An Assessment of Different Approaches, Barriers, and Opportunities in the Southeast U.S.: Drought Impact Reporting Processes for the Agricultural Sector

A Joint NIDIS/Southeast USDA Climate Hub project

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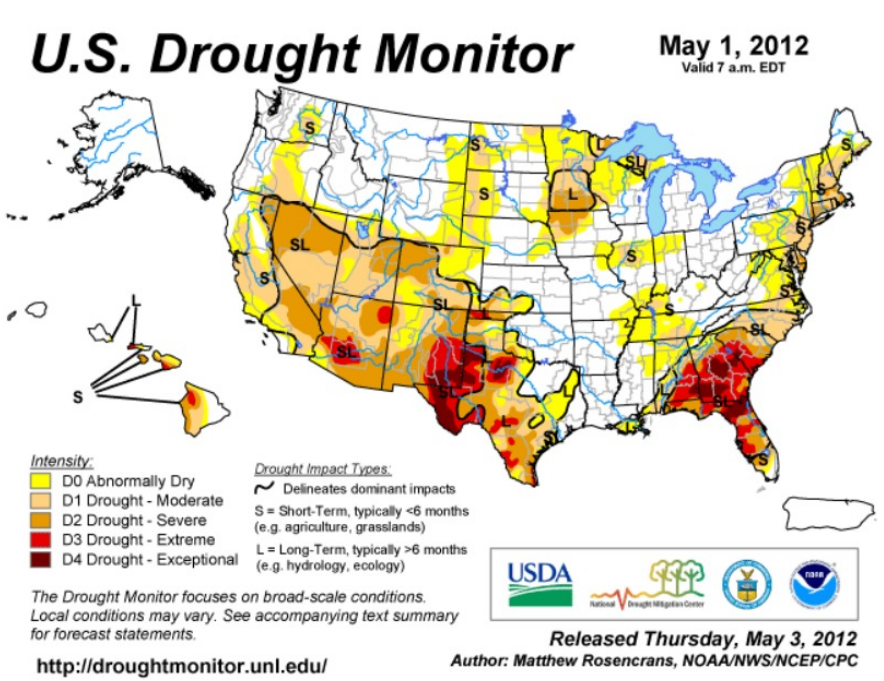
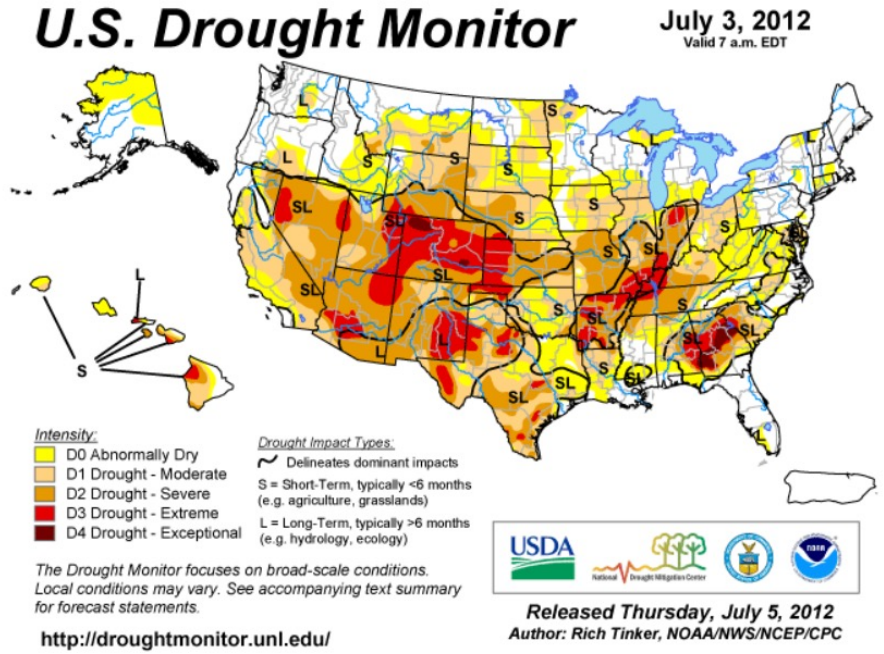
Southeast Drought Impact Reporting Assessment

Farm Sector Exposure to Drought, Summer 2012

Percentage experiencing severe or greater drought			
Percentage of:	**June 19**	**July 17**	**August 14**
Farms	16	40	43
Acres of Cropland	20	51	57
Value of Crops	16	43	50
Value of Cattle	21	56	67

Values are percentage of national total.
Source: ERS calculations based on 2011 data from the Agricultural Resource Management Survey (ARMS) and county-level U.S. Drought Monitor data reflecting drought status as of August 14, 2012.

