

## **CARC Meeting Minutes**

Tuesday, Dec. 8, 2020

Nebraska Department of Agriculture

301 Centennial Mall South, 4<sup>th</sup> Floor, Lincoln, NE

Conference call access:888-820-1398 Access code: 4671261#

Meeting was called to order at 1:05 p.m..

### In Attendance (via conference call):

*Committee members:* Amelia Breinig (chair), Nebraska Department of Agriculture; Dr. Shuhai Zheng, Nebraska Department of Natural Resources; Matt Joeckel, UNL Conservation and Survey Division; Carl Sousek, crops farmer; Bryan Tuma, Nebraska Emergency Management Agency; Rick Rasby, University of Nebraska Extension; Barb Cooksley, rancher; Mark Svoboda, National Drought Mitigation Center

*Staff and Audience:* Brian Fuchs, National Drought Mitigation Center; Martha Shulski, Nebraska State Climatologist; Steve Roth, Nebraska Department of Agriculture; Nick Streff, National Agricultural Statistics Service; Marcia Trompke, Central Nebraska Public Power and Irrigation District; Aaron Hird, Natural Resources Conservation Service; Rezaul Mahmood, High Plains Regional Climate Center; Lee Klein, Congressman Fortenberry's Office; Neil Moseman, Senator Fischer's office, Doug Klein, Farm Service Agency; Mike Moritz, National Weather Service, Hastings; John Erixson, Nebraska Forest Service; Ed Holbrook, Nebraska Department of Environment and Energy; Jason Lambrecht, US Geological Survey; Christina Stella, NET, Christopher Butler, National Weather Service, North Platte

Committee Chair Amelia Breinig opened the meeting stating that CARC follows provisions in Nebraska's Open Meetings Act. A copy of the Act was available at the Nebraska Department of Agriculture for review. She also had copies available of the affidavits of the public notices published in the Lincoln Journal Star and Kearney Hub newspapers on Nov. 20, 2020.

Minutes from the July 29, 2020, CARC meeting were accepted by the Committee as presented.

Reports were provided as follows:

### ***Nebraska Drought Conditions and Water Supply Update***

Presented by Brian Fuchs, National Drought Mitigation Center

*Note: Maps, statistics, charts and other details are available on Fuchs's PowerPoint presentation that can be found at [carc.nebraska.gov](http://carc.nebraska.gov).*

### Past/Current Climate & Drought Report

By comparing the U.S. Drought Monitor map of December 2019 to the most recent map, Fuchs demonstrated the dramatic difference in drought conditions nationwide in just 12 months.

A year ago, a large majority of the United States was drought free except for some regional areas that had abnormally dry (D0) or moderate drought (D1) conditions. The western, and parts of the central, U.S. began developing significant areas of abnormally dry, all the way up to extreme drought (D3) conditions by the middle of July this year. As of December 1, much of the Four Corners region was in exceptional drought (D4) with extreme and severe drought extending throughout the southwestern and central regions of the U.S.

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Nebraska reflected that same pattern in the past year, going from virtually drought free conditions a year ago, with the entire state now in some stage of drought this December.

In presenting historical drought episodes in Nebraska, Fuchs pointed out that there typically have been cycles of severe to extreme droughts in the state. He said the state has had a longer than usual run of no severe droughts the past 6 years with only a few areas of abnormally dry to moderate drought in during that time period. Based on past data, it was not unexpected that Nebraska was going to be experience a drought at some point. He added that what is unpredictable is how long the current drought will last. Past drought episodes varied in intensity and length.

Drought conditions have intensified the past couple of months with average high temperatures significantly above normal. For the calendar year, most of the state has received much below normal precipitation. Areas of the Panhandle have had less than 50% of normal precipitation, with much of the rest of the state receiving less than 70% of normal rainfall.

The U.S. Seasonal Outlook for the for 2020 through February 2021 indicates that current drought conditions in Nebraska will persist during that time period.

Fuchs provided the following summary for his climate report:

- Warmer than normal conditions have dominated the state and region recently with regional temperatures averaging about 1-3 degrees Fahrenheit above normal the last 60 days.
- Almost the entire state of Nebraska has recorded below normal precipitation for 2020 so far with areas of northcentral being the only area of the state at or near normal.
- Nebraska is currently showing 93.44 percent of the state in drought and this has been trending upwards over the last 3 months. Most of the drought is severe (D2) or worse with some pockets of extreme (D3) drought in the Panhandle and southwest.
- The seasonal drought outlook has drought persisting in Nebraska through the end of February in the areas that are currently in drought.

### Nebraska Water Supply Update

In reviewing the conservation pools of the reservoirs along the Platte and Republican River basins, Fuchs said that the levels have fluctuated in line with what is typical for pre-during- and post-irrigation season.

Even with the dry conditions that have developed throughout the year, reservoir levels were consistent with normal levels due to the fact 2019 was a much wetter than normal year. Stream flows also remained normal due to the excess water received the previous year.

