

# September warm with soaking rains

This September saw nearly triple-digit heat, below-freezing temperatures and record-setting rainfall. The month overall averaged 3 degrees warmer than normal at 65.9°F for the statewide average. The strongest departures were in south-central Nebraska where temperatures were more than 4°F above the September average.

Several locations met or exceeded daily high temperature records during the third week of the month: Omaha saw 95°F on Sept. 20; Lincoln saw 96°F on Sept. 20; North Platte saw 94°F on Sept. 16; and Valentine saw 99°F on Sept. 11 and 96°F on Sept. 16. The September statewide high of 99°F was observed at Valentine and McCook, but all observing stations reported monthly highs of 90°F or above.

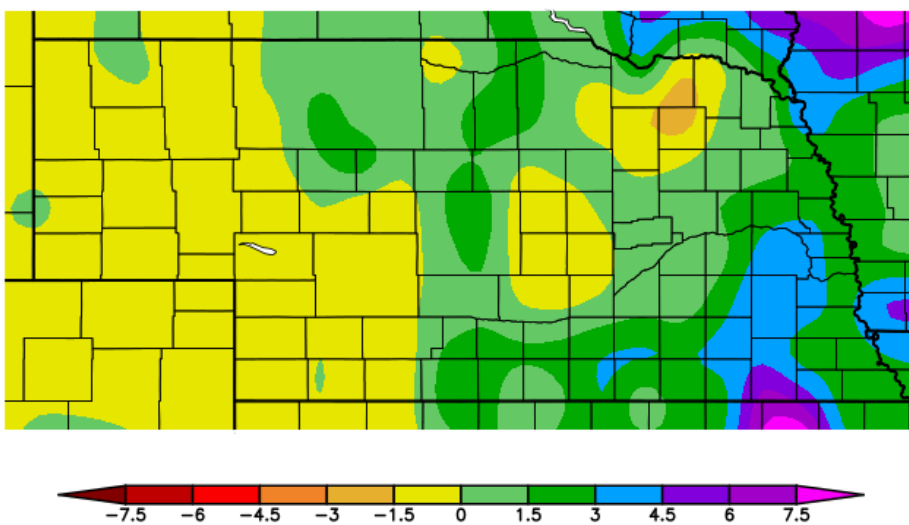
Below-freezing temperatures did occur in portions of western Nebraska — Alliance, Chadron, North Platte, Scottsbluff and Sidney, to name a few. The median date of first freeze in the fall ranges from early September in the Panhandle to mid-October in the southeast. Severe weather events included one landspout tornado on Sept. 19, 14 hail reports and 27 high wind reports.

## Precipitation

The big story for September was the heavy rain received in the southeast portion of the state at the start of the month. For more than a dozen stations, rainfall totaled more than 3 inches early in the month. Lincoln reported 2.41 inches on Sept. 2 and Hastings reported 2.68 inches on Sept. 4, both of which were daily records. The highest daily total was observed near Weeping Water with 6.08 inches.

Monthly totals ranged from 0.5 inch to 1 inch in the west to more than 6 inches in the southeast. Observing stations around Lincoln reported more than 8 inches, which is more than twice the average

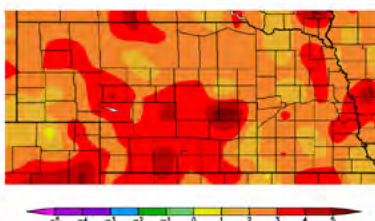
## DEPARTURE FROM NORMAL PRECIPITATION (IN)



HIGH PLAINS REGIONAL CLIMATE CENTER

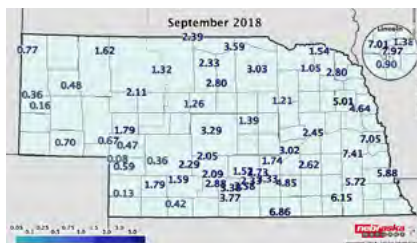
All maps generated using September provisional data.

## DEPARTURE FROM NORMAL TEMPERATURE (F)



HIGH PLAINS REGIONAL CLIMATE CENTER

## LIQUID PRECIPITATION TOTALS (IN)



NEBRASKA STATE CLIMATE OFFICE

## September extremes

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

**Highest air temperature:** 98°F on Sept. 11 at Mullen 30N

**Lowest air temperature:** 29°F on Sept. 26 at Broadwater 7N

**Highest 4-inch bare soil temperature:** 92°F on Sept. 17 at Central City 3W

**Lowest 4-inch bare soil temperature:** 44°F on Sept. 29 at Harrison 4NW

**Highest 5-second wind gust:** 56 mph on Sept. 1 at Central City 3W

**Highest precipitation:** 3.20 inches on Sept. 5 at Winslow 6E



amount. Precipitation amounts were less than 75 percent of normal for portions of western, central, and northeast Nebraska; while rainfall was 150 percent of normal for a large portion of eastern Nebraska. The statewide average precipitation was 2.6 inches, which is 0.43 above normal for September.

