CARC Meeting Minutes
Monday, Oct. 30, 2017
901 Hardin Hall, UNL East Campus

Meeting called to order at 9:05 a.m.

In Attendance:
Committee Members or Representatives: Steve Roth, Nebraska Department of Agriculture; Mary Baker, Nebraska Emergency Management Agency; Barb Cooksley, rancher; Howard Isaacs, Nebraska Department of Health and Human Services; Dr. Matt Joeckel, UNL Conservation and Survey Division; Ashley Mueller, UNL Extension; and Mark Svoboda, National Drought Mitigation Center.

Staff and Audience: Brian Basjenbruch, National Weather Service; Al Dutcher, Nebraska Extension Agricultural Climatologist; Brian Fuchs, National Drought Mitigation Center; Dean Groskurth, USDA-National Agricultural Statistics Service; Mike Hayes, UNL, School of Natural Resources; Sarah Heidzig-Kraeger, USDA-Farm Service Agency; Jason Lambrecht, U.S. Geological Survey; Rick Leonard, Nebraska Legislative Agriculture Committee; Dianna Seiffert, Nebraska Department of Agriculture; Scott Sprague, Nebraska Department of Health and Human Services; Marcia Trampke, Central Nebraska Public Power and Irrigation District; Natalie Umphlett, UNL, High Plains Regional Climate Center; and Eric Zach, Nebraska Game and Parks Service.

The CARC meeting followed provisions in Nebraska's Open Meetings Act.

NDA representative Steve Roth opened the meeting.

Roth was designated as the Nebraska Department of Agriculture's (NDA) representative on CARC by NDA Director Greg Ibach.

Minutes from the July 10, 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
(PowerPoint presentation available on CARC's website)

Past/Current Climate & Drought Report
Fuchs compared U.S. Drought Monitor maps from Nov. 1, 2016, to July 4, 2017, to current conditions around Nebraska and the region as of Oct. 24, 2017.

According to the latest Drought Monitor map for the state, rains that fell over Nebraska in mid- and late-October have alleviated many of the dry areas in Nebraska. The only abnormally dry areas remaining are very small areas in the extreme southwest portion of the Panhandle and the border area with South Dakota in Cherry County. Currently, approximately 13 percent of the state has abnormally dry or D1 drought conditions compared to a year ago when nearly 20 percent of the state had those same conditions.

Drought conditions are still a problem in the Dakotas.

Precipitation over the last 30 days has been above normal throughout most all of Nebraska, according to data from the National Oceanic and Atmospheric Administration (NOAA) Regional Climate Centers. Although the rain delayed harvest in many cases, that above normal precipitation helped replenish soil moisture for all depths of the soil profile. The U.S. Seasonal Drought Outlook from now until Jan. 31, 2018, indicates no drought in Nebraska except for the very small areas in the extreme southwest portion of the Panhandle and the border area with South Dakota in Cherry County.

Fuchs provided the following summary for the climate and drought status for Nebraska:

- Warmer than normal conditions have dominated the state and region so far in 2017 with Nebraska averaging about 1-3 degrees Fahrenheit above normal through the end of October.
- Outside a few pockets in southeast Nebraska and the southern Panhandle, most all of Nebraska has recorded above normal precipitation through the end of October.
- Precipitation over the last 60 days has helped to replenish soil moisture for all depths.
- According to the US Drought Monitor, Nebraska is mostly drought free with only a small pocket of a few counties in the Panhandle with moderate drought.
- The outlook does not show drought conditions developing in Nebraska through the end of January 2018.

Nebraska Water Supply Update

Currently, the water elevation level at Lake McConaughy is 78.9 percent of capacity compared to 86.4 percent of capacity a year ago in November. Fuchs said that the current level is good for this time of year given the increased irrigation demand during the summer months. The levels are already trending up, too, as we are starting to see a good recovery from heavy irrigation usage months. Lake McConaughy's current water elevation bodes well for next year's irrigation season.

Fuchs included information from civil engineer Cory Steinke that was part of a Central Nebraska Public Power and Irrigation District (CNPPID) news release. In that release Steinke reported Lake McConaughy's elevation, currently at 3,250 feet, is rising about an inch per day. Steinke said that releases from the reservoir have been halted for the time being to facilitate maintenance projects on facilities owned by CNPPID and the Nebraska Public Power District.

