

Today's Drought: Monitoring and Response

Overview of State Approaches

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 - NOAA Regional Integrated Sciences and Assessments (RISA) program
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- Partners, project participants, interviewees
 - SC and NC State Climate Offices
 - SC Drought Response Committee
 - NC Drought Management Advisory Committee
 - Drought coordinators, water managers, and others from across the Southeast

Objective & areas of inquiry

- Document and compare drought response and preparedness planning in the Southeast
 - Key elements of drought plans and programs
 - Coordination mechanisms, within and between states
 - What works well; needs, gaps, challenges
 - Opportunities: activities that could be taken or supported by NIDIS, state, and regional partners

Framework

Type of Policy / Plan / Program

Post-Impact
disaster assistance

Preparedness
“today’s drought”
tactical / operational

Mitigation
“tomorrow’s drought”
strategic

Level

Federal

State
university / SCOs

Sub-state
river basin / regions

Local
county / municipality /
water system

Sector

Agriculture

Fire / Forestry

Water

Industry

Health

Environment

Energy

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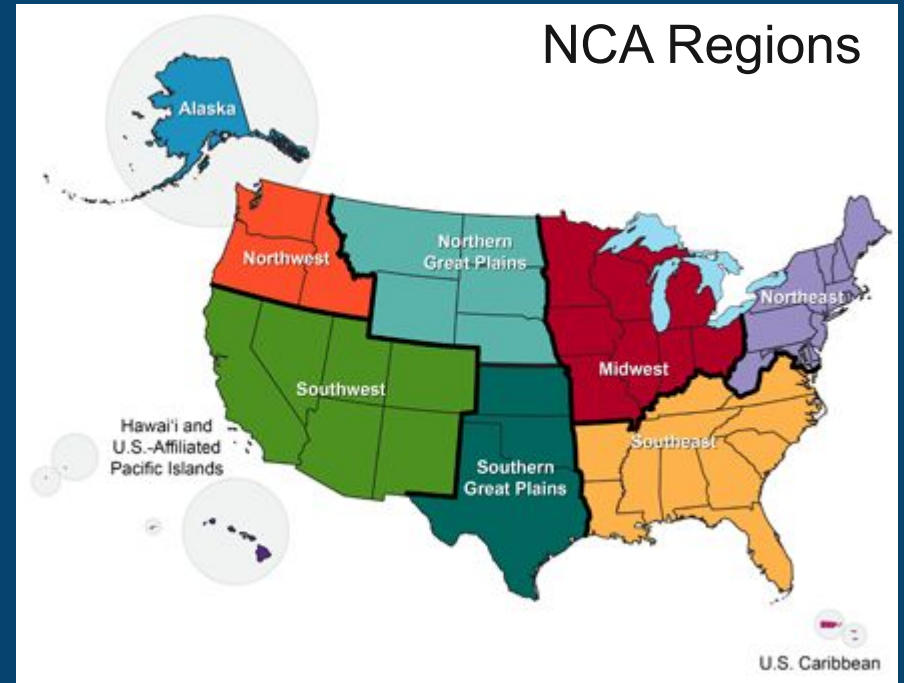
Health

Environment

Energy

Approach & methods

- State-level documents
 - Statutes, regulations, plans
 - Drought-specific
 - Drought-relevant
 - Emergency operations plans
 - Hazard mitigation plans
- Semi-structured interviews
 - State drought coordinators
 - Others with drought-specific or related water planning responsibilities
- Other documents
 - Reports, research articles, web-based information



Interviews

- 33 interviews
- 41 individuals
- 1 webinar with FL WMDs (~30 people)

By state

AL	AR	FL	GA	KY	LA	MS	NC	SC	TN	VA	>1
3	3	3	2	1	5	3	2	3	3	2	4

By level

State	University	Region	Federal
19	11	5	7

By role

Drought lead	Monitoring	SCO-drought lead	SCO-monitoring	Water
5	3	2	8	24

Key elements

- ✓ Roles & responsibilities
- ✓ Monitoring
- ✓ Indicators & triggers
- ✓ Response actions
 - Agency tasks
 - Triggers or guidance for local action
- Enforcement, mediation, & variances