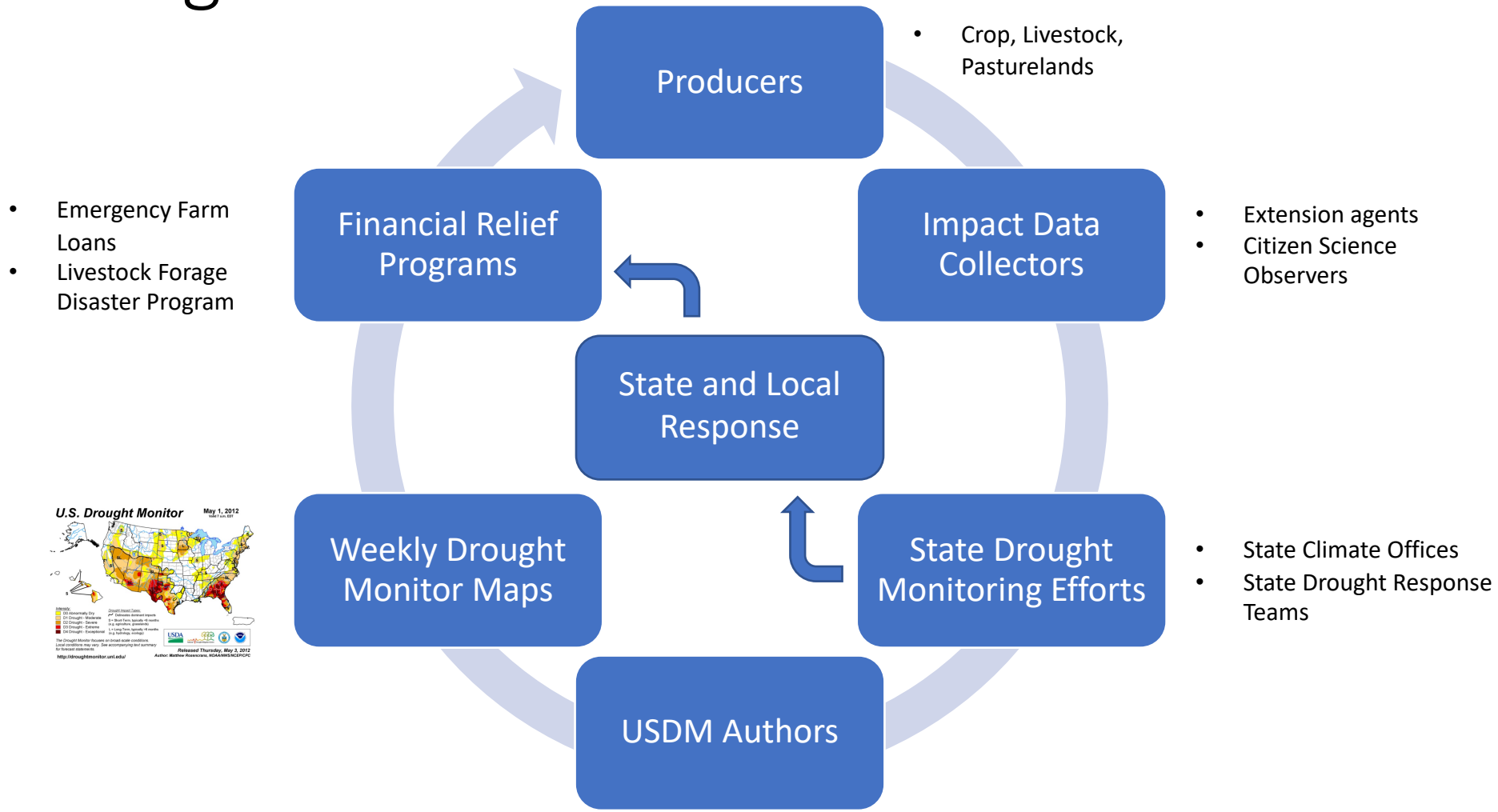




‘Drought Impact Reports’ identified as key area of interest during the SE DEWS scoping

- 2021 Southeast DEWS Collaborative Listening Sessions
  - Information gaps for reducing agricultural drought risk in the Southeast
  - Improving drought impact reporting
- Drought Impact Reports
  - Ground-truthing physical data indicators
  - Early warning to flash drought
  - Identify vulnerabilities
  - Additional evidence

