

CARC Meeting Minutes

Monday, June 4, 2018

901 Hardin Hall, UNL East Campus

Meeting called to order at 9:34 a.m.

In Attendance:

Committee members or representatives: Mat Habrock (chair), Nebraska Department of Agriculture; Mark Svoboda, National Drought Mitigation Center; Dr. Shuhai Zheng, Nebraska Department of Natural Resources; Matt Joeckel, UNL Conservation and Survey Division; Rick Rasby, UNL Extension; Carl Sousek, crops farmer; Judy Martin, Nebraska Department of Health and Human Services; and Donnie Christensen, Nebraska Emergency Management Agency.

Staff and Audience: Brian Fuchs, National Drought Mitigation Center; Al Dutcher, UNL Extension; Steve Roth, Nebraska Department of Agriculture; Dean Groskurth, USDA-NASS; Aaron Hird, USDA-NRCS; Jason Lambrecht, USGS; Jessi Remmers, Farm Service Agency; Eric Zach, Nebraska Game and Parks, Rick Leonard, Legal Counsel, Legislature Ag Committee, Ed Holbrook, Nebraska Energy Office, Natalie Umphlett, High Plains Regional Climate Center; Ginger Willson, Nebraska Senator Ben Sasse's office.

Committee Chair Mat Habrock opened the meeting stating that CARC follows provisions in Nebraska's Open Meetings Act with a copy of the act available for review. He also had copies available of the affidavits of the public notices published in the Lincoln Journal Star and Kearney Hub newspapers on May 17.

Habrock announced he was leaving the Department of Agriculture to take another position and a new Chair would be appointed prior to the next meeting.

Minutes from the Oct. 30, 2017, 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, UNL School of Natural Resources (PowerPoint presentation available on the CARC website)

Past/Current Climate & Drought Report

Fuchs compared Nebraska Drought Monitor maps from the past week to a year ago and from the last CARC meeting in October 2017. Nebraska had no areas in drought or abnormally dry conditions a year ago, with a small area of abnormally dry conditions present in the Panhandle in October 2017. The current Nebraska map shows that much of southeast Nebraska is in either D1 drought or abnormally dry. There are also a few areas of abnormally dry conditions along the Nebraska-Kansas border in central Nebraska.

Fuchs said that a La Nina event this winter and early spring contributed to the development of the dry conditions.

Since the beginning of the year, there has been a one-class degradation of drought in portions of southeast Nebraska. Last June, 6 percent of the state was in drought or dry conditions compared to 36 percent of the state currently in drought or dry conditions.

Page 2 – CARC Meeting Minutes, June 4, 2018

According to the Nebraska temperature map for the past 30 days, much of the state had temperatures 4 to 6 degrees above normal, with some areas 6 to 8 degrees above normal. That was in stark comparison to April when the temperatures in Nebraska were 4 to 6 degrees below normal. Temperatures in the state the past 60 days (April-May) did end up averaging slightly below normal.

In presenting the 30- 60- and 90-day precipitation maps, Fuchs noted that western and central Nebraska received normal to above normal rainfall while the percentage of normal rainfall decreased the farther east you went in the state. This was especially evident in the southeast region of the state where abnormally dry and drought conditions have been developing. It was also noted that average normal rainfall varies from west to east in Nebraska.

In regards to soil moisture (measuring at a one meter depth), most recent models indicated a deficiency in southeast Nebraska with parts of western and central Nebraska showing a surplus. Fuchs commented that this time of year, we should normally be receiving about an inch of rain a week and when that does not occur, soil moisture is depleted very rapidly.

The U.S. Monthly Drought Outlook (NOAA/NWS/NCEP/Climate Prediction Center) for June expects just a small area of southeast Nebraska to have the tendency to develop drought conditions. The Season Drought Outlook for May 17 through August 31 predicts the large majority of Nebraska to remain drought free. This is based on projections that the state could receive rainfall during this time period. Fuchs commented that the precipitation may come in the form of scattered thunderstorms which could mean some areas might miss any rainfall leading to pockets of drought in the state.

Fuchs presented the following climate/drought summary for Nebraska:

- Colder than normal conditions have dominated the state and region so far in 2018 with Nebraska averaging about 2 to 4 degrees below normal through the end of May.
- The western portions of Nebraska have had well above normal precipitation for the year while the eastern portions have been below with a sharp transition area in the central part of the state.
- After a very cool April, May was very warm over the state with most areas 4 to 6 degrees above normal.
- Nebraska is mostly drought free with just over 5 percent of the state currently in drought. The eastern half of the state is primed for drought development with the ongoing hot and dry conditions expected into the first part of summer.
- The monthly and seasonal drought outlooks do not show drought conditions developing in Nebraska through the end of August 2018.