Also included in the CNPPID news release was a report from Irrigation Division Manager Dave Ford. Ford recently provided an end-of-irrigation season summary to the CNPPID board which stated that deliveries to CNPPID's 1,075 customer accounts averaged 7.2 inches/acre with more than 60,500 acre-feet of water delivered. The 2017 average was about two inches less than average over the past 20 years. More than 101,800 acre-feet of water during the irrigation season went to groundwater recharge. On the supply canal's 74 accounts, 3,843 acre-feet were delivered for an average of 8.2 inches/acre.

According to CNPPID's news release, Ford's report said that diversion and delivery amounts vary from year to year depending upon temperatures and precipitation in the irrigated area, but that the trend over the last 30 years shows that diversions into the irrigation system have been decreasing. Ford added, the crops' water demands are being met with significantly less total diversions because of increasing on-farm irrigation efficiency and improved conveyance efficiencies in the canal system. In Ford's opinion, CNPPID customers are growing more crops with less water.

Fuchs presented the 14-day average streamflow map that indicated that the large majority of rivers and streams in Nebraska had average to above average streamflows compared to historical streamflows for the same time a year ago. Fuchs said good water supplies this past winter and spring have contributed to the flows remaining strong.

Fuchs presented information from the U.S. Bureau of Reclamation of the conservation pool levels of the smaller reservoirs along the Republican River. The values below are current. The values in parenthesis are from the last CARC meeting in July 2017. Lower percentages are due to irrigation usage.

- Hugh Butler: 41.8% (44.9%) of conservation pool
- Enders: 19.7% (21.4%) of conservation pool
- Harry Strunk: 53% (76.7%) of conservation pool
- Swanson: 44% (57.6%) of conservation pool

Currently, Harlan County, the largest reservoir on the Republican River, is at 69.7 percent of full capacity. In July 2017, Harlan County was at 81.6 percent of full capacity. Storage is currently at 218,826 acre-feet compared to 256,247 acre-feet in storage in July 2017, and 213,631 acre-feet as the historical average storage for this time of year.

Current water levels on all the reservoirs along the Platte and Republican River basins are below levels reached in July which is normal due to the irrigation season. The reservoir storage and water levels should see a steady increase through the rest of the fall and winter as irrigation deliveries have ended. Overall, river and stream flows across the state remain strong, and snow in the mountain regions of the upper basins has already begun accumulating.

Fuchs provided the following water supply summary for Nebraska:

- Lake McConaughy is currently 78.9 percent of capacity which is lower than in July 2017 (last CARC meeting) and lower compared to levels in October 2016.
- The Republican River basin reservoirs are lower than in July as water is again accumulating after the irrigation season.
- Harlan County Reservoir is holding about 37,000 acre-feet less water now than in July 2017.
- Harlan County is holding about 28,000 acre-feet more water now than last year at this time and is about average for this time of year.
- All reservoir levels and storage should see a steady increase through the rest of the fall and winter as irrigation deliveries have ended.

Fuchs ended his presentation by thanking all of the partner organizations involved with data collection and distribution.

Nebraska Climate Update
Presented by Al Dutcher, Extension Agricultural Climatologist
(PowerPoint presentation available on CARC's website)

Dutcher gave highlights from the growing season.

- March was warm statewide. Precipitation was above normal in the west and below normal in the east.

- April was warm statewide. Precipitation was above normal in the east with a mixed bag of above and below precipitation in the west.
- In May, producers encountered significant planting delays due to wet conditions. In the eastern Corn Belt, some producers had to replant soybeans three times. In northeast Nebraska after significant planting delays during the first half of the month, dry weather put stress on the newly emerged corn crops late in the month.
- In June, that same area turned the corner by experiencing needed moisture that helped the corn crop develop.
- July was warm and wet statewide.
- August was cooler statewide with precipitation wet in the west and dry in the east.
- September was warm statewide. Precipitation was wet in the west and dry in the east. Warm weather in September benefited the corn crop. By the end of September, the only crops vulnerable to freeze were the ones planted late in May.
- October was warm and wet statewide.

Harvest progress in Nebraska was slowed by rainfall and high winds. The winds were exceptionally strong in the North Platte area where some cornfields are expected to experience a 20–60 percent yield loss due to eardrop. Other areas in central Nebraska are expecting 10–30 percent corn yield losses due to eardrop caused by high winds.

According to the Oct. 30 USDA-NASS crop report, 89 percent of the soybeans in the state have been harvested (near last year), but only 45 percent of the corn crop is out of the fields compared to the five-year average of 67 percent for this time of year.