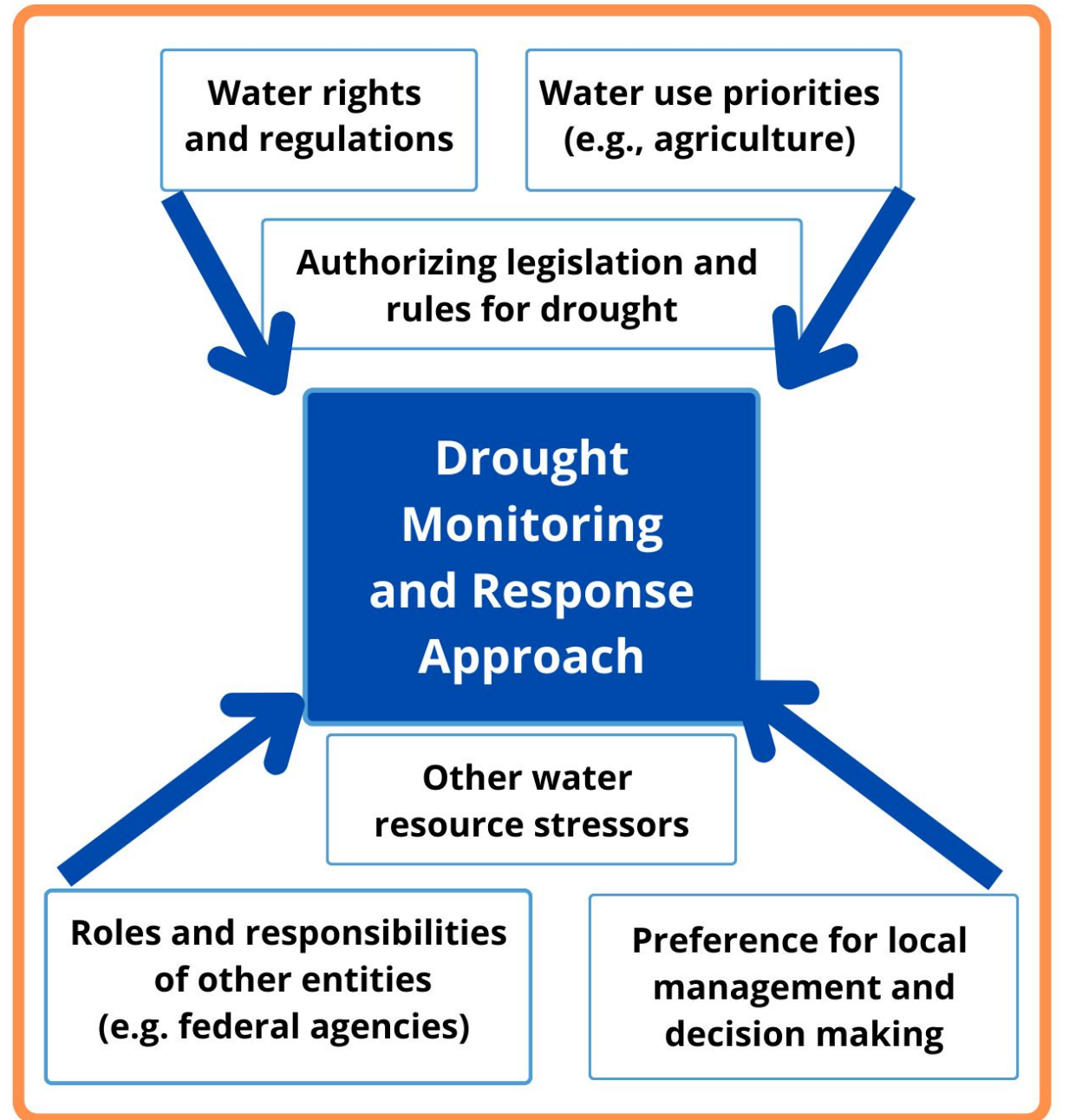
- ✓ Communication
- ✓ Coordination
 - Impacts & risk assessment
 - Post-drought assessment
 - Mitigation

✓ = addressed by most states in formal drought documents

The “big picture”