Impact Reporting is especially relevant to agricultural community because of the links to the U.S. Drought Monitor



An Assessment of Different Approaches, Barriers, and Opportunities in the Southeast U.S.: Drought Impact Reporting Processes for the Agricultural Sector

- Joint Project between NIDIS and the USDA Southeast Climate Hub
- Project Goals
  - Describe state processes
  - Identify barriers
    - Determine contributing factors
  - Discuss solutions
  - Highlight successes
  - Gain perspective of USDM authors
  - Outside guidance

Reporting of Drought Impacts

- Key elements for consistent reporting
  - Human and technological infrastructure
  - Consistent reporting
  - Reliable and quality information

Report Details

Display limited to 2,000 reports in order of most recent. Displayed reports correspond to filter selections.

State/Territory: Arkansas
County: Carroll

Date: 8/2/2022

How dry or wet is it? Severely Dry

How much experience do you have with conditions there?
20 or more years

How many times in the past have you seen it like this?
Twice or more

When was it most recently like this?
2012

How localized or widespread are the conditions you are reporting?
County wide

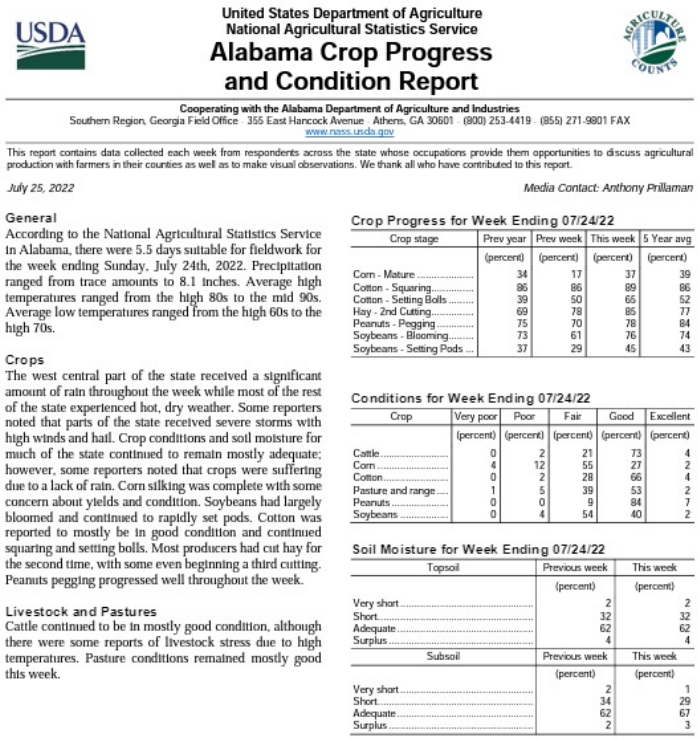
How are crop conditions at this time?
Very Poor - Extreme degree of loss to yield potential, complete or near crop failure.

Crop production:
reduced_yield,plant_stress,less_water_in_ponds_creeks_etc

How are range conditions at this time?
Very Poor - Pastures provide very little or no feed. Supplemental feeding is required to maintain livestock co

Reporting of Drought Impacts cont.

- Who is reporting?
  - Extension Agents
    - Submit information to National Agriculture Statistics Service (NASS)
  - Citizen Science
    - Condition Monitoring Observer Reports (CMOR) tool
    - CoCoRaHS Condition Monitoring Reports
    - Drought Impact Reporter tool
  - Enumerators and FSA agents



United States Department of Agriculture
National Agricultural Statistics Service

Alabama Crop Progress and Condition Report

Cooperating with the Alabama Department of Agriculture and Industries
Southern Region, Georgia Field Office · 355 East Hancock Avenue · Athens, GA 30601 · (800) 253-4419 · (855) 271-9801 FAX
www.nass.usda.gov

This report contains data collected each week from respondents across the state whose occupations provide them opportunities to discuss agricultural production with farmers in their counties as well as to make visual observations. We thank all who have contributed to this report.

July 25, 2022 — *Media Contact: Anthony Prillaman*

General

According to the National Agricultural Statistics Service in Alabama, there were 5.5 days suitable for fieldwork for the week ending Sunday, July 24th, 2022. Precipitation ranged from trace amounts to 8.1 inches. Average high temperatures ranged from the high 80s to the mid 90s. Average low temperatures ranged from the high 60s to the high 70s.