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Fuchs provided the following summary for Nebraska's water supply status:

- Lake McConaughy is currently 68.8% of capacity and has been rising slowly since the end of the irrigation season.
- The Republican River basin reservoirs are lower than they were in July 2020 as water levels stabilized and, in some cases rising after the irrigation season.
- Harlan County Reservoir is holding about 33,478 acre-feet less water now than in July 2020 but is about 70,605 acre-feet above average for this time of year.

Following Fuchs presentation, Committee member and Director of the National Drought Mitigation Center, Mark Svoboda asked Fuchs to provide details on a group of weather and climate experts who have been meeting on a regular basis in order to share and coordinate information.

Fuchs said under the initiative from David Pearson with the National Weather Service in Valley, a group of interested parties met on the UNL campus in 2018. They discussed how to better be involved in the United States Drought Monitor process for the state of Nebraska. The first meeting included representatives from the National Weather Service offices in Nebraska, National Drought Mitigation Center (NDMC), Nebraska State Climate Office, High Plains Regional Climate Center and the University of Nebraska Extension. The NDMC established an email Listserver for those involved in the effort to communicate on a regular basis. Pearson conducted monthly calls to discuss the current climate conditions in the state. As drought conditions expanded and intensified across the state in 2020, additional meetings, webinars and emails were used to communicate among the group. Additional personnel involved in weather and climate became active in the group as well. Because the group was active and established, the drought of 2020 did not catch Nebraska "off guard". Reports across the state, confirmed level of accuracy associated with the United State Drought Monitor for Nebraska. To date, there are 44 people subscribed to be on the Nebraska Drought email Listserver. Fuchs added that this is an open group and invited anyone interested in participating can contact him.

#### **Nebraska Climate Update**

Presented by Martha Shulski, Nebraska State Climatologist

*Note: Maps, statistics, charts and other details are available on Shulski's PowerPoint presentation that can be found at [carc.nebraska.gov](http://carc.nebraska.gov).*

Shulski began her presentation stating that she has relied on Extension Educators across the state to supplement data gathered by the Mesonet network. She added that she is working with additional educators to cover even more areas of the state, especially those in less populated areas.

Recapping climate conditions for September through November, Schuski noted that Nebraska had a mostly warm and very dry fall season. The state had its fifth warmest and ninth driest fall on record. Temperatures during that time period ranged from 5 to 7 degrees Fahrenheit above normal with precipitation ranging from one to almost four inches departure from normal.

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In the past six months, Nebraska saw anywhere from a one- to four-drought-class degradation with the Panhandle and southwestern areas experiencing the most severe drought conditions.

According to USDA-NASS, as of the end of November, 65% of topsoil moisture was short to very short in Nebraska while subsoil moisture was 71% short to very short. Due to the lack of moisture this fall, 45% of pastures and 26% of wheat were rated poor to very poor.

La Nina conditions are expected to continue through winter. As a result, the December through February outlook is calling for wet and cold conditions for the northwest and north central regions of the U.S, while all of the southern states, into the northeast are expected to have warm and dry conditions. Nebraska has equal chances of below or above normal precipitation and temperatures dependent of the shifts in the jet stream.

Schulski provide the following outlook summary:

- Widespread warm and dry signal for December (cold air outbreaks are not out of the question).
- Winter signal is less clear for Nebraska. Seasonal conditions dependent on storm track.
- Drought conditions likely won't see major improvements. Expect to start 2021 growing season with low soil moisture reserves.

### **Nebraska Crop Progress and Condition Report**

Presented by Nick Streff, Regional Director USDA-NASS

*Note: Statistics, reports and other details are available on Streff's PowerPoint presentation that can be found at [carc.nebraska.gov](http://carc.nebraska.gov).*

Streff said that the warm, dry conditions this fall led to a quick harvest of all row crops.

Based on November 1 conditions, Nebraska's 2020 corn crop yield was forecast at 185 bushels an acre, up three bushels from last year but below the record 192 bushels an acre set in 2018. However, the total corn crop production for the year is forecast at a record 1.82 billion bushels, up 2% from last year.

Based on November 1 conditions, Nebraska's 2020 soybean crop yield was forecast at 58 bushels an acre, down .5 bushels an acre from last year, and 2 bushels an acre less than the forecast last month. Total Nebraska soybean production is forecast at 299 million bushels, up 5% from last year.

Alfalfa hay production, at 3.78 million tons, is up 5% from last year. Area for harvest, at 970,000 acres, is up 2% from a year ago. Yield of 3.90 tons per acre is up 0.10 ton from 2019.

All other hay production, at 2.21 million tons, is down 11% from last year. Area for harvest, at 1.70 million acres, is up 13% from a year ago. Yield of 1.30 tons per acre is down 0.35 ton from 2019.

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### **Other Updates from CARC Members/Advisors**

Barb Cooksley commented that the climatologists at the National Drought Mitigation Center have done an excellent job of continuing to improve the accuracy of the U.S. Drought Monitor maps. She confirmed that the central Nebraska region where she resides has received adequate to even above normal precipitation just as Fuchs had reported. It is notable that the drought map was able to indicate that this relatively small area had been receiving precipitation when all the other areas surrounding it were in moderate to severe drought. She added that ground water levels have continued to rise and some of the low lying areas had excess water above ground.

The meeting adjourned at 2:19 pm.