North Dakota Monthly Climate Summary

October 2016 **Volume: 10, No: 10**

Precipitation

North Dakota State Climate Office

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Based on the National Centers for Environmental Information (NCEI), statewide total October precipitation was 1.24”, 0.08” less than the last year, 0.16” greater than the 1981-2010 average, making it the 39th wettest October in the 122-year period of record. It was the wettest October since 2015, and the driest October since 2014. Above-average precipitation was observed in northwestern parts of the state while the rest of the state stayed on the dryer side (Figure 1). The greatest monthly accumulation was 3.94” recorded in Northgate, Burke County by an FAA automated weather station. The least amount of monthly accumulation was 0.22” recorded in Hazelton, Emmons County by another FAA automated weather station. The greatest 24-hr rainfall was 2.87” and was recorded in Northgate, Burke County on October 3. The highest 24-hr snowfall of 2” was recorded in Garrison, McLean County. Based on historical records, statewide October precipitation showed an increasing trend of 0.05” per decade since 1895. The highest and the lowest October precipitation for the state ranged from 4.61” in 1982 to 0.09” in 1952 (Figure 2).

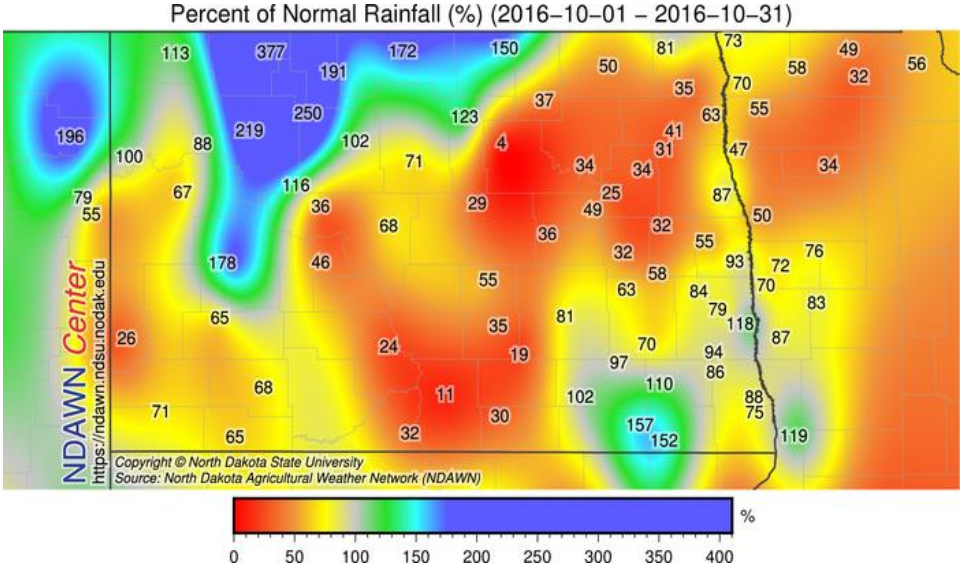

Figure 1. Precipitation Percent of Normal in October 2016 for North Dakota (NDAWN)