Crops

The west central part of the state received a significant amount of rain throughout the week while most of the rest of the state experienced hot, dry weather. Some reporters noted that parts of the state received severe storms with high winds and hail. Crop conditions and soil moisture for much of the state continued to remain mostly adequate; however, some reporters noted that crops were suffering due to a lack of rain. Corn silking was complete with some concern about yields and condition. Soybeans had largely bloomed and continued to rapidly set pods. Cotton was reported to mostly be in good condition and continued squaring and setting bolls. Most producers had cut hay for the second time, with some even beginning a third cutting. Peanuts pegging progressed well throughout the week.

Livestock and Pastures

Cattle continued to be in mostly good condition, although there were some reports of livestock stress due to high temperatures. Pasture conditions remained mostly good this week.

Crop Progress for Week Ending 07/24/22

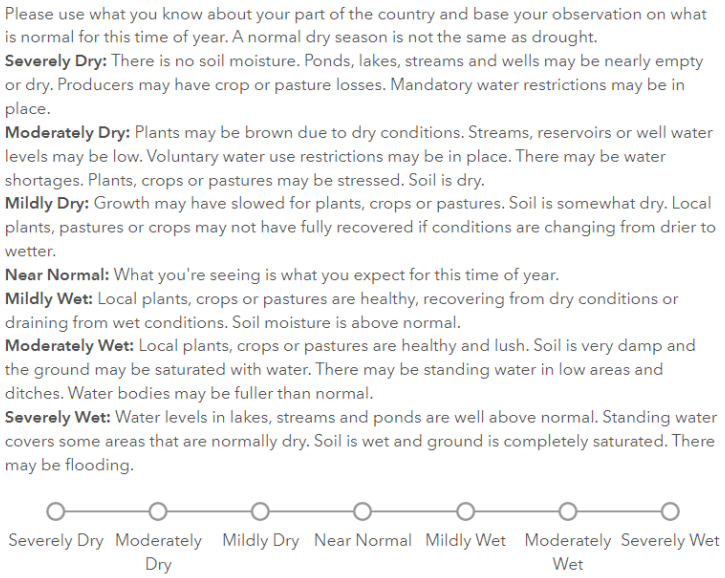
Crop stage	Prev year	Prev week	This week	5 Year avg
	(percent)	(percent)	(percent)	(percent)
Corn - Mature	34	17	37	39
Cotton - Squaring	86	86	89	86
Cotton - Setting Bolls	39	50	65	52
Hay - 2nd Cutting	69	78	85	77
Peanuts - Pegging	75	70	78	84
Soybeans - Blooming	73	61	76	74
Soybeans - Setting Pods	37	29	45	43

Conditions for Week Ending 07/24/22

Crop	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Cattle	0	2	21	73	4
Corn	4	12	55	27	2
Cotton	0	2	28	66	4
Pasture and range	1	5	39	53	2
Peanuts	0	0	9	84	7
Soybeans	0	4	54	40	2

Soil Moisture for Week Ending 07/24/22

Topsoil	Previous week	This week
	(percent)	(percent)
Very short	2	2
Short	32	32
Adequate	62	62
Surplus	4	4
Subsoil	**Previous week**	**This week**
	(percent)	(percent)
Very short	2	1
Short	34	29
Adequate	62	67
Surplus	2	3



How dry or wet is it?*

Please use what you know about your part of the country and base your observation on what is normal for this time of year. A normal dry season is not the same as drought.

Severely Dry: There is no soil moisture. Ponds, lakes, streams and wells may be nearly empty or dry. Producers may have crop or pasture losses. Mandatory water restrictions may be in place.

Moderately Dry: Plants may be brown due to dry conditions. Streams, reservoirs or well water levels may be low. Voluntary water use restrictions may be in place. There may be water shortages. Plants, crops or pastures may be stressed. Soil is dry.

Mildly Dry: Growth may have slowed for plants, crops or pastures. Soil is somewhat dry. Local plants, pastures or crops may not have fully recovered if conditions are changing from drier to wetter.

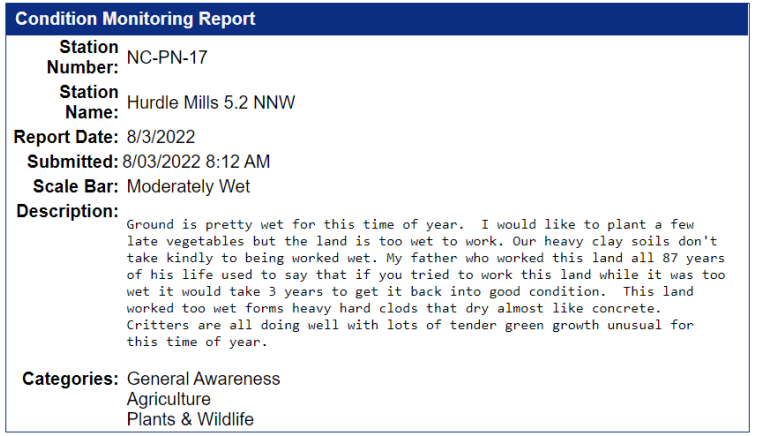
Near Normal: What you're seeing is what you expect for this time of year.

