

# CLIMATE UPDATE

## December delivered rain, snow, and more rain

Precipitation was the big story for the end of the year in Nebraska. Thanks to several storms that moved across the state, precipitation totaled more than 3 inches for the southeastern section, which is more than twice the normal for December.

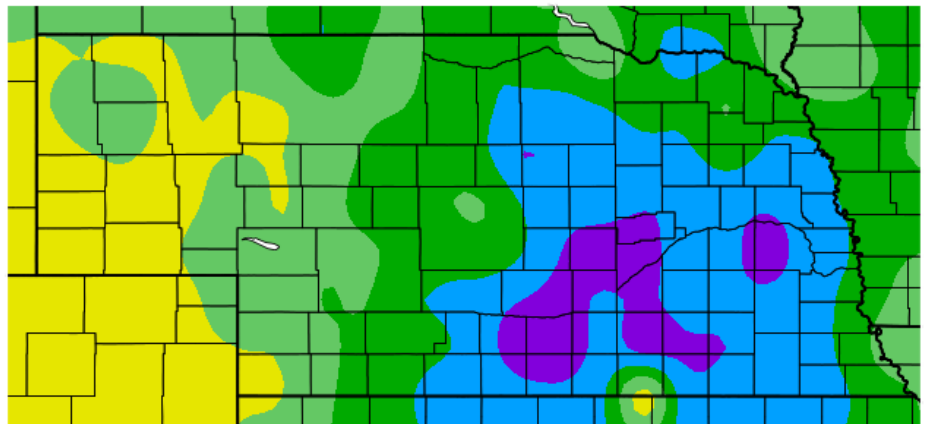
Several daily records were broken in the eastern half of the state early and late in the month. For the latter event, a post-Christmas storm dumped heavy snow for portions of central and northeast Nebraska and rain was plentiful in the east. Daily records for Norfolk (0.96 inches), Omaha (0.96 inches), Lincoln (0.90 inches), Hastings (1.41 inches) and Grand Island (1.42 inches) were all reported on Dec. 26. These impressive daily totals helped several areas around the state reach record or near record precipitation for the monthly total. Norfolk reported 2.89 inches for the month – a new record for December. Grand Island (3.44 inches, 2<sup>nd</sup> wettest), Lincoln (3.32 inches, 4<sup>th</sup> wettest), North Platte (1.20 inches, 9<sup>th</sup> wettest) and Omaha (2.95 inches, 5<sup>th</sup> wettest) all ranked in the top 10.

Snowfall totals for the month were more than a foot in central and northeast Nebraska, thanks in large part to the holiday storm. These areas have received up to two feet for the season-to-date totals (going back to October 2018; graphic on page 2). Most other locations around the state are reporting more than 10 inches thus far. The highest amounts have been received in the panhandle, central, northeast, and southeast Nebraska.

### Temperature

The daily average temperature this December was below freezing and in the mid-20s in the northeast to low 30s in the southeast. This was anywhere from 1 to 5 degrees above average. The strongest departures were in southeast Nebraska. The highest temperatures during December were observed in the Panhandle where the

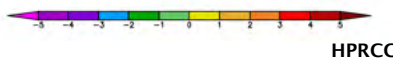
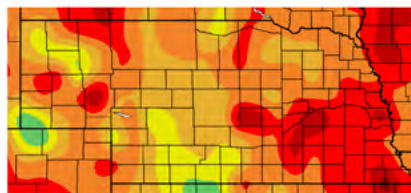
### DEPARTURE FROM NORMAL PRECIPITATION (IN)



HIGH PLAINS REGIONAL CLIMATE CENTER

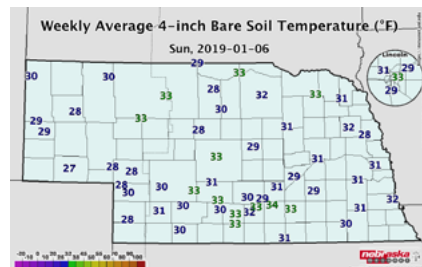
All maps generated using December provisional data.

### DEPARTURE FROM NORMAL TEMPERATURE (F)



HPRCC

### WEEKLY AVERAGE 4-INCH BARE SOIL TEMPERATURE (F)



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### December extremes

Nebraska's statewide weather network operated by the Nebraska Mesonet at the University of Nebraska-Lincoln cataloged the following extremes this December:

- Highest air temperature:** 61°F on Dec. 17 at Champion 5SE
- Lowest air temperature:** -9°F on Dec. 29 at Long Pine 20S
- Highest precipitation:** 1.78 inches on Dec. 27 at Kearney 5E
- Highest 4-inch bare soil temperature:** 45°F on December 20 at Central City 3W
- Lowest 4-inch bare soil temperature:** 18°F on December 29 at Oshkosh 6N
- Highest 5-second wind gust:** 49 mph on December 27 at Oshkosh 6N

Source: [The Nebraska Mesonet](http://TheNebraskaMesonet) at Nebraska State Climate Office, University of Nebraska-Lincoln

maximum statewide temperature of 62°F was reported. For those in the northeast, the highest temperature during the month was only in the low 40s. This part of the state also saw the lowest temperature for December, -14°F observed near Verdel.

