Manufacture Alabama HR, Safety, and Environmental Committee

Alabama Office of Water Resources (OWR) Program Update

November 15, 2023

Tom Littlepage
Acting Division Chief
Alabama Office of Water Resources

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Background

- The Alabama Office of Water created in 1991 under Executive Order and legislatively in 1993 in the Alabama Water Resources Act
- Created as a result in the Water Wars litigation and the recognition that Alabama needed to collect water use data
- Placed as a division under the Alabama Department of Economic & Community Affairs (ADECA)
- The Alabama Water Resources Commission was also established under the Act to provide advice to the Governor, Legislature, and OWR and review any administrative actions by OWR

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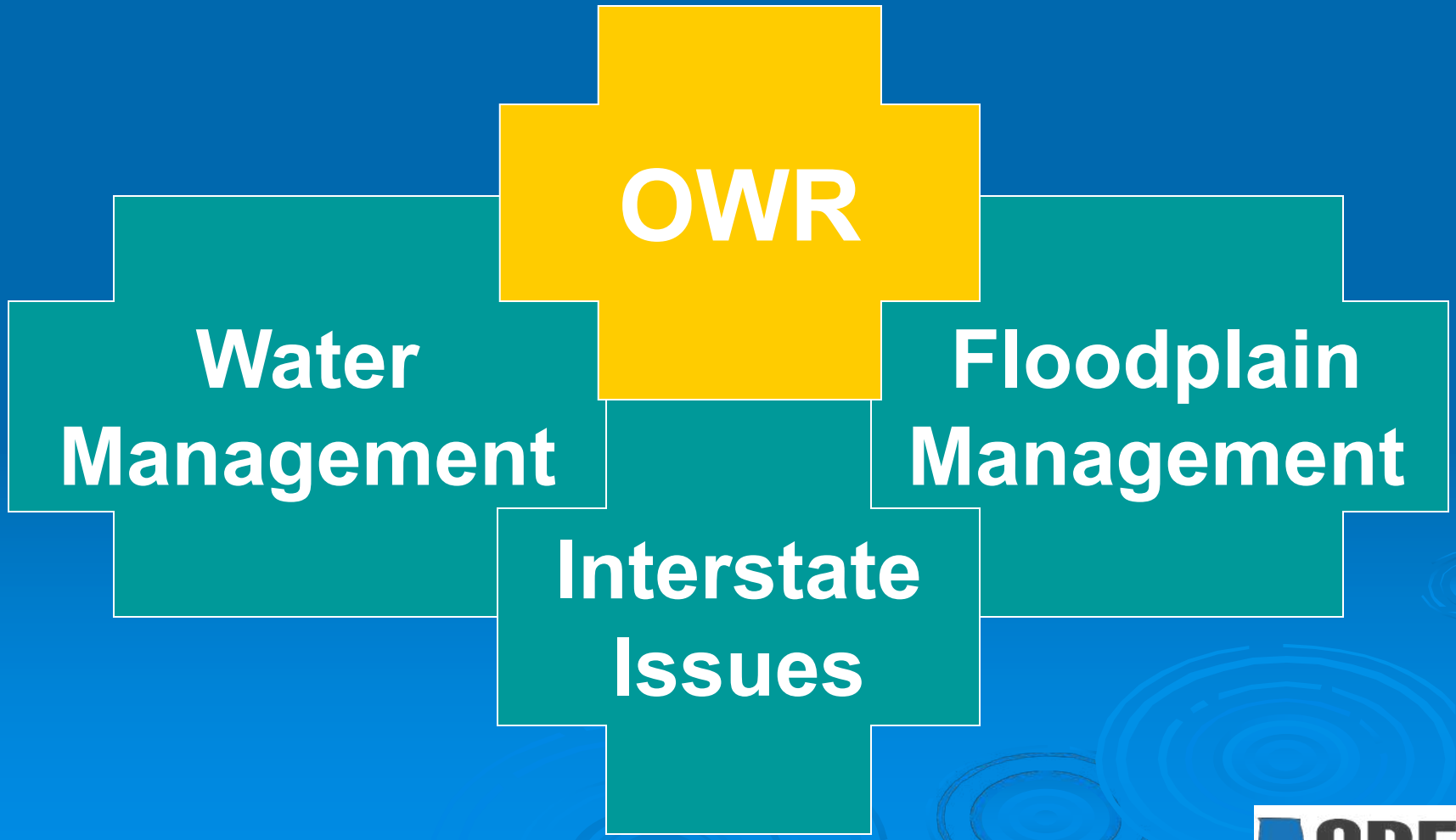
OWR Functional Organization



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Alabama Water Use Reporting Program

- Established in 1993 as part of the Alabama Water Resources Act
- Who is required to register with OWR?
  - All Public water systems
  - All Non-Public and Irrigation water users with a capacity to withdraw 100,000 gal/day or more
- Three main components:
  - Declaration of Beneficial Use (DBU) Application
  - Issuance of a Certificate of Use
  - Annual reporting process
    - Forms sent out in December of reporting year
    - Due back by next March
- Only program in Alabama that collects water withdrawal data