Mildly Wet: Local plants, crops or pastures are healthy, recovering from dry conditions or draining from wet conditions. Soil moisture is above normal.

Moderately Wet: Local plants, crops or pastures are healthy and lush. Soil is very damp and the ground may be saturated with water. There may be standing water in low areas and ditches. Water bodies may be fuller than normal.

Severely Wet: Water levels in lakes, streams and ponds are well above normal. Standing water covers some areas that are normally dry. Soil is wet and ground is completely saturated. There may be flooding.

Severely Dry · Moderately Dry · Mildly Dry · Near Normal · Mildly Wet · Moderately Wet · Severely Wet



Condition Monitoring Report

Station Number: NC-PN-17
Station Name: Hurdle Mills 5.2 NNW
Report Date: 8/3/2022
Submitted: 8/03/2022 8:12 AM
Scale Bar: Moderately Wet
Description:

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Ground is pretty wet for this time of year.  I would like to plant a few
late vegetables but the land is too wet to work. Our heavy clay soils don't
take kindly to being worked wet. My father who worked this land all 87 years
of his life used to say that if you tried to work this land while it was too
wet it would take 3 years to get it back into good condition.  This land
worked too wet forms heavy hard clods that dry almost like concrete.
Critters are all doing well with lots of tender green growth unusual for
this time of year.
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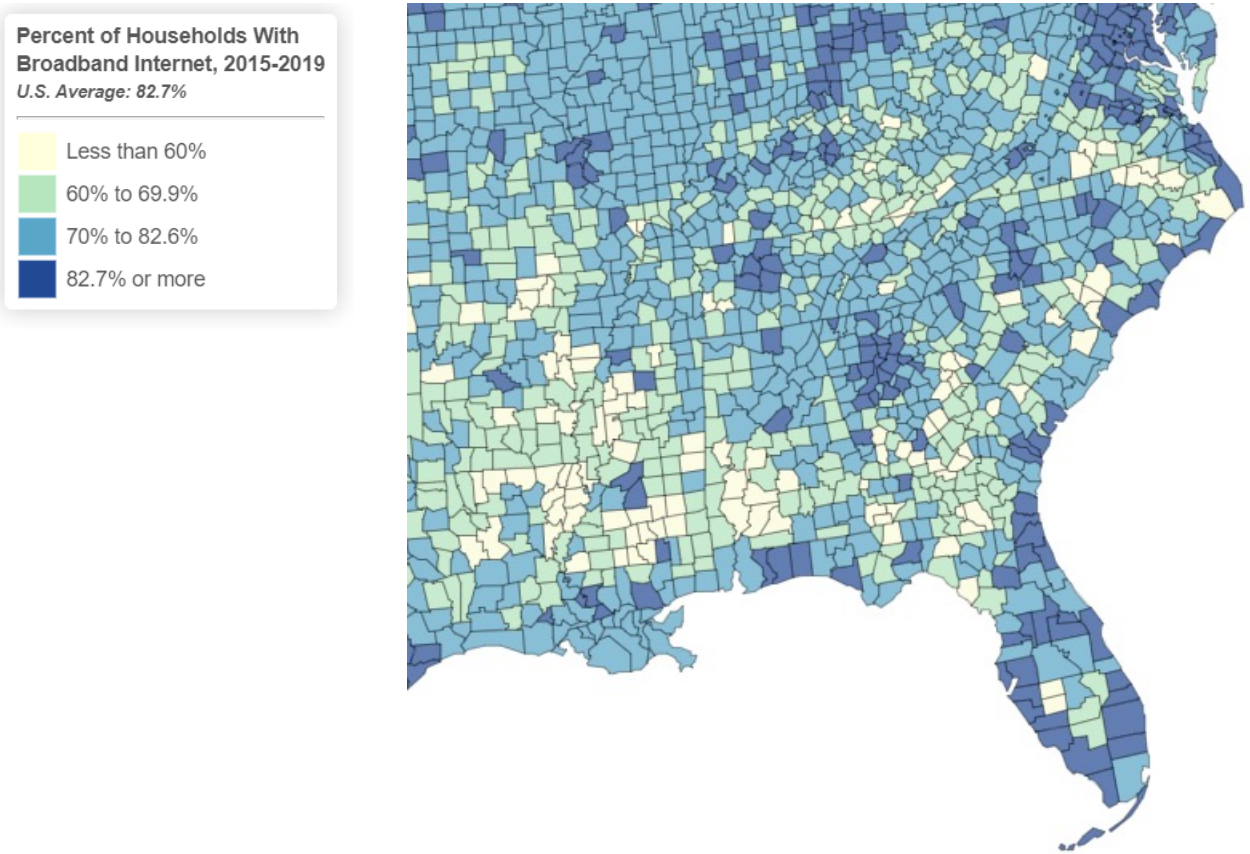
Categories: General Awareness
Agriculture
Plants & Wildlife

