

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

I. INTRODUCTION

This plan establishes policies and procedures to be followed by the state and counties when responding to a drought situation. The focus of this plan is on the state and federal consequence management of the drought.

A. Drought for the purposes of this plan means a period of diminished precipitation which results in negative impacts upon the hydrology, agriculture, biota, energy, and economy of the state. Drought conditions are determined by using established means of measuring precipitation, stream flow, soil moisture and well levels. These combined measurements form indices from which the degrees of drought are categorized. The South Carolina Drought Response Act of 2000 describes four levels of drought conditions:

1. 'Incipient drought' indicates that there is a threat of a drought as demonstrated by drought indices.
2. 'Moderate drought' indicates that there is an increasing threat of a drought as demonstrated by drought indices.
3. 'Severe drought' is defined as a drought that has increased to severe levels as demonstrated by drought indices. This phase must be verified utilizing data, forecasts, and outlooks from various agencies. A drought of this severity normally requires an official declaration by the Department of Natural Resources and water withdrawals and use restrictions.
4. 'Extreme drought' is defined as a drought that has increased to extreme levels as demonstrated by drought indices.

The Department of Natural Resources shall continue to evaluate information from various sources. Upon confirmation of an Extreme Drought Alert Phase, the Drought Response Committee may recommend that the Governor issue a public statement that an extreme drought situation exists and that appropriate water-use and withdrawal restrictions be imposed.

B. This plan is designed to provide emergency managers at the state and local levels with a methodology to respond to a drought that has progressed to severe or extreme conditions after conservation measures have been exhausted and communities are in life-threatening situations.

II. MISSION

To provide statewide planning and response strategies that allow state and county emergency management officials to effectively and efficiently plan and coordinate the

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

application of local, state, and federal resources in response to a severe or extreme drought event to prevent loss of life, minimize damage, lessen the economic impact, and protect the environment.

III. CONCEPT OF OPERATIONS

This plan identifies the follow-on actions that occur at the state level to assist with and provide relief from severe or extreme drought conditions that have reached a level of disaster beyond the scope of the South Carolina Drought Response Committee. The South Carolina Drought Response Committee is composed of representatives from the Department of Natural Resources (DNR), Department of Environmental Control (DHEC), Forestry Commission, Department of Agriculture, South Carolina Emergency Management (SCEMD) and other weather and hydrology experts. The committee will continue to monitor and determine the levels of drought within the state and make recommendations to assist with managing the drought, and support implementation of this plan. Actions available to the state to assist communities under this plan may apply under either severe or extreme drought conditions.

A. Situation

1. Droughts are naturally recurring events in South Carolina. The length and severity has varied greatly over the last 25 years. The most recent drought, from 1999 to 2002, was one of the longest and most severe in more than 100 years.
2. A drought event can have a major impact on the state economy, and will affect everything from agriculture to industry to individuals.
3. A drought is a slowly developing disaster, often taking years to have an impact on the state.

B. Assumptions

1. Not all areas of the state will be affected the same way at the same time during a drought. There could be different types of drought response operations occurring simultaneously in the state.
2. State actions in response to severe or extreme drought conditions may be identical as individual communities may be affected in varying degrees in both conditions.
3. The State Drought Response Plan will, in some instances, be in effect at the same time other measures are being implemented by the Drought Response Committee and local water systems.

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

4. Most response measures will require a Declaration of a State of Emergency by the Governor and may include FEMA and United States Army Corps of Engineers (USACE) support.
 5. Legislative action may be required to approve coordination and negotiations with surrounding states to coordinate response measures.
 6. A severe or extreme drought condition could trigger implementation of the State Catastrophic Incident Response Plan, Appendix 9 of the SCEOP.
 7. In extreme circumstances people could be evacuated to water locations instead of water being delivered to them.
 8. The State Emergency Response Team (SERT) activation for a drought response could be a long-term activation lasting for months or even longer.
- C. The Drought Response Committee is charged with monitoring the drought conditions in the state and setting the drought level. The Committee is also charged with developing regulations to support water conservation and mitigation measures for the Drought Management Areas.
- D. The South Carolina Emergency Management Division is charged with coordinating and directing restoration and recovery operations when local government resources are exhausted and as such will have some overlapping responsibilities with the Drought Response Committee as well as some very distinct and separate responsibilities.
- E. The SC Department of Natural Resources will provide the Drought Response Committee notification of the onset of each Drought Alert Phase in Drought Management Areas.
- F. The Drought Response Committee shall evaluate drought conditions within Drought Management Areas to determine if a need exists for action beyond the scope of local government. The committee shall consider:
1. Effectiveness of local drought ordinances and plans in protecting and insuring adequate water supplies;
 2. Regional impacts of water use on water sources and water users;
 3. Short term and extended climatologically forecasts;