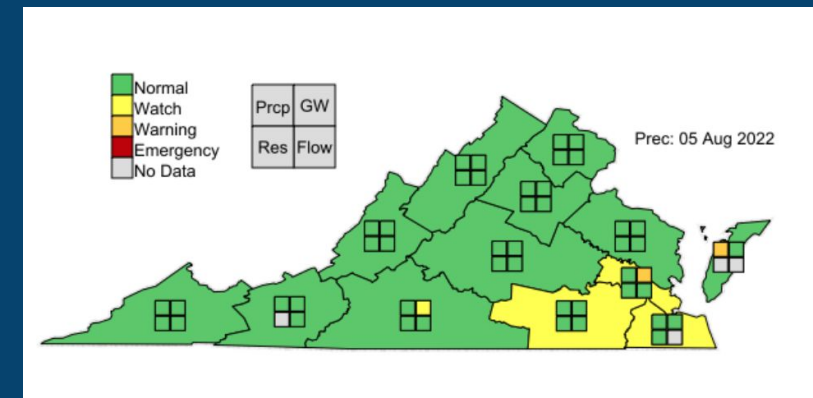
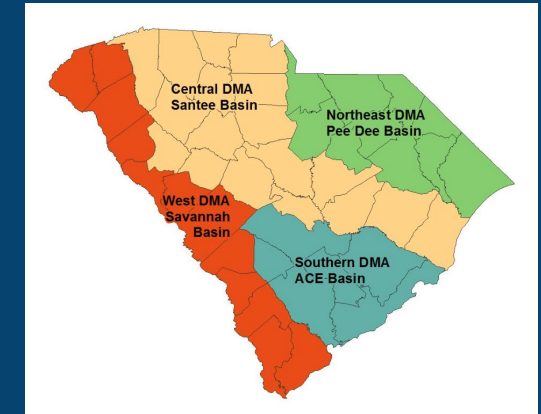
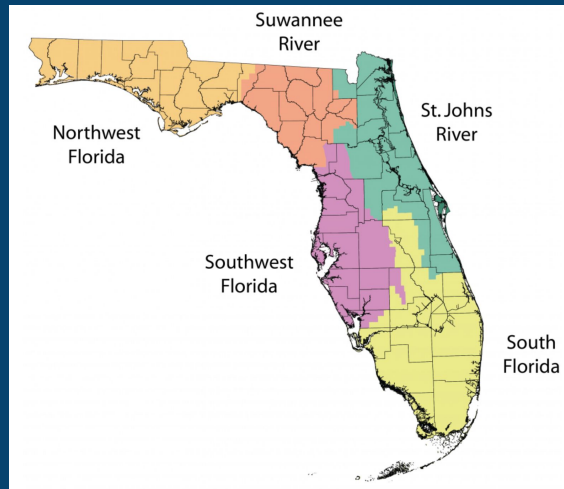
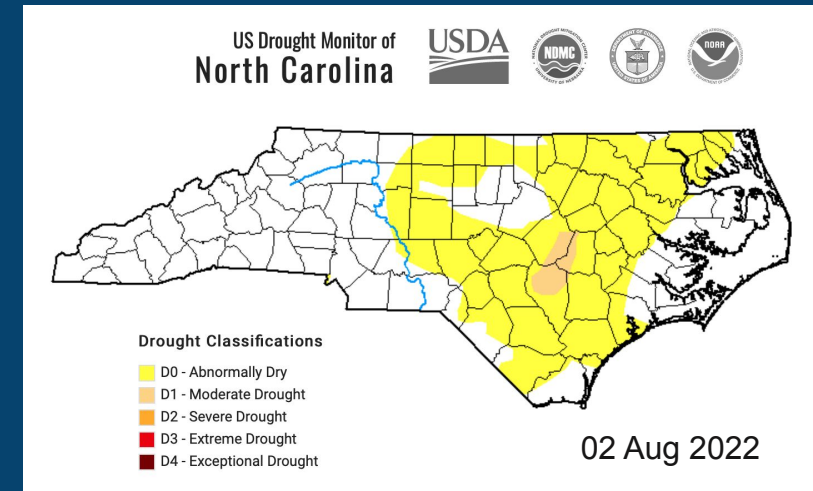
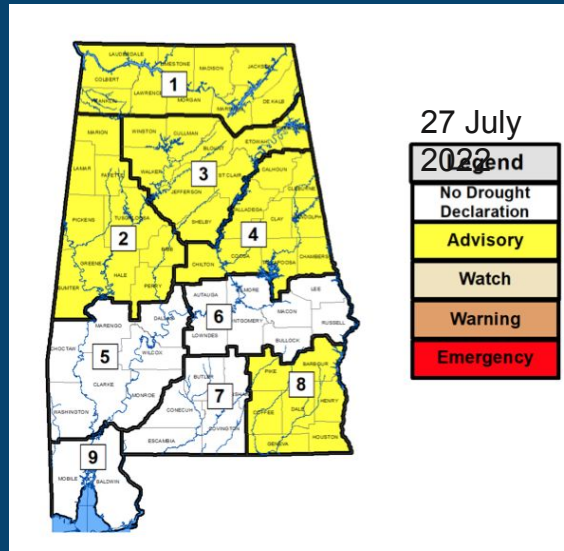
- In general, similar state approaches, differences in the details
 - 6 of 7 states have an institutional structure to guide drought monitoring and response planning
 - Includes FL: Florida Water Resources Act of 1972 (Chapter 373, Florida Statutes) established responsibilities of five Water Management Districts (WMDs) for water supply, water quality, flood protection and floodplain management, natural system protection. Each WMD develops and routinely updates water shortage, conservation, supply, and strategic plans.
 - Does not include TN: Tennessee Drought Management Plan (2010) outlines the state approach to water management during drought, agency coordination, and requirements for water system response plans, but it is not an operational plan
- What works well within the states
 - Known and established roles & responsibilities
 - Especially those pertaining to monitoring, making declarations, communications, agency information-sharing and tasks
 - Balance between structure and flexibility