Barriers for Reporting Impacts

- Similar challenges across the region
  - Extension agent perspective
    - Agent staffing
    - Familiarity with monitoring efforts
    - Training
    - Formal platform
    - Duplicated efforts
  - Citizen Science observer perspective
    - Complex surveys
    - Familiarity with monitoring efforts
    - Hesitant to report
    - Internet access



Opportunities and Successes to Improve Drought Impact Reporting

- Formal submission method
  - Receive direction and simplifies reporting
- Training programs
  - Improves communication between data collectors and data managers
- Interstate collaboration
  - Helps to route more information to data managers
  - Builds networks

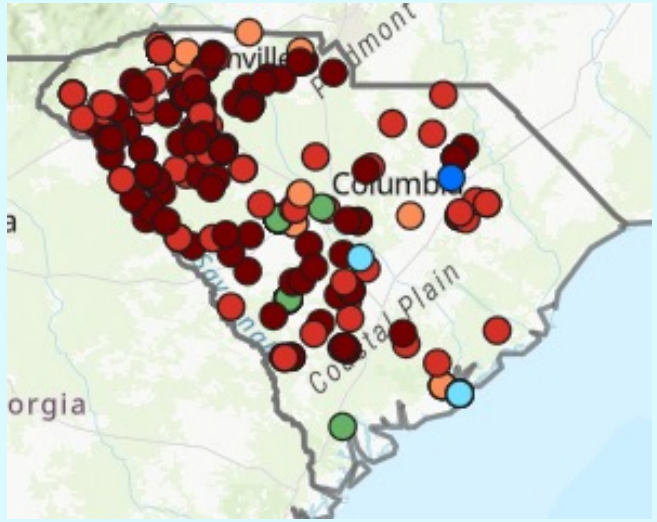
Methods for Gathering and Assessing Status of Agriculture Impacts from Drought at the State Level

- One-on-one conversation method
  - Alabama: State Climate Office (SCO) and the Alabama Department of Economic and Community Affairs (ADECA) Monitoring and Impacts Group (MIG)
  - Arkansas and Tennessee: SRCC in collaboration with SCO
  - Florida and Louisiana: State Climate Office
  - Georgia: SRCC in collaboration with the Georgia “Drought Crew”
  - South Carolina: SCDNR Drought Response Committee in collaboration with the SRCC
  - Virginia: VDACS Drought Monitoring Task Force
- State-tailored impact reporting method
  - Kentucky: KYEEC Division of Water
    - Kentucky Drought Impact Reporter tool
  - Mississippi: SRCC in collaboration with SCO
    - Mississippi State University Drought Reporter mobile app
  - North Carolina: Drought Management Advisory Council
    - Extension Service survey

Barriers to Gathering and Assessing Drought Impact Reports

- Shared barriers at the data management level
  - NASS Crop Progress Reports
  - Consistent reporting
  - State-tailored reporting tools/methods
  - Staffing reductions at the agent level
  - Agent buy-in
  - Coverage for rural areas
  - Reactive vs. Proactive

Opportunities and Successes in Gathering and Assessing Drought Impact Reports



- Establishing a state drought monitoring tool
- Utilize CMOR
- Training for Extension agents
- Communication between agencies and states
- Encouraging citizen science reporting
- Open forums with public and stakeholders
- Useful products issued to public
- Fund physical data networks