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

4. Other relevant information.
 - G. For the purpose of implementing this plan the state will use the four water management areas. These areas are West, Central, Northeast, and Southern. See the map at Attachment C for a visual depiction. All response will be based upon water levels or flow in river basins within the four management areas. This will allow equal implementation of response measures across local and city jurisdictions.
 - H. Upon determination that action in addition to local measures is necessary to insure adequate supplies of water in Drought Management Areas, the Drought Response Committee shall prepare recommendations to reduce or alleviate drought impacts and submit the recommendations to the South Carolina Department of Natural Resources for implementation. If the recommendations involve the curtailment of water use, the committee shall determine which categories of non-essential water use must be curtailed in accordance with State Regulation 121-11.10.
 - I. The Drought Response Committee shall consult with representatives of municipalities, counties, commissions of public works, public and private water suppliers, public service districts, power generation facilities, industries, special purpose districts and any other water users in the affected Drought Management Area while evaluating drought conditions and in preparing recommended actions.
 - J. Should the drought situation continue to deteriorate to the point that the safety, health, or welfare of people or infrastructure within a Drought Management Area is seriously threatened or impacted, the Drought Response Committee shall immediately notify the Governor per the Drought Response Act of 2000, and provide a priority list of recommended actions to alleviate the effects of drought conditions in the affected drought management areas.
 - K. The Response Committee will also notify SCEMD that drought conditions have progressed to a level that may require the activation of this plan.
 - L. SCEMD will, upon notification from the Drought Response Committee, conduct a review and based upon the findings activate this plan, if appropriate.
 - M. Activation of this plan will be based upon pre-identified events that may affect a community's ability to provide for the safety of its citizens due to low or lack of water. These events include:
 1. Communities have initiated water restrictions or rationing;
 2. Communities water supplies are continuing to be depleted to the level of exhaustion;

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

3. Local utility companies have begun shutting down power generation plants;
 4. The requirement of firefighting resources beyond the capabilities of the SC State Forestry Commission and implementing the fire fighter mobilization plans or the Southeastern Forest Fire Compact;
 5. The Drought Response committee recommends plan activation.
- N. The activation of this plan will trigger activation of the SEOC and SERT. The SEOC will initially activate at OPGON 3, with a limited activation staffed by EMD personnel, key SERT agencies and ESFs as required..
1. Upon activation, the SERT will start developing a drought emergency Executive Order for the Governor's signature. See Attachment A.
 2. The SERT in coordination with the Drought Response Committee will work with local emergency management directors and local water suppliers to develop appropriate response and recovery measures. The measures could include but are not limited to:
 - a. Activation of Points of Distribution (PODs) within a community to assist with the distribution of donated or purchased water.
 - b. Coordinate with DHEC, FEMA, and the US Army Corps of Engineers to assist with drilling of new water wells.
 - c. Provide temporary sheltering for citizens without access to water.
 - d. Activate the State Evacuee Assistance Center to provide relief assistance to communities and individuals affected by the drought. See Annex 2 to Appendix 9, the Catastrophic Incident Response Plan, to the State Emergency Operations Plan.
- O. Actions by Phase
1. Preparedness
 - a. A statewide public information media campaign should be initiated when the Drought Response Committee categorizes more than fifty percent of the counties in the state in a severe or extreme drought condition. This should be an ESF 15 and DNR PIO function. Public Service Announcements (TV, radio, newspaper) should be

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

prepared in advance of any declaration and maintained by SCEMD for use as needed. These might be used to minimize the fear and potential misunderstanding citizens would be experiencing and to develop and improve the public understanding of a drought and its impact.

