Nebraska Ag Climate Update

April 11, 2014

State Summary

The cool temperatures the past 60-90 days have made for a very long winter. In March, daily high temperatures were near normal, but the daily low temperatures were almost 10°F below normal in some locations (*Table 1).*

Limited precipitation in March offered little relief for the dry conditions over much of Nebraska (*Figure 1*). The combination of cool temperatures and lack of precipitation has left the state in another vulnerable spot heading into the crop growing and pasture grazing season. Western Nebraska saw some relief from cool temperatures, but didn't get enough to upgrade it's status in the drought monitor. Some portions of southwest Nebraska have been in the D3-Extreme Drought category for some time. This time a year ago, 94% of Nebraska was in the D3-Extreme Drought category or higher, and 100% of the state was in the D2– Severe Drought category or higher. Currently, 4% of Nebraska is in the D3 drought category. As a state, we are in a better position heading into the growing season compared to a year ago (*Figure 2*). On a positive note, the current mountain snowpack in the Northern Rockies for the Missouri River Basin is mostly above the 1981 -2010 median snowpack. This is good news when it comes to the surface water situation in Nebraska (*Figure 3*).

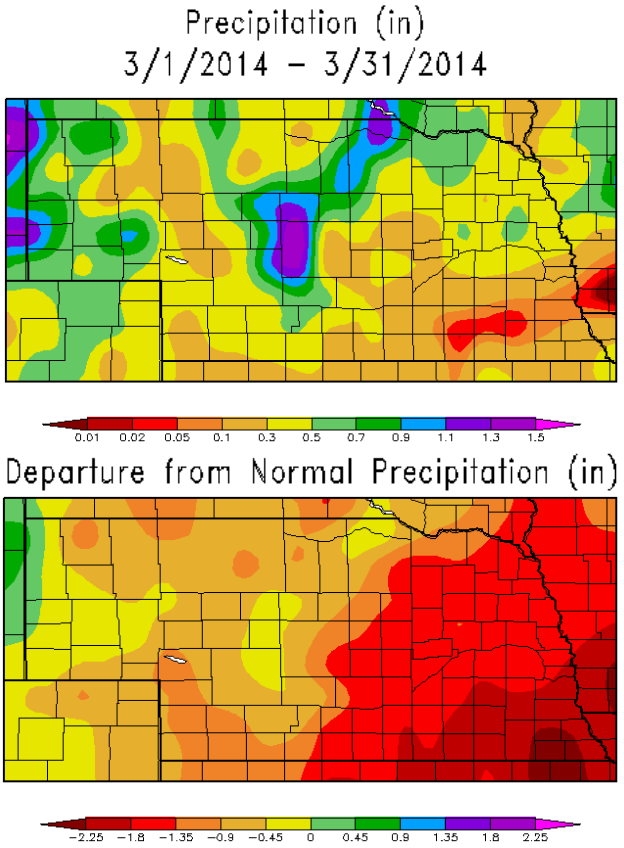

Figure 1: Precipitation and Departure from Normal Precipitation in Nebraska for March 2014. Maps from the High Plains Regional Climate Center.

Interesting Fact

The North Platte Airport recorded 157 straight days of minimum temperatures 32°F or below (Oct. 30-April 4).

March 2014 Temperature and Precipitation

	Temperature (°F)						Precipitation (inches)		
Sites (West to East)	Average Daily High	Departure from Normal	Average Daily Low	Departure from Normal	Average Daily Temp	Departure from Normal	Total Precipitation	Departure from Normal	Total Snowfall
Scottsbluff	52.7	1.0*	23.3	0.3	38.0	0.7	0.78	-0.38*	8.2
Benkelman	58.5	3.7	25.4	0.9	42.0	2.3	0.21	-1.20	0.6
North Platte	53.1	1.0	20.1	-2.7	36.6	-1.4	0.79	-0.45	6.3
Ainsworth	51.4	2.4	21.2	-4.7	36.3	-1.1	0.44	-0.98	5.5
Holdrege	49.2	-0.4**	19.8	-5.8	34.5	-3.2	0.33	-1.75	2.4
Hastings	51.3	1.0	21.7	-6.2	26.5	-2.5	0.20	-1.88	1.2
Norfolk	47.6	-0.9	20.9	-4.5	34.2	-2.8	0.37	-1.60	4.0
Columbus	47.6	-1.9	21.5	-6.3	34.6	-4.2	0.24	-1.75	0.2
Omaha	49.2	-1.2	23.3	-4.8	36.3	-3.0	0.21	-1.92	2.4
Auburn	50.5	-2.3	20.0	-9.9	35.3	-6.1	0.21	-2.25	3.6

