Colorado, Wyoming, eastern and northern South Dakota, and southern North Dakota. Localized amounts topped 300% of normal. Areas missing out included portions of central Montana, eastern Kansas, and Missouri.

Heavy precipitation over the past few months has led to a recovery in soil moisture conditions, especially across the northern tier of the Basin. At this time of the year, it is highly unlikely that the soils will dry out and will consequently retain their moisture throughout the winter. Drier soils were present further down the Basin in areas of western Iowa and northern Missouri. This particular map shows the total column soil moisture anomaly in millimeters, from a NOAA soil moisture model called NLDAS.

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Missouri River Basin Quarterly Climate Impacts and Outlook | December 2013  
www.broglia.gov/drought/content/resources/reports

# 2011 Flood Attribution Study

## An Interpretation of the Origins of the 2012 Central Great Plains Drought



### Assessment Report

NOAA Drought Task Force  
*Narrative Team*

Lead: Martin Hoerling

Co-Leads: Siegfried Schubert & Kingtse Mo

20 March 2013

- NOAA Study
- USACE Sponsored
- Conclusions:
  - Not predictable
  - Naturally occurring random events
  - More MO basin variability last 40 years

# Mo Basin Federal Collaboration

- Missouri Basin Inter-Agency Roundtable
  - 15 fed agencies
  - Other MR's
- Partnering with: CSC (USGS), LCCs (USFWS), Ag Climate Hub (USDA), and others..?
- Friday meeting a number of agencies here
  - Extreme Events
  - Fed Climate Advisory Group (M
  - Respond to Executive Order

**DROP THE TURF  
BUILDER AND  
BACK AWAY  
FROM THE  
GREEN  
LAWN!**

**DROP THE  
HOSE...  
NOW!**





# The End?

