South Carolina Drought Tabletop Exercise

Wednesday, July 24, 2019
9:30 AM – 3:30 PM

SC Emergency Operations Center
2779 Fish Hatchery Rd.
West Columbia, SC 29712

Motivation & Goals

Existing drought plans, ordinances, and procedures are important tools in guiding state-, basin-, and local-level response to drought. South Carolina has experienced several droughts over the past two decades, highlighting the need for multiple agencies and organizations to work together to effectively manage water resources during these events. The goal of this exercise is to enhance South Carolina's drought response and preparedness and the State's capacity to address a statewide water shortage. The exercise will convene various groups responsible for drought response. Participants will walk through a series of drought scenarios, rehearsing the actions that would occur at increasingly severe stages of drought.

Objectives

1. Exercise the South Carolina drought monitoring and response process
2. Identify gaps in existing processes and prioritize follow-up actions
3. Increase awareness of participants' roles and responsibilities for drought response and planning within their agencies and organizations

Participation

Participants should be prepared to discuss their organization's drought plans and procedures and actively consider how their organization would respond to drought conditions of increasing severity and activation of the State's Emergency Operations Plan (EOP). Invited participants include Drought Response Committee (DRC) members, the State Emergency Response Team (SERT), emergency managers, water managers, and others with responsibility for drought monitoring and response.

Since not all water systems in the state will be able to attend the exercise, water utility representatives are asked to focus on how they would address a water shortage in their county. Challenges, opportunities, and lessons learned identified by this group will be important in developing strategies to further enhance local and state drought response and planning.

Planning Team

Hope Mizzell, Melissa Griffin – *South Carolina Department of Natural Resources, State Climatology Office*
Ekaterina Altman, Amanda Farris, Kirsten Lackstrom – *Carolinas Integrated Sciences & Assessments*
Robert Burton, Megan Wood – *South Carolina Emergency Management Division*
Jeff Allen, Tom Walker – *South Carolina Water Resources Center*

South Carolina Drought Tabletop Exercise
Agenda

9:15	Registration
9:30	**Welcome and introductions** **Goals and objectives for the exercise** **Challenges and opportunities for drought response** *Progress and updates since the 2017 exercise* **Review of relevant legislation, plans, and programs** *Drought Response Act and Regulations* *Emergency Operations Plan – Appendix 10 (Drought Response Plan)* *Surface Water Withdrawal, Permitting, Use and Reporting (Act and Regulations)* *Groundwater Use and Reporting Program* *State Water and River Basin Planning Processes*
10:45	Break
11:00	**Introduction to the scenarios** **Scenario 1 – June 2021, Moderate drought** *Full group discussion*
11:45	**Scenario 2 – August 2021, Severe drought** *Breakout into Drought Management Area groups for discussion*
12:30	Lunch
1:15	**Scenario 3 – May 2022, Extreme drought** *Breakout into Drought Management Area groups for discussion*
2:00	**Scenario 4 – August 2022, Activation of the Emergency Operations Plan** *Full group discussion*
2:45	**Hot Wash** *Group provides feedback on exercise and suggestions for action items* **Closing Remarks**
3:30	Adjourn

Narrative and Discussion Questions

Scenario 1 - June 2021, Moderate Drought

La Niña conditions contributed to lower-than-normal rainfall during the winter and early spring. Throughout the spring, the state has been experiencing **incipient** drought conditions, including abnormally dry conditions statewide and little to no rainfall in some areas. An early season heat wave and high temperatures are also contributing to increasing water demands and use.

- Indicators show low soil moisture conditions, and reports note that non-irrigated crops are withering and may not survive if dryness continues.
- There is increased wildfire danger and higher than normal activity; >30 Class C (10-99 acres) occur per day.
- Most streams are showing in declining trends. Reservoir managers have reduced water releases to help maintain lake storage. Some water systems requested voluntary conservation to help manage increased water demands from customers.

All participants

a. *What, and how, is your organization communicating with the public?*
b. *Do you have the necessary information, personnel, and/or resources to respond to this stage of drought? If not, what would help your organization more effectively respond to and prepare for drought?*

Drought Response Committee members

a. *What aspects of the monitoring and response process could be improved?*
b. *Do you have the information you need to evaluate drought conditions?*

Local water systems

a. *How current is the information in your local drought response plan and ordinance? (For example, water system information, drought triggers and response actions, and contact information)*
b. *What currently works well at this stage?*
c. *What does not work well at this stage?*

State agencies and other organizations

a. *Does your organization have a plan in place for monitoring, responding to, and preparing for drought?*
b. *How is your organization affected at this stage of drought? How is your organization responding?*

Narrative and Discussion Questions

Scenario 2 – August 2021, Severe Drought

Breakout group discussion: challenges associated with inconsistent communications and response

Prolonged dry weather has contributed to the increasing severity of drought conditions; sporadic, localized afternoon storms produce the only rainfall throughout the summer.

- Agricultural impacts include lost crops, lack of feed and forage for livestock, and low levels in irrigation ponds. All 46 counties are expected to meet the USDA Secretarial disaster designation status.
- Increasing numbers of fires, and more intense fires, require more personnel and equipment to control. Burn restrictions and bans have been enacted.
- Streamflows are <10% of normal, and major lakes are below target levels, for this time of year. Groundwater monitoring wells and reservoir levels show declining trends.

