

Nebraska Ag Climate Update

May 8, 2015

State Summary

The warm temperatures and rain-free periods in April provided ample time to plant corn and soybeans, and some operations have completed their 2015 planting season. Soil temperatures are currently in the upper 50s to low 60s and are 2-10 °F above normal, with the warmest locations in the central one-third of Nebraska. Average April temperatures were 1-4 °F above normal for most of Nebraska and the average high temperatures were in the 60s, with most of the state seeing temperatures climb into the 80s (*Table 1*).

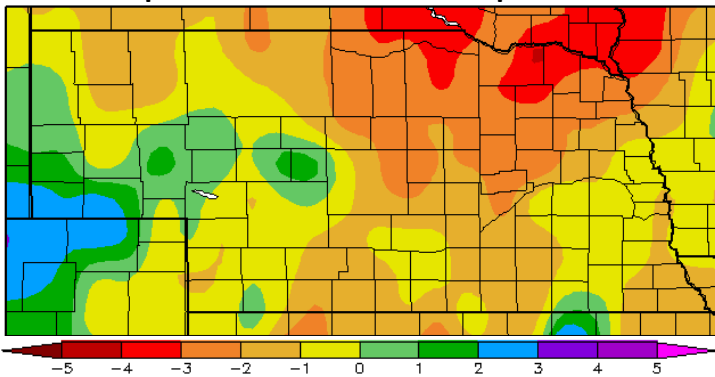
Precipitation in April provided some drought relief to southern and western portions of Nebraska, but north central and northeast Nebraska remained dry. Areas in northern Nebraska were 1-2" below normal for April and 3-4" below nor-

Table 1. Temperature (°F) and precipitation (inches) overview for April 2015 for 13 Nebraska locations.

| Station | Avg. Max Temp | Max Temp | Avg. Min Temp | Min Temp | Total Precip |
|--------------|---------------|----------|---------------|----------|--------------|
| AINSWORTH | 64.3 | 78 | 38.3 | 25 | 1.28 |
| ALLIANCE | 60.9 | 78 | 33.4 | 12 | 0.77 |
| ASHLAND | 65.8 | 84 | 41.0 | 28 | 3.30 |
| AUBURN | 65.8 | 85 | 39.6 | 29 | 2.74 |
| BENKELMAN | 67.6 | 83 | 38.8 | 27 | 2.57 |
| CALLAWAY | 63.6 | 81 | 36.6 | 25 | 3.54 |
| CENTRAL CITY | 64.4 | 85 | 39.6 | 27 | 2.07 |
| CURTIS | 68.0 | 87 | 36.9 | 29 | 2.43 |
| GENEVA | 66.6 | 84 | 42.1 | 28 | 1.65 |
| HOLDREGE | 63.5 | 84 | 35.7 | 28 | 2.40 |
| NORFOLK | 62.5 | 83 | 38.9 | 24 | 2.36 |
| OGALLALA | 64.4 | 81 | 35.1 | 26 | 2.88 |
| VALENTINE | 64.9 | 78 | 38.2 | 17 | 2.09 |

Data from NOAA Applied Climate Information System - <http://drought.rcc-acis.org/>