USDM Perspectives

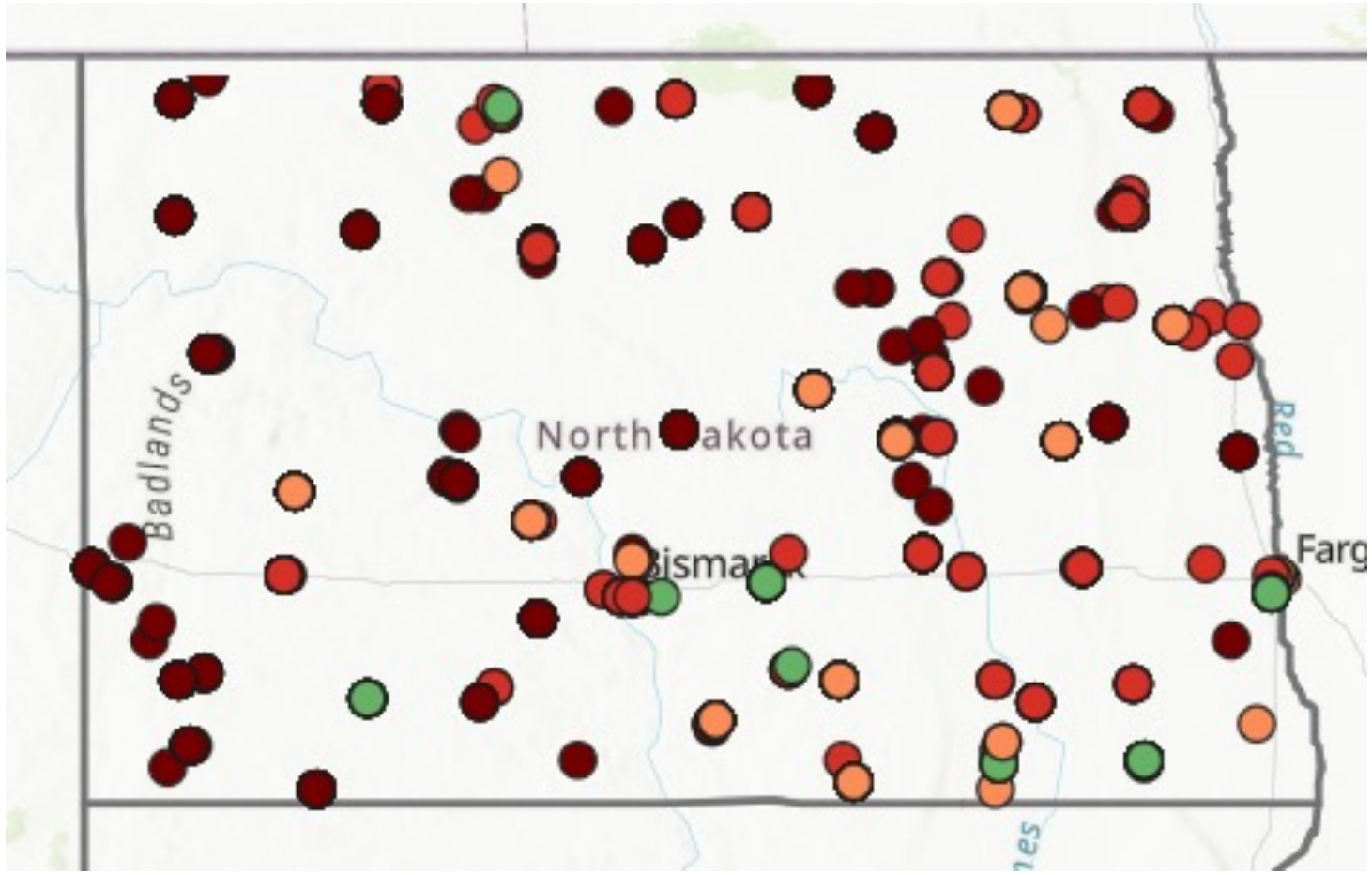
- How impact reports are used
  - Ground-truthing
  - Early drought warning
  - Investigating factors influencing agriculture
- Serves to supplement physical data
- Sources
  - Extension agent reports (primary)
  - Citizen science reports (secondary)
- Challenges
  - Consistent year-round reporting
  - More information/reports from Extension agents
  - Data transfer timing
  - Recommendations too lengthy
  - Use of outside drought indicators

USDM Perspectives cont.