Upon request, Fuchs gave a brief explanation of how data is compiled and presented in the various maps. He also laid out the timelines for the various maps and charts.

Nebraska Water Supply Update

Fuchs started the report with information from the Central Nebraska Public Power and Irrigation District (CNPPID) regarding Lake McConaughy.

Page 3 – CARC Meeting Minutes, June 4, 2018

From the end of October of 2017 to the beginning of April of this year, there was a consistent increase in water levels at McConaughy. There was a dip in the water level in March due to the below normal snowpack in the mountain area that feeds the Platte River basin, and above normal temperatures in Colorado. There was an uptick in the water level at the lake in April due to rainfall in the western area of the basin.

The current level at McConaughy is at 86.4 percent of full pool, near the same level of 85.2 percent a year ago.

The current river and canal flows into McConaughy, South Platte at Roscoe and Platte at Overton, are all well below the flows of a year ago. Fuchs said that was due to a decrease in snow pack and runoff.

In a news release from CNPPID on May 7, Civil engineer Cory Steinke reported that the North and South Platte Basin snowpack levels were declining with not much runoff remaining, and the current inflows were slightly below average for this time of year. He also mentioned that the drought conditions currently plaguing the Oklahoma panhandle appear to be expanding northward and could possibly impact CNPPID's irrigated area this summer.

In another news release from CNPPID, Irrigation Division Manager Dave Ford presented results from last spring's collection of data from 138 of CNPPID's observation wells located in Gosper, Phelps and Kearney counties. Analysis of the data shows that changes over a one-year period from spring 2017 to spring 2018 were minimal, with less than one foot of change in either direction. Over a ten-year period, about 40 percent of the wells, primarily in the western half of the irrigated area near Elwood Reservoir, showed increases of up to 17 feet. However, over the same ten-year period, the eastern half of the irrigated area showed a generalized decline in the water table. On the supply canal's 74 accounts, 3,843 acre-feet were delivered, for an average of 8.2 inches/acre.

The 14-day average streamflow map from the U.S. Geological Survey indicated that portions of the eastern and southeastern regions of the country had way above normal flows due to heavy rains. Much of the drought stricken areas in the south central and southwestern U.S. have stream flows significantly below normal.

Stream flows in Nebraska varied. Most flows were normal, with a few area above normal in the central part of the state, and below normal along the Nebraska-Kansas border.

The conservation pools for the reservoirs along the Republican River were all above levels in October of last year when the last CARC meeting was held. Storage is being built up in these reservoirs in preparation for the upcoming irrigation season.

The largest of these reservoirs, Harlan County, is slightly below the historical average for lake level for this time of year.

Page 4 – CARC Meeting Minutes, June 4, 2018

Fuchs presented the following water supply summary for Nebraska:

- Lake McConaughy is currently 86.4 percent of capacity which is higher than in October 2017 (last CARC meeting) and slightly higher compared to levels in June 2017.
- The Republican River basin reservoirs are higher than in October of 2017 as water accumulated after the irrigation season and from winter runoff.
- Harlan County Reservoir is holding about 40,000 acre-feet more water now than in October 2017.
- Harlan County is holding about 4,500 acre-feet less water now than last year at this time and is slightly below average for this time of year.
- All reservoir levels and storage should see a steady increases until the irrigation deliveries begin.

Fuchs PowerPoint presentation is available on the CARC website.

Nebraska Climate Update

Presented by Al Dutcher, UNL Extension Agricultural Climatologist

Dutcher reviewed agricultural climate conditions for Nebraska from this past fall's harvest season (September through November of 2017).

Temperatures during that time period were mostly above normal throughout the state. Precipitation was well above normal in portions of central Nebraska, above normal to normal in the remaining eastern two-thirds of the state, and below normal in the majority of the western third of Nebraska.

Dutcher pointed out that the large amount of eardrop in cornfields that occurred last fall due to high-wind storms has been causing issues this spring for farmers in the state. Some producers used tillage to try to alleviate the issue of excess corn but ran into erosion problems this spring. In some cases, the fallen corn germinated leading to an excess of volunteer corn. This was especially true where producers were planting corn after corn.