**3-Month (2/1-4/30)
Departure from Normal Precipitation**



**1-Month (4/1-4/30)
Departure from Normal Precipitation**

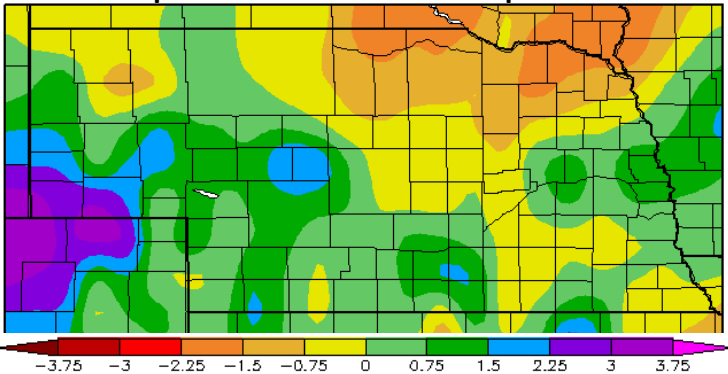


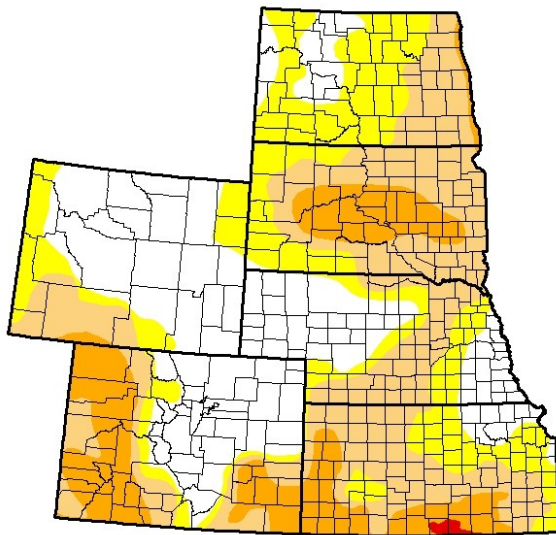
Figure 1. 3-Month (2/1—4/30) (left) and 1-Month (4/1—4/30) (right) Departure from Normal Precipitation for Nebraska. Maps from the High Plains Regional Climate Center—www.hprcc.unl.edu

mal from February 1 to April 30 (*Figure 1*). The southwest Panhandle received 4-5" of precipitation in April, bringing that area to around 1-3" above normal since February 1. This area is an anomaly compared to other parts of Nebraska. Most areas carried a three-month deficit of 1-5" into May, but the recent rainfall has since changed that dynamic.

Parts of southern and southeast Nebraska were recently the recipient of record amounts of rainfall. Preliminary rainfall amounts in a line from Superior to Lincoln ranged from 5-10" of precipitation on Wednesday (5/6) night and Thursday (5/7) morning. This caused major flooding, erosion and, most likely, washed away and buried recently planted seed. Another issue with the rainfall in this area is the potential for prolonged saturated soils. Saturated soils may impact seed germination and growth. According to Nathan Mueller, Nebraska Extension Educator, young corn plants can survive 2-4 days of flooding conditions. Waterlogged soils at any time for any duration during soybean germination will reduce germination and emergence. These storms also spawned a few tornadoes that caused some major structural damage, but the agronomic impacts directly related to the tornadoes were minimal. If you were impacted by severe weather or flooding, resources are available at the Crop-Watch 2014 Storm Recovery webpage (<https://cropwatch.unl.edu/2014-storm-recovery>).

U.S. Drought Monitor High Plains

May 5, 2015
(Released Thursday, May 7, 2015)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|-------|-------|-------|-------|-------|------|
| Current | 33.23 | 66.77 | 43.94 | 15.01 | 0.24 | 0.00 |
| Last Week 4/28/2015 | 33.15 | 66.85 | 43.87 | 14.22 | 0.51 | 0.00 |
| 3 Months Ago 2/2/2015 | 50.35 | 49.65 | 12.49 | 5.51 | 0.30 | 0.00 |
| Start of Calendar Year 12/30/2014 | 59.44 | 40.56 | 11.28 | 5.46 | 0.36 | 0.00 |
| Start of Water Year 9/30/2014 | 78.99 | 21.01 | 12.14 | 5.98 | 0.86 | 0.00 |
| One Year Ago 5/2/2014 | 62.47 | 47.53 | 35.87 | 21.59 | 10.88 | 0.55 |

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.

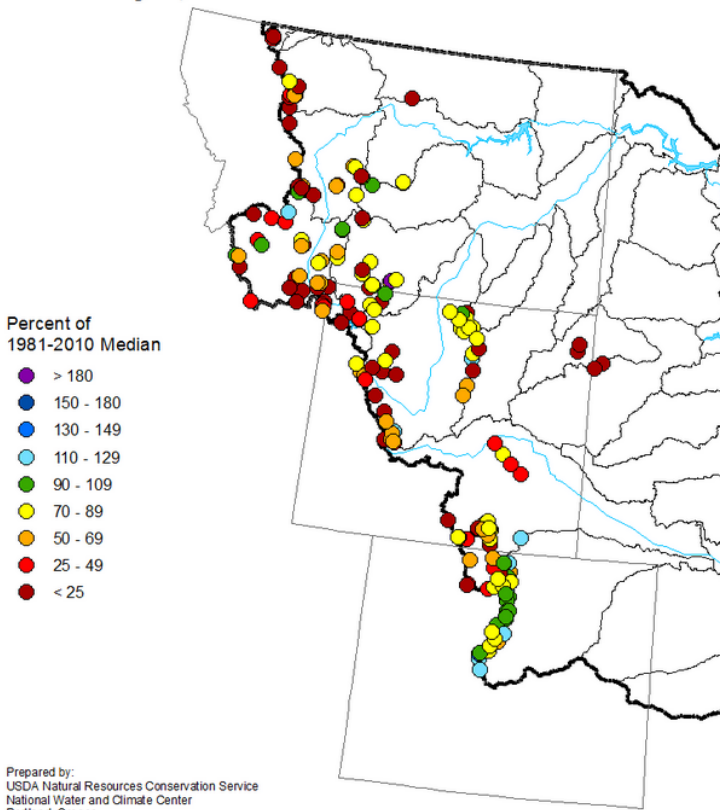
Author:
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National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