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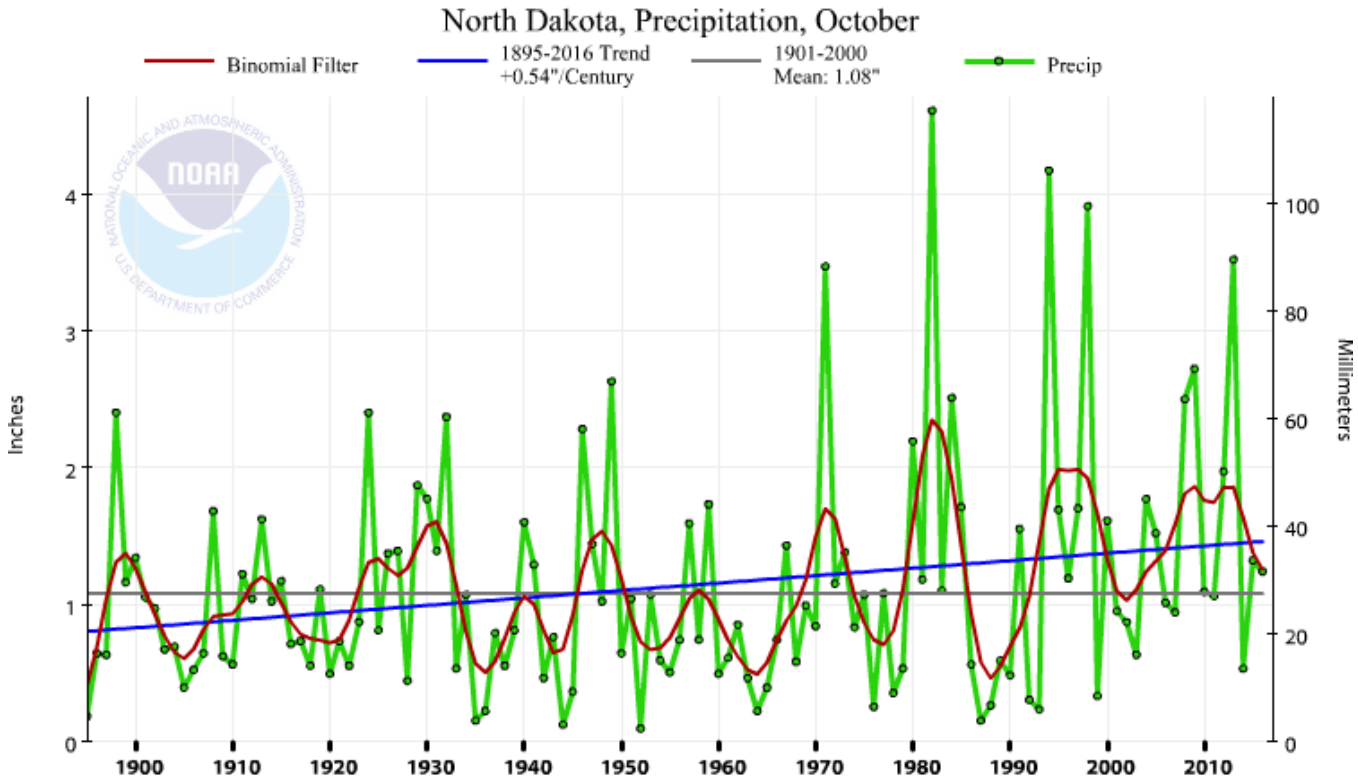

October Precipitation Statistics
2016 Amount: 1.24 inches
Maximum: 4.61 inches in 1982
Minimum: 0.09 inches in 1952

State Normal: 1.08 inches (1981-2010)
Years in Record: 122
Monthly Ranking: 39th Wettest
Trend: 0.05” per Decade

Figure 2. Historical October Precipitation Time Series for North Dakota.

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Temperature

The official state average October temperature was 45.9°F, 1.9° cooler than the last year, but 1.9° warmer than the 1981-2010 average, making it the 34th warmest October in the 122-year period of record. It was the warmest October since 2015 and the coolest October since 2013. Above-average temperatures were observed all across the state except for a few localized small pockets where near normal or slight below-average temperatures were observed. (Fig. 3). The state's highest and lowest daily temperatures ranged from 83° on October 2 at Hettinger Experiment Station in Adams County to 16° on October 14 in Ashley, McIntosh County. Based on historical records, the state average October temperature showed an increasing trend of 0.11°F per decade since 1895. The highest and the lowest monthly state October average temperatures ranged from 54.8° in 1963 to 32.5° in 1925 (Figure 4).