Factors shaping state approaches (and differences)



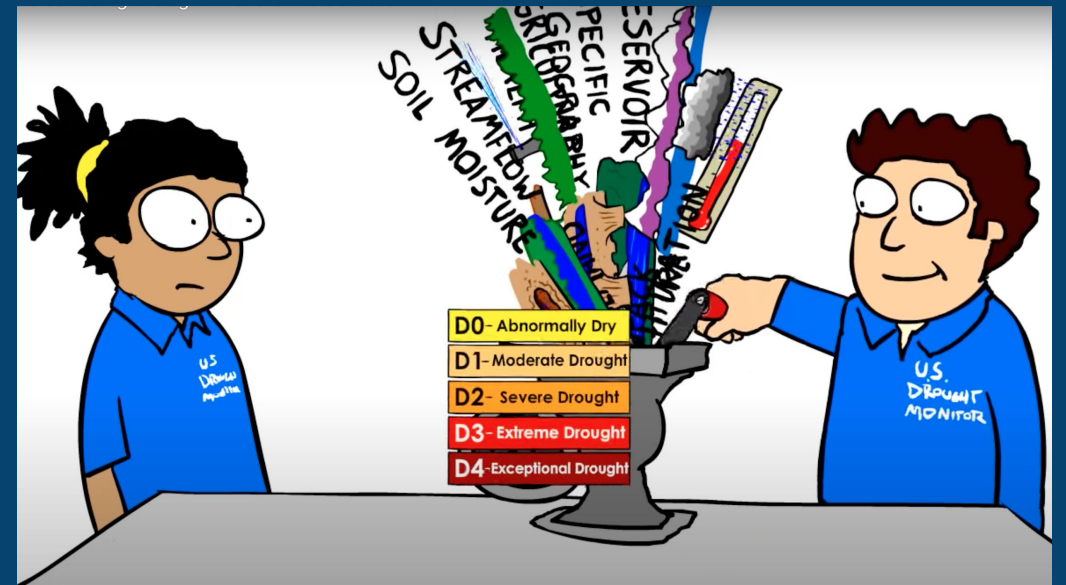
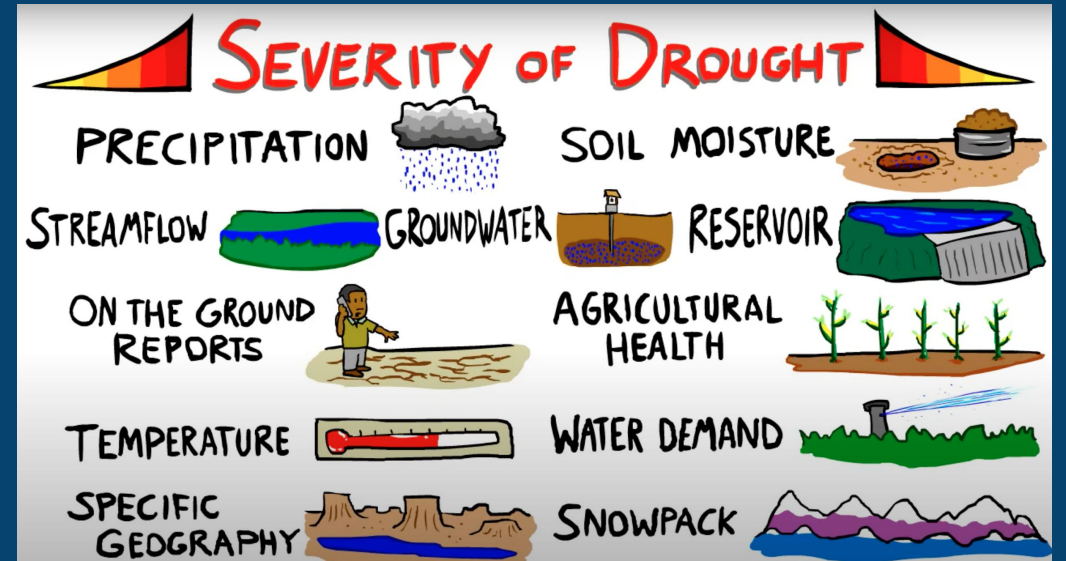
Implications

- For who:
 - Monitors
 - Determines levels
 - Makes declarations
 - Responds
- And how
- Nature of other responsibilities
 - Enforce water restrictions
 - Review variance requests
 - Mediate disputes



Implications for coordination between states

- US Drought Monitor
 - Contributions and uses
 - Facilitates interstate coordination?
- State processes
 - Degree and type of flexibility
 - Frequency, timing
 - Keeping up with new science, technologies, and tools?