Figure 2. U.S. Drought Monitor on May 5, 2015 for the High Plains. Map from the National Drought Mitigation Center—<http://droughtmonitor.unl.edu/>

Missouri River Basin Mountain Snowpack as of May 1, 2015



Prepared by:
USDA Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>
Created: 5 May 2015 11:07

Figure 3. Missouri River Basin Mountain Snowpack as of April 1, 2015. Map from the USDA Natural Resources and Conservation Service National Water and Climate Center—www.wcc.nrcs.usda.gov

The drought locations in Nebraska remained relatively similar to last week and last month. This week's Drought Monitor (Figure 2) from the Drought Mitigation Center shows very little change, but the recent, heavy rainfall was not factored into the Drought Monitor. The Drought Monitor was made on Tuesday, May 5 and released on Thursday, May 7.

Towards the west, the snowpack in northern Colorado has increased with a number of precipitation events over the past 30 days. This region had 50-90% of median snowpack on April 1 and had 70-130% (Figure 3) of median snowpack on May 1. This will be beneficial to the flow in the Platte River system as the snow continues to melt.

Looking ahead

The precipitation forecast looks positive for May. The average monthly precipitation ranges from 2.5" in western Nebraska

to near 5.0" in southeast Nebraska, and the Climate Prediction Center (CPC) precipitation outlook for May (Figure 4) gives all of Nebraska increased chances for above normal precipitation. This forecast was heavily dependent on the recent weather system, but there is potential for this pattern to persist through the month.

Precipitation chances remain through the weekend for all of Nebraska, but will decrease next week. The trough that has been stalled in the southwest U.S. will move through Sunday and Monday and drier air will fill in behind it. Chances of precipitation remain in the forecast, but they don't look to be widespread. Temperatures will fall below normal next week after the passing system. Currently, temperatures have the potential to be quite cold Sunday through Tuesday, especially in the Panhandle where temperatures may be much below freezing. Temperatures will begin to warm up and become near-normal by the end of next week.

Our next system will begin to build in the western U.S. by next weekend. A trough will move in from the Pacific Ocean towards the 4-corners region, but the eastward progression of the system through the central U.S. is uncertain at this time. The timing and the location is too far out to predict, but can make all the difference when it comes to precipitation. The models produce an output a couple times a day and each model run is a little different. If this system follows the same track as our current system, we could see significant moisture again in 7-10 days. The 8-14 day outlook (Figure 5) from the CPC for May 14 - 20 has increased