- Approaches for improving drought impact reporting
  - Utilize both Extension networks and citizen science platforms
  - Bolster relationships between impact data collectors and state monitoring groups
  - Encourage agent reporting
  - Standardize agent report data
  - Offer training and education
  - Creation of state drought response teams
  - Use media to encourage citizen reporting
  - Encourage the submission of images depicting impacts

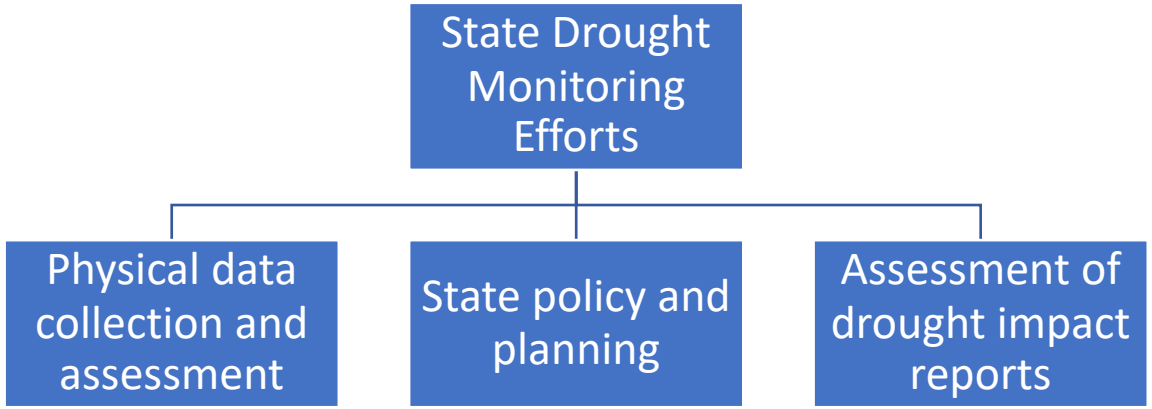
Western State Case Studies

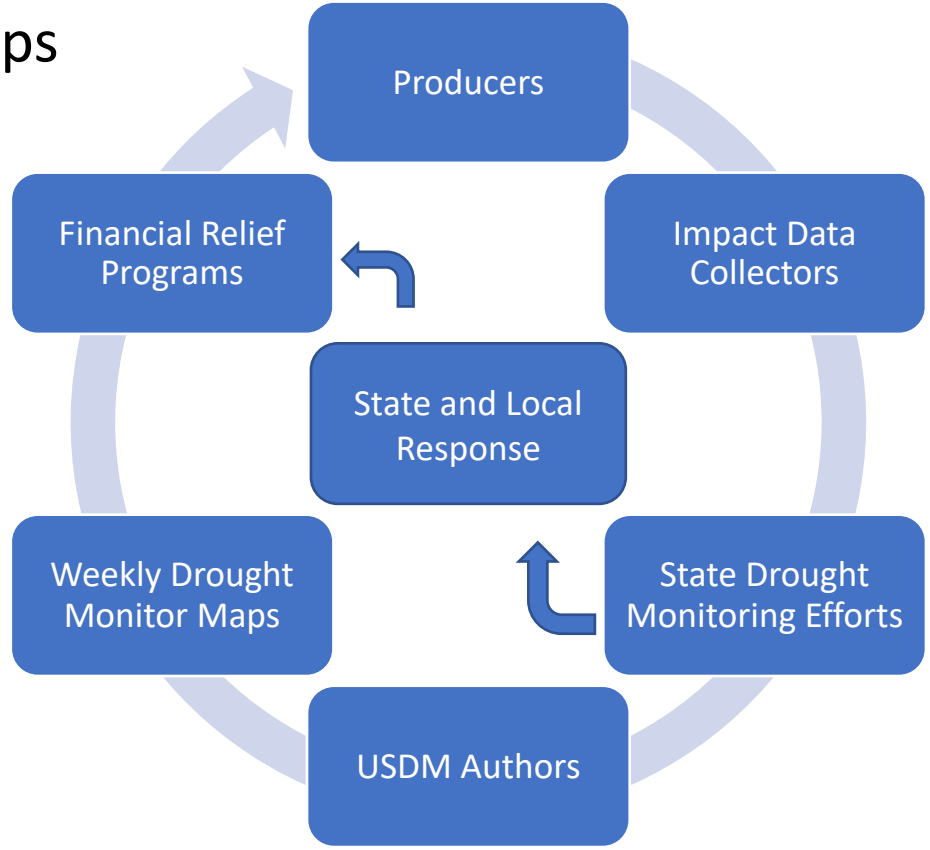
- Success stories from North Dakota and Montana
  - Where they were in their processes
  - Steps taken to improve drought monitoring efforts
  - “Roadmap” for other states



Conclusions

- Improving agricultural drought impact reporting
  - Improves representation on USDM drought maps
  - Triggers state and national response
  - Helps producers get vital financial relief
  - Early warning for flash drought
  - Identifies vulnerabilities, guides policy creation





Questions

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