Here were Dutcher's key points he presented for the 2017 fall period:

- A warm October allowed crops to catch up after cold August. This led to a significant yield boost to corn.
- Very wet conditions existed mid-September through early October. Good start to soil moisture recharge.
- Dry and warm conditions mid-October through November.
- A large wind outbreak the third full week of October caused significant eardrop issues.
- Increased tillage activity resulted in increased weed pressure, downed corn and headland compaction.

In reviewing the winter (December 2017 through February 2018) climatological conditions for Nebraska, Dutcher said temperatures were well above normal the first three weeks of December for most of the state. That was followed by bitter cold temperatures through the end of February resulting in deep frost penetration.

In mid-January, there was a strong snow event from the southwest to the northwest in Nebraska.

Page 5 – CARC Meeting Minutes, June 4, 2018

There were numerous arctic intrusion events during the winter but resulted in only light snow in parts of Nebraska leading to a lack of needed moisture.

Here were Dutcher's key points he presented for the 2017-18 winter period:

- Well above normal temperatures for the first three weeks of December.
- Bitter cold temperatures dominated through the end of February.
- Strong snow event in the southwest though northeast occurred in Nebraska mid-January.
- Numerous arctic intrusion events and light snow events with little moisture.
- Deep frost penetration took place.
- Delayed green up of pastures, hay stockpiles short due to supplemental feeding.

Dutcher reviewed agricultural climate conditions for Nebraska from this year's spring season (March through May 2018).

April temperatures for Nebraska were the second coldest on record. Then in May, the opposite occurred recording the second warmest average temperatures for that month in the state. In his words "April became March and May became early June." There was a 10 to 14 degree spread between average monthly temperatures when comparing April to May.

The precipitation trend in Nebraska in early spring reflect the current Drought Monitor map for the state. For the most part, the western and central regions received normal to above normal precipitation while the eastern third of the state was below to significantly below normal. This has led to the abnormally dry and D1 drought condition that currently exist for southeast Nebraska.

Dutcher pointed out that crop water usage is actually lagging behind the norm since corn and soybean planting was delayed by wet and cool conditions. As the crop matures, the water usage will increase significantly adding more stress in the dryland crop acres if more precipitation does not come to the already stressed areas.

He said the current economic loss in the drought areas would be loss of production to pastures and alfalfa fields.

Here were Dutcher's key points he presented for the 2018 spring period:

- Cool start to March, followed by above normal temperatures late March.
- Cold April, unofficially second coldest on record.
- Dry conditions in southeast one-third of the state, including south central Nebraska.
- Significant blizzard activity took place in mid-April.
- There were planting delays due to wet, cold conditions in the north. Delays in the south were primarily the result of cold temperatures.
- A very warm May, preliminarily ranked fourth warmest state average temperature on record. Dry conditions southeast, south central, southern half of east central Nebraska.
- Pasture growth disappointing south central and southeast.
- Full ET (evapotranspiration) is expected by mid-June for corn emerged the first week of May.

Page 6 – CARC Meeting Minutes, June 4, 2018

Looking ahead, the June temperature outlook for much of the country calls for greater chances for above normal temperatures with the greatest chances of warmer temperatures in the southwest extending into some of the High Plains states, including Nebraska.

The June precipitation outlook has greater chances for above normal rainfall in the southeast U.S., North Dakota and parts of Arizona and New Mexico. Chances for below normal precipitation extends from the northwest across parts of Wyoming, Colorado and Nebraska, into most of Kansas, Oklahoma and Texas. The rest of the country has equal chances for above or below normal precipitation.

The 90-day temperature outlook (June, July, August) calls for greater chances of above normal temperatures throughout the entire western third of the country, extending south across Kansas, Oklahoma and Texas, into the southeast and up into the northeast parts of the country. Much of the High Plains (includes Nebraska) and Midwest regions have equal chances of above or below normal temperatures.

The 90-day precipitation outlook (June, July, August) calls for greater chances of above normal precipitation in the eastern one third of the country and also the four corners region of the U.S. Greater chances of below normal precipitation are expected for Oregon and Washington, with the remaining regions (including Nebraska) having equal chances for above or below normal precipitation.

Here were Dutcher's concerns going into Nebraska's growing season:

- Recharging and maintaining soil moisture.
- Hot temperatures and a lack of precipitation events.
- Lack of adequate snow pack in the Rocky Mountains.
- Enough rainfall early in the season for forage crops.
- The "monsoon season" extending far enough north into Nebraska.
- Enhanced risk for El Nino conditions to develop in the second half of 2018.

