

**North Carolina Drought Management Advisory Council
Annual Meeting
North Carolina Department of Agriculture and Consumer Services
Steve Troxler Agricultural Sciences Center
4400 Reedy Creek Rd., Raleigh**

Summary from September 21, 2023 Meeting

The meeting commenced at approximately 1:00 pm by Mr. Klaus Albertin, North Carolina Department of Environmental Quality (NCDEQ) - Division of Water Resources (DWR) – Water Supply Planning Engineer and North Carolina Drought Management Advisory Council (NCDMAC) chairman. He thanked everyone for attending the annual in-person meeting of the NCDMAC including partners from Virginia, South Carolina, and Tennessee. Mr. Albertin then introduced Tim Watkins, Chief Deputy Secretary, NC Environmental Quality for a brief welcome statement for all attendees.

Mr. Watkins began by thanking all of the attendees for their participation in the annual meeting. He gave a special thanks to the NCDMAC technical team members for volunteering their time throughout the year. He also thanked the North Carolina Department of Agriculture and Consumer Services (NCDACS) for their support and for hosting the meeting. Mr. Albertin then introduced Mr. David Smith, Chief Deputy Commissioner of NCDACS.

Mr. Smith welcomed everyone to the NCDACS Steve Troxler Agricultural Sciences Center. He thanked the Drought Management Advisory Council Technical Team for the work all year and encouraged everyone to go to the State Fair which was to start in the following couple weeks.

Following Mr. Smith, Mr. Albertin reiterated his appreciation for all the effort the technical team puts in weekly to produce a weekly recommendation sent to the U.S. Drought Author. He began the presentations with the statutory requirements and guidance, noting that even though the annual meeting is required by statute it also serves an important purpose to the members and partners by providing an opportunity to connect or reconnect in person. The meeting looks back at the previous year and helps to prepare for the year ahead.

The purpose of the NCDMAC is multi-faceted. The primary purposes of the NCDMAC include improved coordination, management, and notification of drought conditions statewide. In addition, the NCDMAC should work to increase the confidence of the public in our drought preparedness. Current or impending drought conditions and issues should be reported to the national drought monitor, the Environmental Management Commission (EMC), the NCDEQ Secretary, and the Environmental Review Commission (ERC). The information reported is to include a wide range of factors including not only the climatic and measurable conditions, but

also impacts to people and property. To achieve this, the involvement of many partner groups and agencies is critical. Representatives from the various agencies included in the NCDMAC are required to meet annually to discuss not only the current conditions of the state, but to review the conditions experienced over the past year and share any achievements and/or lessons learned. Following this overview of the NCDMAC, Mr. Albertin provided an agenda for the day's proceedings.

The agenda followed the customary order of reports as presented during the weekly conference calls, with the North Carolina State Climate Office (SCO) leading off. Mr. Corey Davis, SCO Asst. State Climatologist, provided an overview of the statistical climate data over the past year (September 2022 – August 2023). Mr. Davis described the past year as fairly normal with a few exceptions. Statewide, February was the 2nd warmest on record whereas the summer was the 13th warmest. Last year was also near normal for precipitation statewide but April was the 8th wettest on record.

The summer of 2022 ended with dry conditions statewide. This was largely addressed in the fall of 2022 by hurricane Ian and additional widespread, heavy rainfall. Hurricane Nicole also took care of dryness in the western part of the state. The winter of 2022 into 2023 was dominated by a La Niña pattern and ended up being the 5th warmest on record. Spring of 2023 saw rainfall on just about every weekend. May 2nd showed the first clear drought map in over a year. Summer of 2023 was dominated by hazy smoky conditions mainly from wildfires in Canada. The state also saw its first EF-3 tornado in July touching down in Nash and Edgecombe counties. Mr. Davis then gave a review of 30-, 60-, and 90-day conditions.

Mr. Albertin provided a short introduction for Mr. Barrett Smith, service hydrologist with the National Weather Service (NWS) in Raleigh, noting that the weather forecasts are much needed information that provide context for the reports that follow from the membership of the weekly Drought Management Advisory Council Technical Team. However, it is also important to note that the DMAC does not directly consider the NWS forecasts in drawing the weekly drought map recommendations, focusing instead on the current conditions. Mr. Smith opened his presentation by discussing the current soil moisture conditions based on the NASA SPoRT-LIS dataset. In the short-term tropical system Ophelia was forecasted to bring heavy rainfall to the coast. The longer-term three-month outlook shows near-normal weather continuing. The ENSO (El Nino Southern Oscillation) forecasts show a return of an El Niño weather pattern in the winter. Typically, this suggests wetter and colder conditions over the winter.