Dutcher said, Nebraska's soil moisture recharge is off to a fantastic start. Timely rains received in Nebraska during the summer, coupled with significant rainfall amounts received in September and October, have provided welcomed moisture recharge deep into the soil profile in most areas of the state. The ability of the soil to hold that moisture during winter will depend on temperatures and snow cover. With the soil moisture levels we are seeing now, we should be able to go through the winter year without soil moisture recharge concerns.

Dutcher mentioned crop damage due to herbicide products containing dicamba is a continuing concern during the growing season. From a weather standpoint, in order to avoid dicamba damage due to drift, it's important to factor in temperature inversion. The stronger the cap of inversion (moisture in the air), the bigger the risk of drift. The Nebraska State Climate Office (NSCO) operates the Nebraska Mesonet, a state-wide weather observation network with 67 locations across Nebraska that assess local conditions. Dutcher said currently there are not enough open slots on a current data logger configuration to handle more sensors. In order to replicate the University of Missouri inversion monitoring effort, the network would need to be upgraded to add new sensors. Dutcher estimated it would cost approximately $8,500 per Mesonet station to upgrade and approximately $20,000 to add new sites to the network. NSCO has been approached by the Nebraska Soybean Board about possible funding for this and future projects.

Other growing season crop concerns include:

- Maturity concerns for grain fill for corn during August;
- White Mold;
- Some reports of below normal hay season in west central;
- A delayed wheat planting and how a late planting will impact stand emergence; and
- A fall storm pattern bringing in more frequent shots of cold air than last fall.

Weather Outlook
Dutcher commented that several weather and climate experts have increased the probability for, and intensity of, a La Nina event.

When looking at La Nina patterns through the years, historic maps tend to show extreme temperatures one way or another. Only two weak to moderate La Nina weather patterns over the years contained well above normal temperatures during the winter. The more intense the La Nina is, the probability of more severe weather events in the spring. If a La Nina event holds through the spring months, the better chance of severe weather responses will be much stronger, with areas just south of us (SE Kansas, eastern Oklahoma, northeast Texas) typically experiencing up to 3 times the normal hail and tornadic frequency as compared to a non-ENSO (El Nino or La Nina) year during the spring season. Even though Nebraska has good subsoil moisture, a dry winter could mean trouble in the spring by taking moisture out of the subsoil as the frost comes out of the ground. We will still need normal spring moisture to reduce odds of drought development as the growing season proceeds.

Concerns going forward:
- Is the wet fall period a signs of things to come?
- How much of a moderating influence will current soil moisture levels have on air temperatures as we approach winter?
- How strong will La Nina get and what will be the mean jet stream pattern?
- Will there be recovery in the drought in the northern Plains?
- What will be the storm pattern this winter?
- Will this La Nina end quickly or hang on for a longer period of time than current models suggest?

Nebraska Crop Progress and Crop Conditions Report
Presented by Dean Groskurth, USDA-National Agricultural Statistics Service
(PowerPoint presentation available on CARC's website)

A new crop report from USDA-NASS was due later that afternoon, but because of the timing of the CARC meeting, Groskurth's presentation was based on the Oct. 23 Crop Progress and Condition report.

At 14.3 billion bushels, this is the second highest corn for grain production for the United States on record. The highest on record was 15.1 billion bushels last year.

Corn harvest in Nebraska as of Oct. 23 was 26 percent complete compared to 48 percent last year and 52 percent for the five-year average.

Soybean harvest in Nebraska as of Oct. 23 was 67 percent complete compared to 76 percent last year and the 83 percent five-year average.

Winter wheat condition was rated 3 percent very poor, 10 percent poor, 33 percent fair, 45 percent good and 9 percent excellent.

Alfalfa hay production, at 3.23 million tons, is up 4 percent from last year. Area for harvest, at 770,000 acres, is up 3 percent from a year ago. Record yield is forecast at 4.20 tons per acre, up 0.05 ton from 2016. In general there are good supplies of hay available for ranchers.

All “other hay” production, at 2.72 million tons, is up 3 percent from last year. Area for harvest, at 1.70 million acres, is unchanged from a year ago. Yield is forecast at 1.60 tons per acre, up 0.05 ton from 2016.

Pasture and range conditions rated 2 percent very poor, 11 percent poor, 43 percent fair, 39 percent good and 5 percent excellent.