Table 1: Temperature and precipitation data from ten Nebraska NWS Coop weather stations for March 2014.
** Red indicates warmer than normal temperatures and below normal precipitation*
*** Blue indicates cooler than normal temperatures*

Know how. Know **now.**

Pasture Conditions – Spring 2014

Generally, March and early April temperatures have been slightly below average, resulting in a slower green-up of cool-season pasture grasses. However, temperatures so far are closer to average than what was observed in the spring of 2013. The cold and late spring of 2013 significantly delayed and reduced cool-season grass growth, which impacted livestock producers coming off of the 2012 drought. Like field crops, pasture grasses require accumulation of heat units or growing degree days to transition through their different growth stages.

Precipitation during April is also critical as pastures begin to grow. Soil moisture conditions across the area are mixed, with many areas being quite low and under a moderate drought status. Livestock producers should closely monitor their spring pasture conditions and local precipitation over the next couple of months. Dry conditions and limited pasture growth might warrant a delay in turn-out to their primary summer pastures. Additionally, closely observing pasture conditions through the grazing season and having a drought management plan in place will benefit the pasture resource and livestock operation. ***- Jerry Volesky, UNL Extension Forage and Range Specialist***

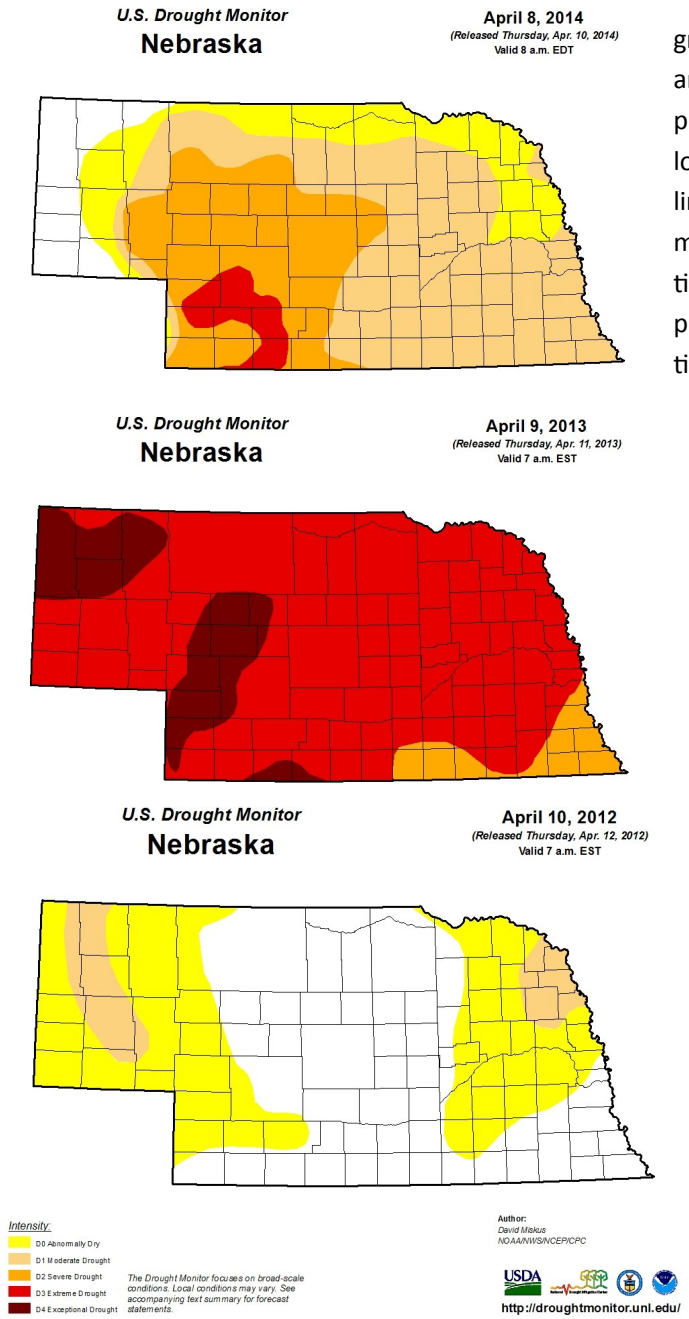

Figure 2: The three maps above are the early April drought monitors from 2014 (top), 2013 (middle), and 2012 (bottom) from the National Drought Mitigation Center.