All participants

a. *What, and how, is your organization communicating with the public?*
b. *Do you have the necessary information, personnel, and/or resources to respond to this stage of drought? If not, what would help your organization more effectively respond to and prepare for drought?*
c. *How do inconsistencies at different organizational levels affect drought response and communications at this stage?* For example:
    1. State level: The DRC typically encourages voluntary conservation and implementation of local ordinances and plans but does not recommend or require mandatory restrictions.
    2. Local level: Water systems ask for no, voluntary, or mandatory restrictions.
    3. Basin level: Many basins have Low Inflow Protocols (LIPs) or other reservoir management plans and procedures; others do not have a coordinated approach.

Drought Response Committee members

a. *What aspects of the monitoring and response process could be improved?*
b. *Do you have the information you need to evaluate drought conditions and make recommendations regarding water use restrictions?*

Local water systems

a. *Are local ordinances and plans up-to-date and consistent with other drought plans in your area (i.e., wholesale customers, neighboring communities) or basin (i.e., LIPs)?*
    1. Are actions at the severe drought stage, as outlined in the plans, adequate and effective?
    2. Are wholesale customers required to implement conservation?
    3. To what extent are ordinances and restrictions coordinated across neighboring water systems and communities?

State agencies and other organizations

a. *How is your organization or sector (agriculture, forestry, industry) responding to drought at this stage?*
b. *What challenges are evident?*

Narrative and Discussion Questions

Scenario 3 – May 2022, Extreme Drought

Breakout group discussion: mandatory reductions and curtailment of non-essential water use

Over the past year, the state has experienced one of the driest and warmest periods on record. The statewide average for 2021 was 35 inches, 12 inches below normal. Two tropical storms provided rainfall in the fall, but not enough to make up the deficit. 2022 is on track to be as dry and hot as 2021. As a result, the State is experiencing widespread impacts to agriculture, fire risks, water resources, and water-dependent industries and businesses. *Conditions are deteriorating and the DRC decides that State measures are necessary to address existing, and projected, effects of drought.* ***The DRC reviews essential and non-essential water uses and makes recommendations regarding the curtailment of water use.***

All participants

a. *What, and how, is your organization communicating with the public?*
b. *Do you have the necessary information, personnel, and/or resources to respond to this stage of drought? If not, what would help your organization more effectively respond and prepare?*

Drought Response Committee members

a. *As the DRC evaluates conditions to determine if State action is needed, are existing plans and procedures effectively guiding the transition from local to state-level response?* For example:
    1. The Forestry Commission requests that the Governor activate the National Guard for state duty, to assist with fire suppression.
    2. The DRC recommends that the Governor issue public statements about drought conditions, including recommendations for mandatory restrictions on water use and withdrawals.
    3. The DRC evaluates non-essential water uses that can be curtailed and submits recommendations to DNR.
b. *What challenges exist in determining the equitable allocation of water?* (DRA Sec. 49-23-80)
c. *If the DRC requests restrictions on or curtailment of water use, will affected parties appeal to the Administrative Law Judge, which has 5 days to hear the case?*
    1. How will this affect timeliness and effectiveness of conservation and response efforts?

Local water systems

a. *Are actions at the extreme drought stage, as outlined in your water system plan and ordinance, adequate and effective? What challenges are evident?*

State agencies and other organizations

a. *How is your agency, organization, or sector (agriculture, forestry, industry) responding to drought at this stage?*
b. *How are industry and individual businesses responding?*
    1. What challenges do water-dependent businesses face? They are not required to have a drought plan, but might be considered a non-essential water use and required to curtail their water use. Will they appeal to the Administrative Law Judge?
c. *What other challenges are evident at this drought stage?*

Narrative and Discussion Questions

Scenario 4 – August 2022, Emergency Operations Plan (EOP) is activated

Statewide, exceptional drought conditions persist and continue to worsen. *Safety, health, and welfare are threatened.* DRC notifies SCEMD that drought conditions have progressed to a level that requires activation of the EOP. The State Emergency Response Team (SERT) develops a Drought Emergency Executive Order for Governor's signature. SERT, with the DRC, works with local emergency management directors and water suppliers to develop response and recovery measures. The Governor may issue emergency regulations to require curtailment of withdrawals. State agencies are required to reduce water use by 10%.

All participants

a. *What, and how, is your organization communicating with the public?*
b. *Do you have the necessary information, personnel, and/or resources to respond to this stage of drought? If not, what would help your organization more effectively respond to and prepare for drought?*

Drought Response Committee members

a. *What resources, information, or additional capacity does the DRC need to assess conditions and recommend activation of the Emergency Operations Plan?*

SERT members and other organizations

a. *What challenges do you foresee in implementing the Emergency Operations Plan and activating the SERT?*
    1. For a drought event, activation could last for months, or longer.
    2. What additional resources or information may be necessary to enact aid and assistance programs?
b. *Does the Governor seek a federal disaster declaration?*
    1. If so, what information is needed?
c. *What legislative action might be required?*
d. *How will SC coordinate with other states, recognizing that extreme drought conditions will likely affect our neighbors as well?*