Needs, gaps, challenges (opportunities?)

- Post-drought assessments
 - Few and far between
 - Plan and/or process review and revisions: required in AL, FL only
- Plan and process implementation
 - Lack of long-lasting, extreme drought conditions in recent years
 - Are plans and processes effective? State level? Local level?
 - Are agencies prepared for emergency water shortages?
 - NC, SC "drought plans" located in the state EOP
- Drought mitigation
 - Typically separate from response plans, processes, and activities
 - Located within different processes and sectors (e.g., water planning, hazard mitigation)

What can the SE DEWS do for you?

Apalachicola-Chattahoochee-Flint (ACF) River Basin Drought & Water Dashboard

Current Conditions

[View More ACF Current Conditions](#)

[U.S. Drought Monitor](#) [Precipitation \(15-Day % of Normal\)](#) [Lawn and Garden Moisture Index](#)

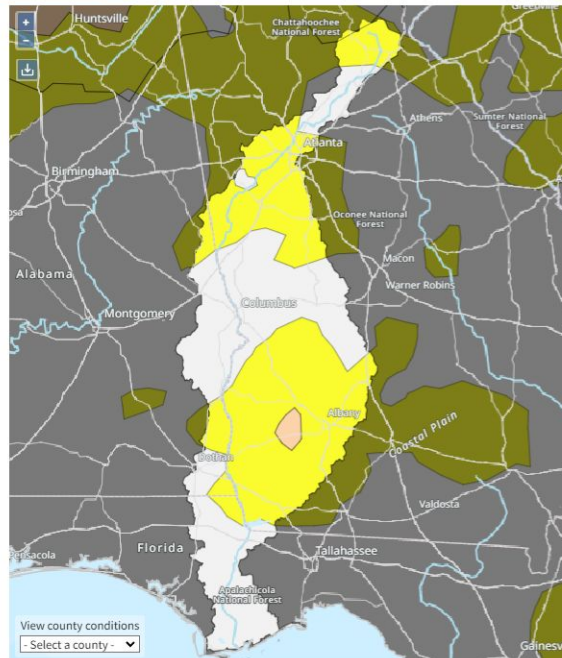
The U.S. Drought Monitor map is updated each Thursday to show the location and intensity of drought across the country. The map uses five classifications: abnormally dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought: moderate (D1), severe (D2), extreme (D3), and exceptional (D4).

This map is used by USDA to trigger disaster declarations and loan eligibility. Individual states and water supply planning may utilize additional information to inform their declarations and actions.

The U.S. Drought Monitor is a joint effort of the National Drought Mitigation Center, USDA, and NOAA.

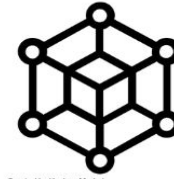
[Learn More](#)

	D0 - Abnormally Dry <ul style="list-style-type: none">Short-term dryness slowing planting, growth of crops or pastures.Some lingering water deficitsPastures or crops not fully recovered	60.8% of ACF Basin (D0-D4)
	D1 - Moderate Drought <ul style="list-style-type: none">Some damage to crops, pasturesStreams, reservoirs, or wells low, some water shortages developing or imminentVoluntary water-use restrictions requested	14.5% of ACF Basin (D1-D4)
	D2 - Severe Drought <ul style="list-style-type: none">Crop or pasture loss likelyWater shortages commonWater restrictions imposed	0.0% of ACF Basin (D2-D4)
	D3 - Extreme Drought <ul style="list-style-type: none">Major crop/pasture lossesWidespread water shortages or restrictions	0.0% of ACF Basin (D3-D4)
	D4 - Exceptional Drought <ul style="list-style-type: none">Exceptional and widespread crop/pasture lossesShortages of water in reservoirs, streams, and wells creating water emergencies	0.0% of ACF Basin (D4)



Source(s): NDMC, NOAA, USDA

Updates Weekly - 07/26/22



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Convening



Created by Lemon Liu from Noon Project

Conversations



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Assessments



Looking forward