## Drought

Nebraska began September with a small portion of southern Pawnee and Richardson counties classified as abnormally dry (D0), according to the U.S. Drought Monitor. This swath was eliminated due to rainfall received in this area. In the Panhandle and west central Sandhills, Nebraska Extension is reporting concerns of surface dryness as wheat establishment is getting underway. However, the recent storm system crossing Nebraska should help.

## Agriculture

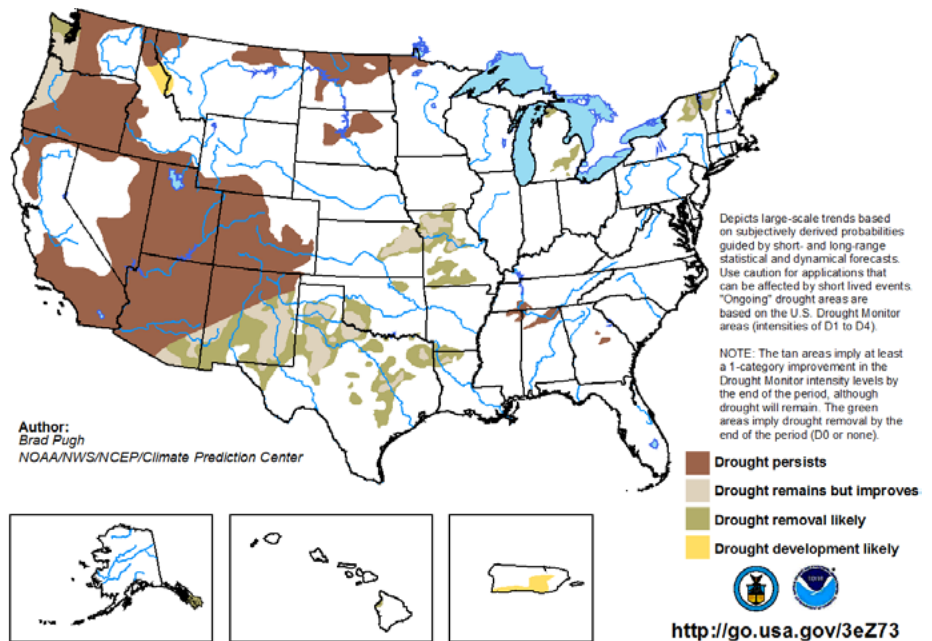
Some areas of Nebraska are ahead on corn and soybean harvest when compared to the past five years. This is due to early maturation with warmth early in the growing season. However, portions of the state are experiencing harvest delays due to the recent rains, which are expected to continue into the short term. The major concerns for soybean harvest are worst in northeast, east central and southeast Nebraska. These areas of the state have not had enough time to dry between rain events and cloud cover has kept bean moisture above 15 percent, making combining difficult. Another major concern for unharvested corn is decreased stalk integrity, which affects corn's ability to withstand winds and periodic heavy rain events.

## Outlook

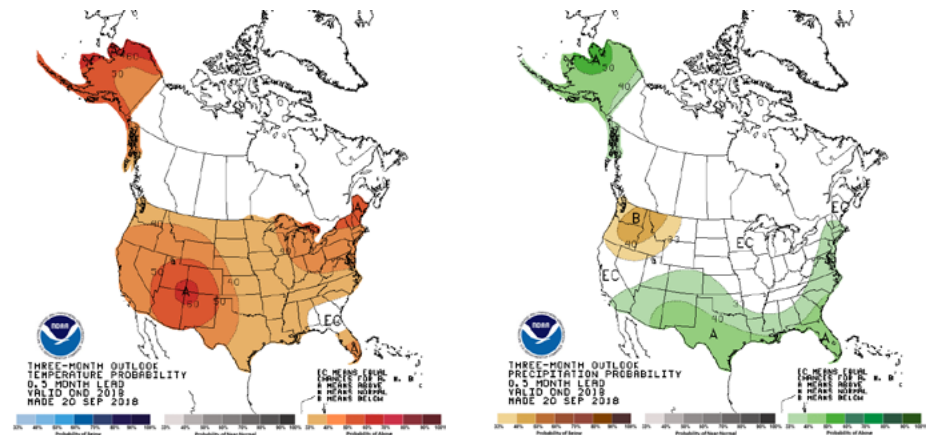
For October, the outlooks from the Climate Prediction Center are calling for an increased chance for an overall wetter-than-normal month. The chances

## U.S. SEASONAL DROUGHT OUTLOOK | SEPT. 20 TO DEC. 31

DROUGHT TENDENCY DURING VALID PERIOD



## 90-DAY OUTLOOK TEMPERATURE (LEFT) & PRECIPITATION



are greatest for portions of the Great Lakes and desert Southwest, and extends into Nebraska. For temperature, the monthly outlook puts the southern fringe of Nebraska in an increased chance for warmer-than-normal conditions, while the northern Panhandle lies in a swath of higher probability of below-normal temperatures. On the seasonal scale from

October to December, the climate outlook is calling for an increased chance of above-normal temperatures with an increased chance of wetter-than-normal conditions to the south under weak El Niño conditions.

— Martha Shulski, state climatologist and NSCO director, and Al Dutcher, Extension climatologist



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