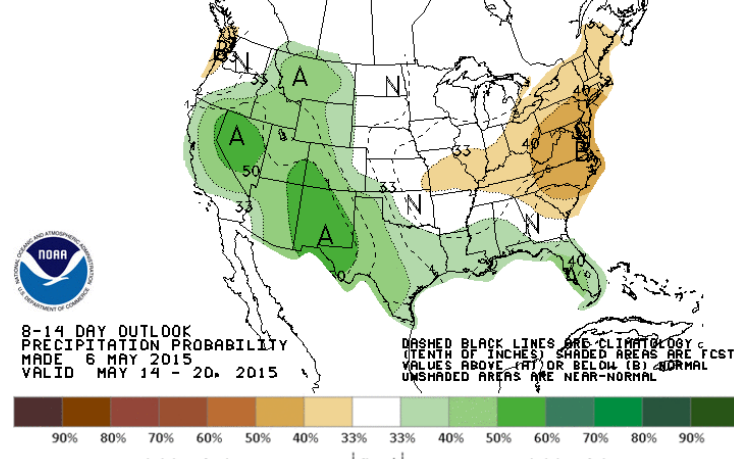
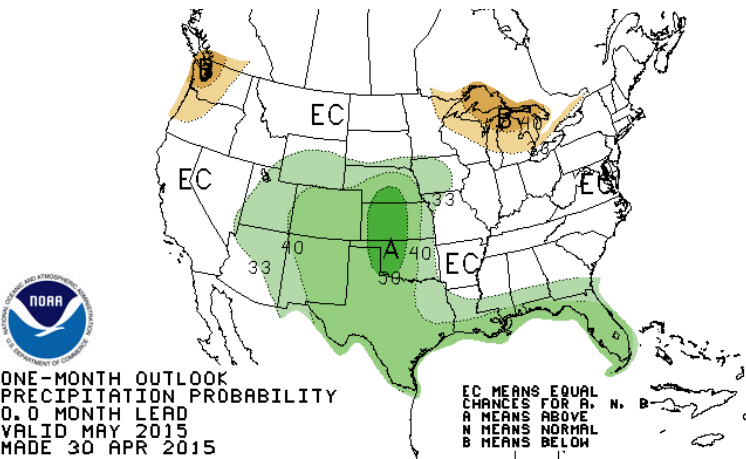
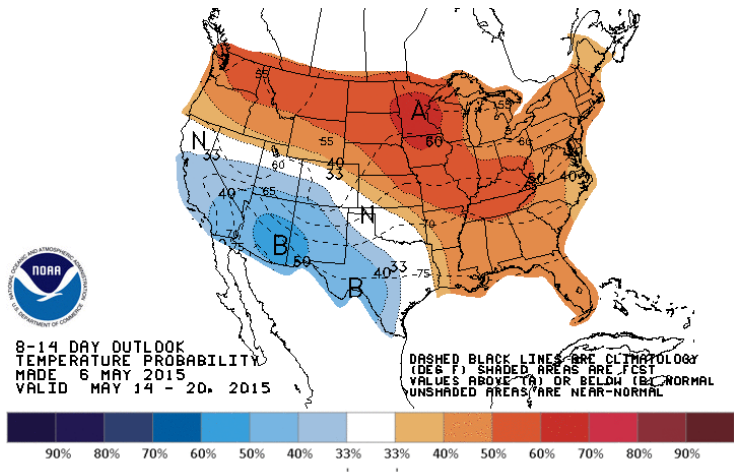
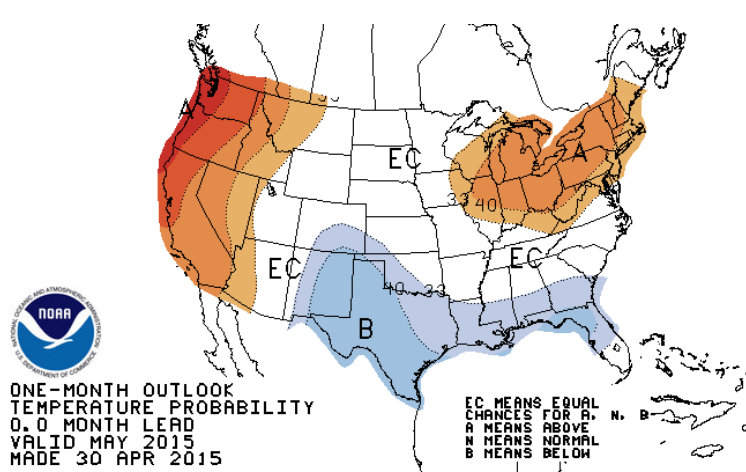


Figure 4. Three-month temperature (top) and precipitation (bottom) outlooks from the Climate Prediction Center released on March 31. Source: Climate Prediction Center—www.cpc.ncep.noaa.gov

Figure 5. 8-14 Day (May 14-20) Temperature (top) and Precipitation (bottom) Outlooks from the Climate Prediction Center. Source: Climate Prediction Center—www.cpc.ncep.noaa.gov

chances for above normal precipitation in the southern plains and western U.S. and equal chances of above or below normal precipitation in the central and northern plains. The temperature outlook has increased odds for above normal temperatures for the northeast two-thirds of the U.S., including Nebraska.

The long-term outlook for May, June, and July from the CPC gives Nebraska equal chances for above or below normal temperatures. Most of Nebraska has equal chances for above or below normal precipitation, but the Panhandle has increased odds for above normal precipitation. The highest odds for above normal temperatures are in the western U.S. and in Florida. The best chances for above normal precipitation remain in the southern plains and southwest U.S. through the central Rockies. There is a 70% chance the current El Niño will continue through the summer of 2015. The average conditions in Nebraska during an El Niño summer are slightly cooler than normal with near normal precipitation.

In review, we are currently in a turbulent weather pattern. Cool temperatures on Monday and Tuesday are definitely a concern, especially in western Nebraska. Saturated soils in southeast Nebraska are also concerning, especially with the chances of more precipitation through the weekend. Things will quiet down next week, but may pick back up with the approaching system from the southwest U.S. Hopefully there will be enough surface drying next week to allow those wet fields to be planted, but it may be a while for some.

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