Soil temperatures at the 4-inch depth are averaging mostly below freezing around Nebraska, with a few exceptions in central portions of the state.

### Drought

Given the generally copious precipitation for much of Nebraska, there were no changes in drought classification during December, according to the U.S. Drought Monitor. The four corners region of the country is experiencing the worst conditions in the country with a large swath of exceptional drought (D4).

A few areas around the state remain in a slight precipitation deficit over the long-term (one year and longer), and there are areas to watch in the Panhandle.

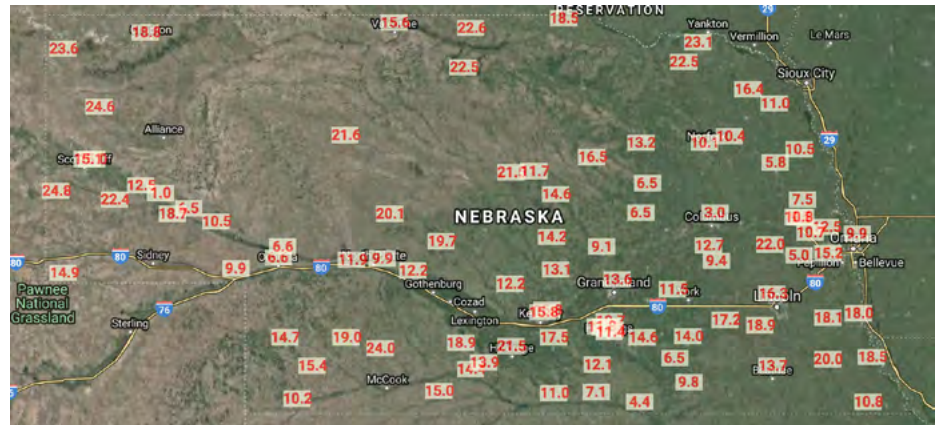
### Agriculture

The break in early December to warmer and drier conditions helped feedlot operators who were battling muddy conditions. Although temperatures rose above normal, a decent frost depth alleviated excessively muddy conditions as nighttime lows were cold enough to maintain frost and short daylight hours limited the number of hours above freezing. The second rainfall event at the end of December pulled the frost out of the ground south of I-80, increasing the mud in feedlots, fields and along gravel roads.

El Niño-like atmospheric responses continued across the U.S. in December. Split flow conditions dominated in late November and have continued on into January; storms entering the western U.S. have moved along the northern and southern periphery of the northwestern U.S. upper air ridge. Recent information from the Climate Prediction Center indicates El Niño-like conditions are expected to continue into the first half of the

## NEBRASKA SEASONAL SNOW TOTALS (IN)

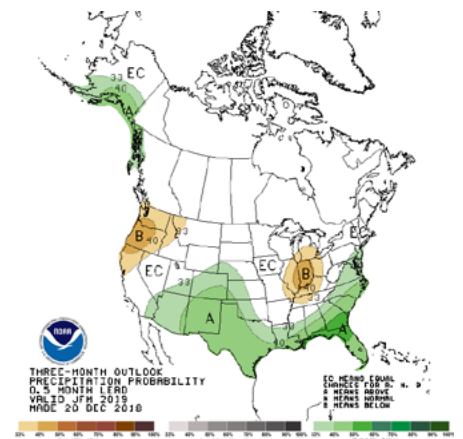
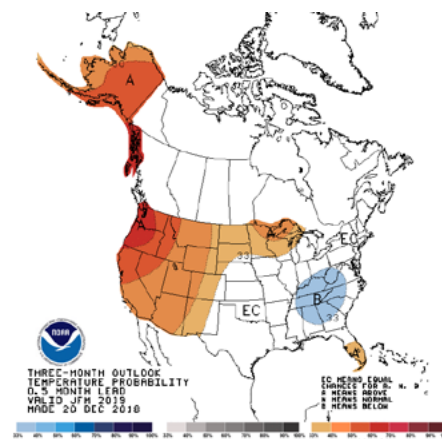
October to December 2018



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## 90-DAY OUTLOOK

TEMPERATURE (LEFT) & PRECIPITATION



summer, a signal we may be seeing a multi-year event taking shape. If that is the case, we'd see El Niño-like condition ease in late winter or early spring and stormier weather would return in the offing (February through March). This could result in less-than-ideal calving weather and continued muddy conditions prior to planting. There is ample evidence that if El Niño-like conditions persist into April and May, that warmer and drier conditions are more likely during spring planting.

### Outlook

Seasonal climate outlooks for the January to March timeframe continue with an El Niño-like pattern. Officially, an El Niño watch remains in effect. An increased chance for wetter-than-normal weather across the southern U.S., extending into Colorado, Kansas, southeast Wyoming and the western third of Nebraska. For temperatures, the odds are tilted for warmer-than-normal conditions for the western and north-central U.S.



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