- b. When directed by the Governor, each state agency will develop a list of actions to conserve internal water usage by ten percent. Examples include stop watering of landscape and not washing agency cars.
- c. EMD will work with the Drought Response Committee to develop a statewide drought mitigation plan.
- d. The Drought Response Committee will monitor the drought conditions and advise EMD of any changes. The committee will provide updates on the number of communities that implement the conservation measures; this will include voluntary and involuntary measures.
- e. All state agencies will develop and refine drought response measures that they can implement. This would include, for example, developing and recommending changes to current drought legislation, relief support, and tracking impacts.
- f. Incorporate current state and federal research programs into plans for drought response and mitigation.

2. Response

- a. The Governor declares a State of Emergency or a drought emergency by Executive Order. The Governor may also issue emergency regulations to require the curtailment of water withdrawals or to allocate water on an equitable basis. The Governor may seek a Federal Disaster Declaration to receive federal resources.
- b. ESF 15 will issue weekly press releases providing updates on the drought status and actions being taken. They will also provide information on relief programs available from both the state and federal level.
- c. EMD along with the Drought Response Committee will advise the Governor regarding the necessity of authorizing the Department of

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

Transportation to grant temporary overweight/overwidth exemptions to carriers transporting essential emergency relief supplies into and through South Carolina in order to support disaster response and recovery.

- d. For impacted communities, EMD will activate, as necessary, State Evacuee Assistance Centers in order to provide access to state assistance programs in dealing with a drought emergency.
- e. The SERT will develop response plans based upon the situation. Some of the remediation could include hauling water, drilling new wells, providing temporary hook ups to other water systems, and coordinating rationing operations.

3. Recovery

- a. Continue drought response activities and monitoring of the drought indicators.
- b. Assist with implementation of state and federal relief programs.
- c. The state will seek federal disaster declarations for both individual and public assistance funding.

4. Mitigation

- a. Develop programs and projects to improve water storage and collection capability within the state.
- b. Continue to develop interoperability between different water systems and river basins.
- c. Develop and implement long term conservation measures to reduce water usage as the population continues to grow.
- d. Coordinate with surrounding states to develop a regional drought mitigation plan.
- e. Develop and implement permanent solutions to alleviate water shortage issues.
- f. Encourage the development of drought mitigation plans for industry and municipal public works departments.

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

- g. Establish a statewide water table monitoring network to assess hydrologic changes and monitor drought conditions as recommended by the State Water Plan, 2nd edition.

IV. RESPONSIBILITIES

A. General Responsibilities

1. Upon notification of activation of this plan, all state agencies involved in drought response will provide representatives to staff the SEOC.
2. Agencies represented on the Drought Response Committee will provide members to the SCEMD drought response working group.

B. South Carolina Emergency Management Division

1. Establish a working group to develop response, recovery, and mitigation plans in response to severe or extreme drought conditions within the state.
2. SCEMD PIO and ESF 15 will work with other agencies PIOs to develop and initiate a statewide public information campaign when more than fifty percent of the counties in the state are in a severe drought.
3. In coordination with Drought Response Committee, SCEMD PIO and ESF 15 will issue weekly press releases providing updates on the drought status and actions being taken.
4. SCEMD will activate and monitor State Evacuee Assistance Centers, as necessary, to provide impacted populations access to state assistance programs in dealing with a drought emergency.
5. Review and update this plan annually.

C. Department of Natural Resources Climatology Office

1. Continue to monitor and provide updates on the state drought assessment.
2. In coordination with the Department of Health and Environmental Control develop a state-wide water table monitoring system to assess well water levels.
3. Provide long-range, climate-scale predictions for the state.
4. Continue to work with the Drought Response Committee to manage conservation and mitigation programs at the local level across the state.

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

5. Assist in drafting the Governor's Executive Order.

D. Forestry Commission

1. Provide SCEMD a daily update once the one hundred wildfires a day threshold has been reached and the fire fighter mobilization plan or the Southeastern Forest Fire Compact has been activated.
2. Upon activation of this plan, be prepared to deploy one or more Incident Management Teams to support drought response activities.

E. Department of Commerce

1. Compile economic loss data from impacted areas of the state by either sector or region.
2. Where possible, compile the loss of sales tax revenues, increase in unemployment, and decreases in tourism levels or lodging receipts to aid in federal disaster declaration determinations.
3. Identify major commercial and industrial problem areas.