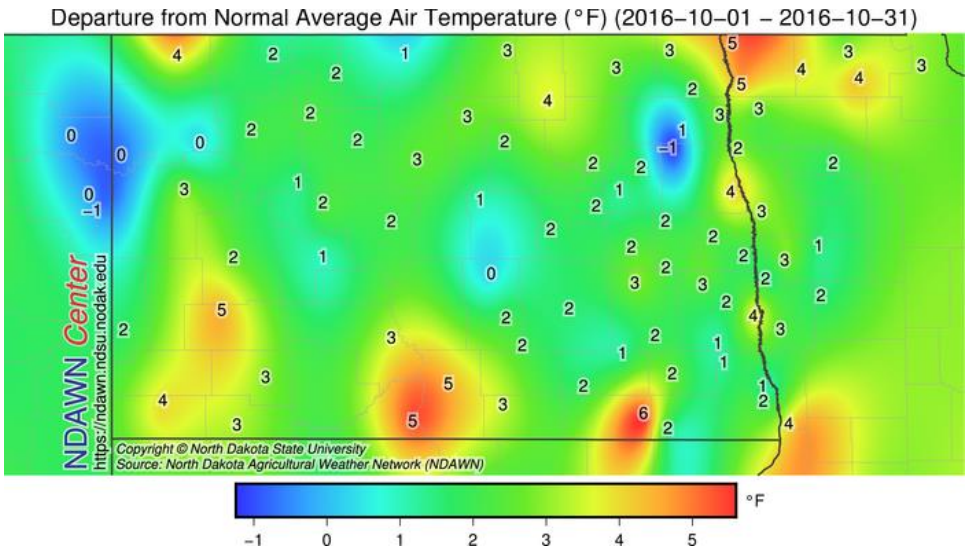

Figure 3. Temperature Departure from Normal in October 2016 for North Dakota (NDAWN)

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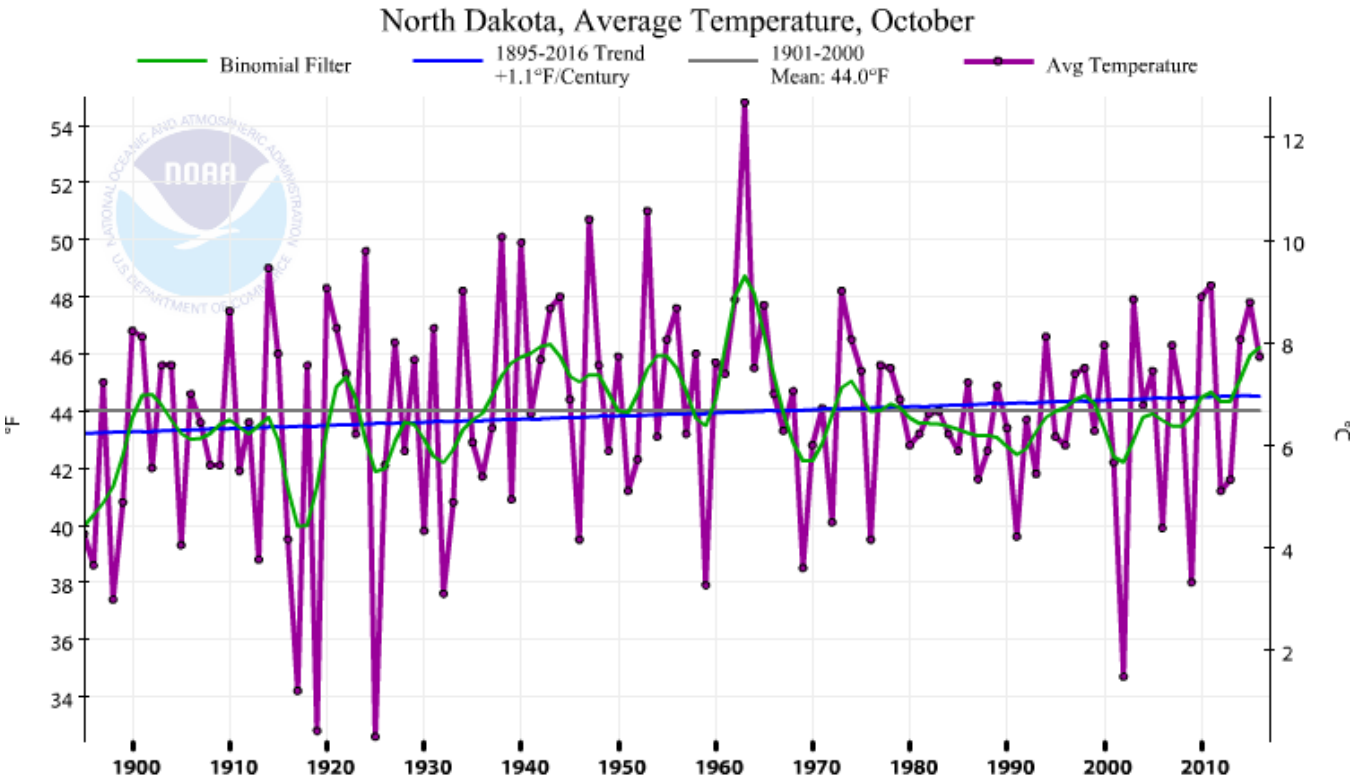