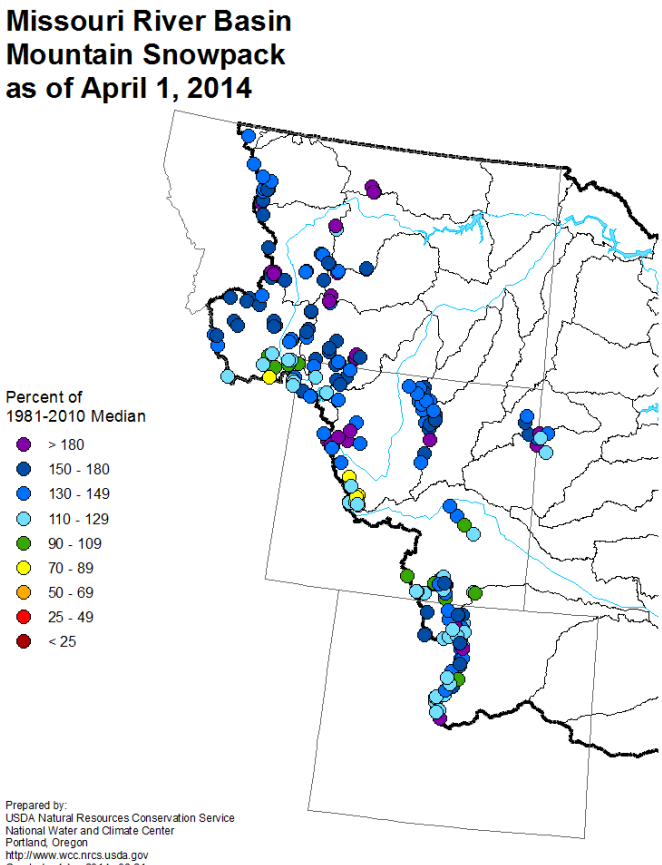

Figure 3: This map illustrates how April 1, 2014 snowpack levels compare with the 1981-2010 median. Map from the USDA-NRCS.

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Looking Ahead

Week 1 (4/12-4/18): The northern jet stream is forecasted to push an upper air trough through the northern and central High Plains region from ***4/12-4/14*** and interact with an upper air low ejecting out of the southern Rockies. High temperatures are expected to be in the 60s and 70s on ***4/12*** before the upper air trough pushing southward through the northern High Plains region pushes a cold front through the state during the second half of the day. Scattered thunderstorms are possible across eastern Nebraska during the late afternoon, with the potential for severe storms across extreme southeastern Nebraska. Temperatures will fall back into the 30s north and 40s south during the overnight hours and remain fairly steady during the day on ***4/13***. The southern Rockies upper air low will interact with the northern High Plains trough and widespread rain should envelope the state on ***4/13***. A mixture of rain and snow is possible across central and western Nebraska, with light snowfall accumulations possible on grassy surfaces. Precipitation should come to an end across the western two-thirds of the state during the evening hours, with precipitation clearing extreme eastern Nebraska during the early morning hours of ***4/14***. Total liquid equivalent moisture with this system is projected to be in the 0.25-0.50 inch range for the western two-thirds of Nebraska, with 0.50 to 1.50 inches across the eastern one-third of the state.