Mr. Curtis Weaver, Hydrologist with the USGS in Raleigh, provided a presentation on stream flow gage data over the previous year. Mr. Weaver noted that the USGS maintains 290 continuously recording streamflow gages and 65 groundwater well gages across the state, hosting this data, much of which in real time, on the USGS maintained website. Mr. Weaver noted that there were only four short periods over the last year with low flow conditions statewide.

There were no new Period of Record (POR) minimum daily record or seven-day average minimum records, for the streamflow gages statewide.

Following Mr. Weaver's presentation, Mr. Albertin introduced Mr. Mark Durway, NCDWR Hydrogeologist with the Groundwater Management Branch. Mr. Durway opened his presentation by noting the Groundwater Management Branch maintains 235 groundwater monitoring stations and over 700 wells, with 65 of these wells designated as drought wells. These drought wells are relatively shallow and directly influenced by precipitation. These wells in combination with United States Geological Survey (USGS) stream flow gages are used to estimate baseflow conditions in streams across North Carolina. Mr. Durway then briefly detailed the "Well and Baseflow Drought Graphic" available on the Branch's webpage, and shown weekly during the drought call, is produced. Effectively, it overlays data from the drought indicator well network with baseflow data derived from USGS streamflow gage data. The derived baseflow data provides a supplemental, surrogate measurement of the volume of water provided by surficial groundwater. Mr. Durway noted that October 2022 seemed to have been the driest statewide over the past year.

Next, Tony Young, United States Army Corps of Engineers (USACE) – Wilmington District Water Management District provided a synopsis of the USACE reservoir conditions over the past year. He opened by stating that due to the reduced inflows over the past several months, both Falls and Jordan Lakes are currently operating conservatively. Currently, Falls Lake has 68 percent of the water quality pool remaining and is operating under a 230 cfs target downstream of the dam at the US Highway 42 USGS gage. Jordan Lake currently has approximately 81 percent of the water quality pool remaining and has reduced the releases from the dam as a response.

Following Mr. Young's presentation, Linwood Peele, Division of Water Resources, Water Supply Planning Branch Supervisor presented slides for the Duke Energy Hydro Operations. He provided a brief annual summary for each of their projects/reservoirs on the Catawba River, Yadkin River, and waters in the western portion of the state. Duke observed near normal conditions nearly throughout the entire year.

Mr. Peele provided an update on the reservoir conditions for Cube Hydro, which manages several projects in the Yadkin Pee-Dee basin. Cube Hydro reported current inflows of approximately 98.4 percent of normal. The fish spawn enhancement period was met and there were no rule curve deviations during 2023. Currently, the water surface elevation at High Rock Lake is 1.7 feet below normal.

Lastly, Mr. Peele provided an update on the reservoir conditions for the Tennessee Valley Authority (TVA) projects in western North Carolina. He reported that all reservoir projects stayed within 80 percent of their guide curves for the year.

Following Mr. Peele's presentations, Mr. Jamie Dunbar, North Carolina Forest Service – Assistant State Forester—Forest Protection, provided details of wildfire conditions across North Carolina over the past year. Mr. Hicks noted that this past year had a near average number of wildfires but approximately three times above average acreages burned in North Carolina. Three fires comprised most of the 69,000 acres burned. The wildfires of particular note this past year included the Last Resort Fire at 5,280 acres (March 2023), the Great Lakes Fire at 32,156 acres (April 2023), and the Pulp Road Fire at 15,670 acres (June 2023). March was the most active month over the past year, but April had the greatest acreage burned. Coastal North Carolina had the least number of fires but the highest acreage. Interestingly, debris burning is the #1 cause of wildfires in North Carolina causing approximately 45 percent of all fires. Lightning (non-human induced) only accounted for 1-2 percent of the total number of wildfires.

Lastly, Dr. Mike Yoder, Associate Director with the North Carolina State University Cooperative Extension, provided a synopsis of the previous year's agricultural conditions drought issues statewide. While there were a few extended periods of dryness in areas across the state, most crops received rainfall during critical periods and agriculture did not see many negative impacts.

Mr. Albertin ended the meeting by reiterating the purpose of the NCDMAC codified in general statute. He thanked all the partner organizations and attendees, reminding everyone in the meeting that the U.S. Drought Monitor views and promotes the North Carolina Drought Management Advisory Council as a model for other states to follow. Mr. Albertin stated that he looks forward to seeing everyone at next year's annual meeting of the North Carolina Drought Management Advisory Council. With no further business to discuss, Mr. Albertin adjourned the meeting at approximately 3:45 pm.