October Temperature Statistics
2016 Amount: 45.9°F
Maximum: 54.8°F 1963
Minimum: 32.5°F 1925

State Normal: 44.0 (1981-2010)
Years in Record: 122
Monthly Ranking: 34rd Warmest
Trend: 0.11°F per Decade

Figure 4. Historical October Temperature Time Series for North Dakota.

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Notable Impacts

Drought Monitor: Based on the Drought Monitor (DM) by the end of the month (October 25, 2016), less than 1% of the state was under a drought designation (Figure 5).

Counties in the moderate drought areas on October 25: Bowman and Adams in the southwest; Sargent and Dickey in the southeast.

Storm Reports: NWS Storm Prediction Center reported no significant storm incidents. NDAWN's highest peak gust in October was 56 mph recorded at the Linton weather station on October 5, 2016.

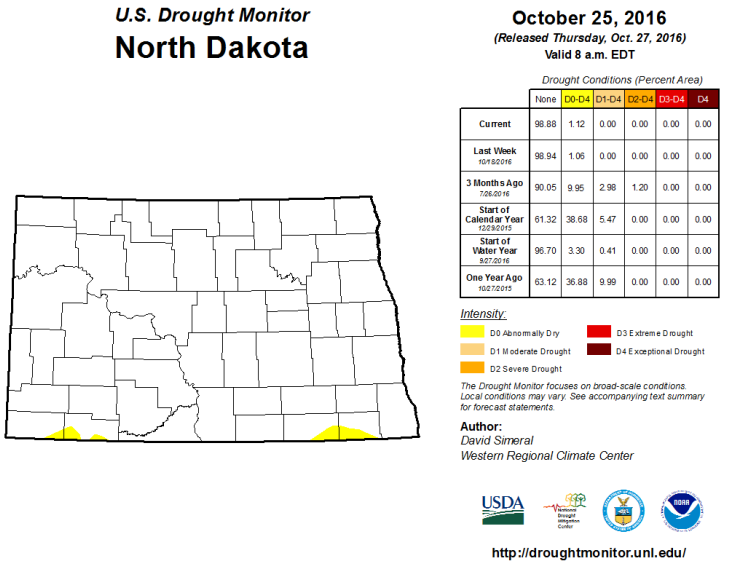

Figure 5. Drought Monitor map for North Dakota on October 25, 2016.

Daily Record Event in October: Based on the data among stations with at leat 30 years of history, there were 20 highest minimum temperatures, one lowest minimum temperature, and 14 records were broken for the highest 24-hr precipitation totals.

Agricultural Impact: Persistent and heavy rains in the eastern North Dakota slowed the harvest process according to the ND Ag Statistical Service October 30 report. Based on the report, corn harvested was 52% which was behind normal. However, soybean harvested was 97% (near average). The North American Land Data Assimilation System (NLDAS) total column soil moisture anomalies across the state indicate excess soil moisture in northern ND while slightly below normal in the central region and near normal soil moistures elsewhere by the end of the month.