High pressure is projected to build into the region from ***4/14-4/15*** and high temperatures should be confined to the 50s. Another upper air trough is forecasted to push out of the central Rockies during the ***4/16-4/18*** period. Current model projections are very aggressive with this system and indicate moderate rainfall for western Nebraska, with heavy moisture possible across the eastern half of the state. If the models are with this storm system, scattered severe thunderstorms may develop during the afternoon hours of ***4/17*** and more organized convection would be possible on ***4/18***. Highs during the ***4/16-4/18*** period are currently projected to remain in the 50s north, with 60s probable south (*Figure 4*).

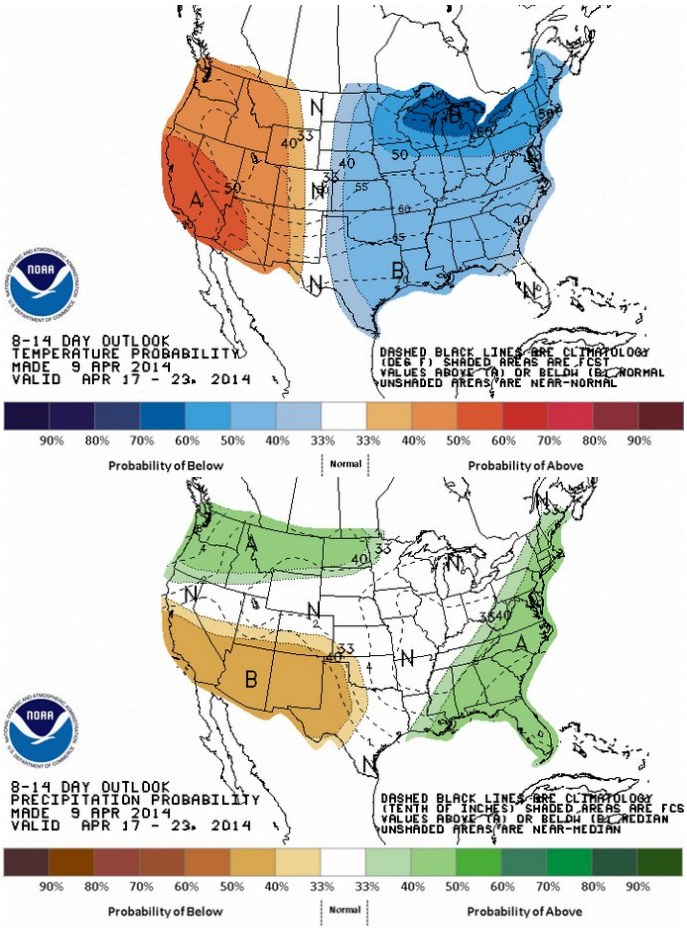

Figure 4: The maps above are the April 17-23 temperature (top) and precipitation (bottom) outlooks from the Climate Prediction Center.

Week 2 (4/19-4/25): Weather models for 8-16 days out have performed poorly the past four to six weeks. If we are to believe the current model forecast, it appears that a significant warming trend is in store for the central U.S. during this entire period as a strong upper air ridge builds over the western corn belt (*Figure 4*). High temperatures should push into the 60s east to 70s west on ***4/19*** and warm into the 70s statewide by ***4/21***. It is entirely possible that 80+ high temperatures may develop across the western half of the state, especially during the ***4/22-4/23*** period. Another upper air trough is projected to push into the central Rockies by ***4/24*** and increase the likelihood of precipitation for Nebraska by the end of the forecast period (***4/24-4/25***).—***Al Dutcher, Nebraska State Climatologist***

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