F. Department of Health and Environmental Control

1. Work with the Drought Response Committee to ease or waive well drilling permit restrictions, as necessary, to support mitigation plans.
2. Assist the Department of Natural Resources in their development of a statewide water table monitoring system.
3. Track number and location of water well permits issued.

G. Clemson University Cooperative Extension Agency

1. Compile agricultural loss data from impacted areas of the state by either sector or region.
2. Develop and maintain plans to assist in:
 - a. feeding & watering or evacuating large farm animals
 - b. poultry water usage for drinking and evaporative cooling
 - c. dairy industry water needs for sanitation
 - d. swine industry drinking water and waste management

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

H. SC Department of Agriculture

1. Compile agricultural loss data from impacted areas of the state by either sector or region.
2. Develop and maintain plans to assist in:
 - a. feeding & watering or evacuating large farm animals
 - b. poultry water usage for drinking and evaporative cooling
 - c. dairy industry water needs for sanitation
 - d. swine industry drinking water and waste management

I. Office of Regulatory Staff

1. Monitor the nuclear power producing facilities power production and report any loss of capability due to lack of water for cooling and evaporation.
2. Assist in gathering economic loss information from the energy producing sector in the state.

J. South Carolina National Guard

1. Develop plans to support water hauling operations to include providing security.
2. Upon activation of the SERT, provide an equipment list of water transport equipment and water purification equipment available within the state.
3. Develop plans to assist in the evacuation of citizens from drought stricken areas to temporary shelter locations within the state.

V. FEDERAL INTERFACE

A. FEMA

1. For additional information see Region IV Concept Plan Regional Drought Response 2007.
2. FEMA drought response capability is limited to a Stafford Act Presidential Disaster Declaration. If drought conditions warrant, a Governor requested Presidential Disaster Declaration will allow federal resource response.

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

B. US Army Corps of Engineers (USACE)

1. Upon a request from the Governor, the Corps of Engineers may provide the following programs to assist with drought relief:
 - a. The Emergency Well Construction and Water Transport program provides for the construction of wells and/or the transport of water to farmers, ranchers, and political subdivisions that are drought distressed. The Corps of Engineers will transport the water at no cost; however, the cost of the water is the responsibility of the requesting organization. The USACE will also contract drilling of new wells, but the requesting jurisdiction must pay for the services.
 - b. Other programs available include selling of Corps' reservoirs of surplus water and planning assistance in the development of a state drought contingency plan. The planning assistance is a 50-50 cost share program.
2. The USACE cannot provide water for livestock, irrigation, or commercial/industrial processing.
3. Additional USACE assistance is outlined in Attachment B

C. National Oceanic and Atmospheric Administration (NOAA)

1. Drought monitoring
 - a. The following organizations collaborate to produce the U.S. Drought Monitor which provides national and state drought status reports:
 - Joint Agricultural Weather Facility (U.S. Department of Agriculture)
 - Climate Prediction Center (NOAA)
 - local National Weather Service Offices and River Forecast Centers (NOAA)
 - National Drought Mitigation Center (University of Nebraska-Lincoln),
 - U.S. Geological Survey (U.S. Department of Interior),
 - National Water and Climate Center (USDA/Natural Resource Conservation Service),
 - Climate Diagnostics Center (NOAA),
 - Regional Climate Centers and State Climatologists,

SOUTH CAROLINA DROUGHT RESPONSE PLAN

APPENDIX 10

- b. NOAA produces Short-and Long-Term Drought Indicator Blends to forecast nationwide drought conditions.
 - c. NOAA produces the U.S. Drought Hazards Assessment which identifies the current drought conditions throughout the country
 - d. In collaboration with NOAA and USDA, the National Drought Mitigation Center produces the Drought Impact Reporter which collects and documents the affects drought on states and communities.
- 2. Climate modeling/climate predictions
 - a. Precipitation predictions from six days to 12 months.
 - b. Temperature predictions from six days to 12 month.
- D. Small Business Administration and the United States Department of Agriculture

Upon declaration of an agriculture disaster by the Secretary of Agriculture, both agencies can provide drought assistance in the form of disaster relief loans for farmers and small business owners. See Attachment B

VI. ATTACHMENTS

- A. Draft Governor Executive Order
- B. Programs available to support drought response
- C. South Carolina Water Management Areas
- D. Press Release