Upcoming release dates/reports:

- November 9—Crop Production
- November 17—Cattle on Feed
- December 14—Small Grain County Estimates
- January 12—Annual Crop Production

Groskurth talked about the 2017 Census of Agriculture. Approximately 3 million packages will be mailed in December to farmers throughout the country. The USDA encourages participation in this survey as decisions are made as a result of data collected. This is the first year the survey will be available online: www.agcounts.usda.gov

NEMA Emergency Plan Update

Presented by Mary Baker, Nebraska Emergency Management Agency (NEMA)
(PowerPoint presentation available on CARC’s website)

Baker updated CARC members on the planning process NEMA is currently conducting to develop a state Drought plan. Drought is one of NEMA’s top five identified hazards. The state Drought plan will be part of NEMA’s State Hazard Mitigation Plan. Baker said that currently there are no requirements to update the Drought plan, but all agency partners and stakeholders agree that the plan we currently have needs to be updated.

The State Hazard Mitigation Plan (SHMP) is updated by NEMA every five years as required by the Federal Emergency Management Agency (FEMA). The last plan was approved and adopted May 19, 2014. Plans are required to be updated every five years in order for NEMA to be eligible to receive Public Assistance funding Categories C-G, Fire Management Assistance Grants & Hazard Mitigation Grant funding. The SHMP is due to FEMA in the spring of 2019.

Baker told the committee that she has met with representatives of NDA and the National Drought Mitigation Center to explore ways how CARC’s and NEMA’s drought planning efforts can be integrated to avoid duplication of efforts and to develop one robust state plan.

Planning efforts include conducting workshops and hosting table top exercises designed to replicate an extreme case scenario of a five-year drought. CARC members will be updated with more details as the process progresses.

Howard Isaacs, Nebraska Department of Health and Human Services, commented on NEMA’s table top exercise saying that now is a good time to plan for a drought when the state has water resources available. This gives people time to think about a worst case scenario, plan, and make connections so everyone will know what to do during a severe drought.

Steve Roth added that the state’s current drought plan is on CARC’s website at carc.nebraska.gov/.

Notes from Mat Habrock

In his absence, Habrock, NDA Interim Director, provided correspondence to let legislatively-appointed members of CARC know that they would be contacted in the near future. Habrock wants to verify members representing specific entities are active participants in CARC. This effort ensures there will be a full, active CARC board to carry out its duties.

The positions confirmed by the legislature that need to be reviewed include: livestock producer, crops producer, Nebraska Emergency Management Agency, Conservation and Survey Division-UNL and Cooperative Extension Services-UNL.

If there are new people to be appointed, they will need to fill out the application for executive appointment found on the Governor's website and have a confirmation hearing before the appropriate legislative committee.

Miscellaneous Reports

Mark Svoboda, Director, National Drought Mitigation Center, introduced a new tool that will help Nebraska be more responsive with drought monitoring. This drought monitoring tool, launched in July, is called Quick Drought Response Index, and it's located online at QuickDRI.unl.edu/archive. UNL worked with many partner organizations, like NASA and the USDA, to develop this tool which uses satellite, climate and biophysical information to detect short-term changes and rapid intensification of drought conditions.

Barb Cooksley, CARC livestock producer representative, reported on the extreme weather conditions/events in and around Custer County that occurred this growing season including hail that destroyed thousands of acres of crops and damaged/totaled roofs in the area. Recent warm weather has led to late summer grazing which is fortunate because of lost acres due to hail.

Sarah Heidzig-Kraeger, program specialist with USDA's Farm Service Agency, reported on the Livestock Forage Disaster Assistance Program which provides compensation for grazing losses for covered livestock on land that is native or improved pastureland with permanent vegetative cover or certain crops planted specifically for grazing. Heidzig-Kraeger mentioned the Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program, too, which provides payments to eligible producers of livestock, honeybees and farm-raised fish to help compensate for losses due to disease, adverse weather and other conditions.

Heidzig-Kraeger said there were reports of hail damage to pastures in the Ainsworth area. Outside of Custer County there haven't been any major events reported. During the past few months, counties outside of South Dakota were allowed to do emergency haying on special acres and many people took advantage of that.

Next Meeting

CARC will meet again in the spring of 2018 unless conditions warrant otherwise.

Minutes and PowerPoint presentations from the Oct. 30, 2017, meeting will be available at a later date on the CARC website at http://www.carc.nebraska.gov/

Meeting adjourned at 10:50 a.m.