Dutcher added that rainfall is very important in the next few weeks.

Following his presentation Dutcher was asked by committee member Carl Sousek about the availability and improvement of soil moisture data. The two discussed what is available and what may be more beneficial in the future.

Dutcher's PowerPoint presentation is available on the CARC website.

Nebraska Hay Stocks and Crop Condition Report

Presented by Dean Groskurth, USDA-NASS

Groskurth noted that planted acres in Nebraska for soybeans and corn for 2018 were down slightly from last year. Wheat acres planted in the state last fall were also lower than the previous year. The projected winter wheat harvest is for 43 bushels an acre, 3 bushels less an acre than last year.

Page 7 – CARC Meeting Minutes, June 4, 2018

The biggest concern is the decrease in hay stocks both nationally and in Nebraska. The May 1 report had Nebraska hay stocks at 720,000 tons, the lowest since 2013 even though production has been close to average the past three years.

Chair Habrock commented that the decrease in lower hay stocks in the state can be contributed to a few primary factors. Last summer and fall, much of Nebraska's excess hay production was exported to cattle and dairy producing states where drought had significantly impacted their own hay production. This spring, a late blizzard in parts of the state kept producers from being able to run cattle on pasture requiring them to feed reserved hay instead.

Groskurth presented the most recent crop progress reports and a calendar of the upcoming reports that will be distributed by his office.

Groskurth's PowerPoint presentation is available on the CARC website.

NEMA State Hazard Mitigation Plan (SHMP) Update

Chair Mat Habrock informed committee members that Mary Baker, who had been the representative for the Nebraska Emergency Management Agency on CARC, was no longer with the agency. Donnie Christensen, Recovery Section Manager for NEMA, was attending the meeting in her place. Habrock asked him to provide a report on the progress of NEMA's five-year update of the State Hazard Mitigation Plan (SHMP) that is scheduled to be submitted to the Federal Emergency Management Agency in the spring of 2019.

At the last CARC meeting on October 30, 2017, there was discussion that the committee consider including the drought plan portion of NEMA's SHMP to avoid duplication of efforts and to develop one robust state plan.

Christensen told committee members that with Baker's departure and the April blizzard in Nebraska, the lack of staffing resources has slowed the process of updating the SHMP. He said that NEMA will have a lot of catching up to do to get back on schedule and that there is a need to conduct more risk and hazard assessments and review mitigation activities. Christensen sighted significant changes in Nebraska population density as one of the challenges they have in reassessing emergency needs in the state. He plans to have another update at the next CARC meeting.

Other comments:

Habrock read the following report that was submitted by committee member Barb Cooksley who was unable to attend the meeting:

2018 has been a year of weather already in Custer County. The blizzards, wind and warm temperatures during the winter were interesting to deal with. Our cattle don't calve until late April so we didn't have to deal with newborn calves on the ground during the blizzards. Snow remained on the ground for most of the winter, limiting winter grazing. Cattle producers need a few years of normal to above normal grass hay production to restock winter feed supplies. We have very little carryover and normally have 2-3 years stockpiled for winters like this!

Page 8 – CARC Meeting Minutes, June 4, 2018

Pastures are in great shape at this time, over 6 inches of rain in May. Total for the year so far is 9.77.

The above normal temperatures that have occurred in March and now May make grazing management difficult. The cool season grasses that we depend on early are maturing and drying out and the warm season grasses that take the Sandhills through the rest of the grazing season are not yet ready to graze. – Barb Cooksley

Dutcher, UNL Extension Agricultural Climatologist, expressed his concerns about the increasing dry conditions in southeast Nebraska. He added that with predicted warmer temperatures and unpredictable rainfall, the area bears watching for possible worsening drought conditions.

Some committee members mentioned that it may be necessary to call another meeting later this summer.

Committee members discussed concerns with potential of drought conditions worsening in the state. Committee members will continue to monitor the situation and determine if future action is necessary by the CARC.

Upon more discussion, Christensen said that it may make sense to include drought conditions in NEMA's daily briefing that is distributed throughout the state to several government and community entities.

Committee member Svoboda suggested that he explain some of the newer climate and weather products recently introduced by the National Weather Service at the next CARC meeting. Habrock said Svoboda should contact Steve Roth when the next meeting date is announced to have it added to the agenda.

Jessie Remmers, Farm Service Agency, made the committee and audience members aware that there have been some changes made in the livestock indemnity program. Publicity on the changes was being distributed that day.

Meeting adjourned at 11:21 a.m.