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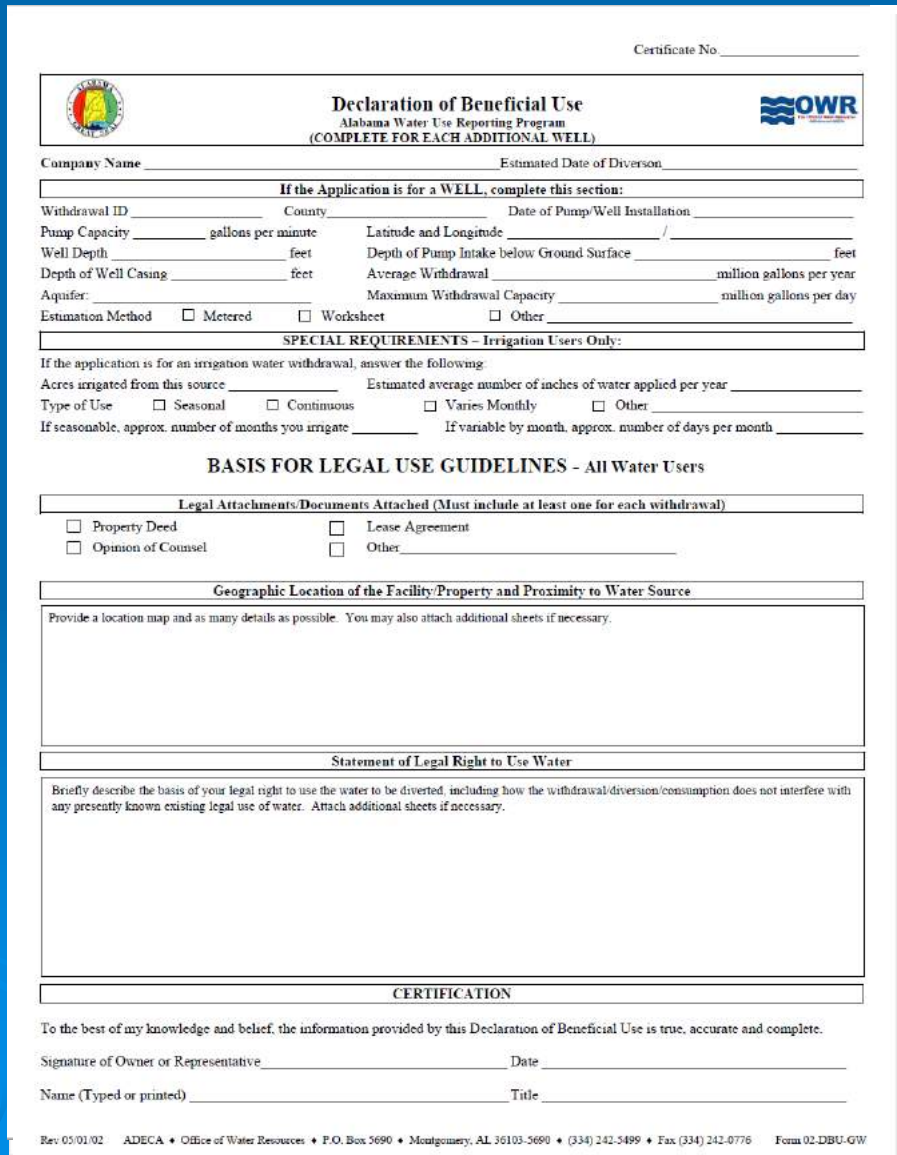
Alabama Water Use Reporting Program Components

- Process begins with application (called a Declaration of Beneficial Use)
  - Additional submittals include proof of right to water (i.e. deed or lease) and a location map
  - Optional worksheets are also available to help in estimating annual usage
  - Can only be processed within 90 days of the actual use of the water
  - Statement of Legal Right to Use Water section
  - Must be signed and dated for acceptance



Certificate No. _____

Declaration of Beneficial Use
Alabama Water Use Reporting Program
(COMPLETE FOR EACH ADDITIONAL WELL)

Company Name _____ Estimated Date of Diverson _____

If the Application is for a WELL, complete this section:

Withdrawal ID _____ County _____ Date of Pump/Well Installation _____
Pump Capacity _____ gallons per minute Latitude and Longitude _____ / _____
Well Depth _____ feet Depth of Pump Intake below Ground Surface _____ feet
Depth of Well Casing _____ feet Average Withdrawal _____ million gallons per year
Aquifer: _____ Maximum Withdrawal Capacity _____ million gallons per day
Estimation Method ☐ Metered ☐ Worksheet ☐ Other _____

SPECIAL REQUIREMENTS – Irrigation Users Only:

If the application is for an irrigation water withdrawal, answer the following:
Acres irrigated from this source _____ Estimated average number of inches of water applied per year _____
Type of Use ☐ Seasonal ☐ Continuous ☐ Varies Monthly ☐ Other _____
If seasonable, approx. number of months you irrigate _____ If variable by month, approx. number of days per month _____

BASIS FOR LEGAL USE GUIDELINES - All Water Users

Legal Attachments/Documents Attached (Must include at least one for each withdrawal)

☐ Property Deed ☐ Lease Agreement
☐ Opinion of Counsel ☐ Other _____

Geographic Location of the Facility/Property and Proximity to Water Source

Provide a location map and as many details as possible. You may also attach additional sheets if necessary.

Statement of Legal Right to Use Water

Briefly describe the basis of your legal right to use the water to be diverted, including how the withdrawal/diversion/consumption does not interfere with any presently known existing legal use of water. Attach additional sheets if necessary.

CERTIFICATION

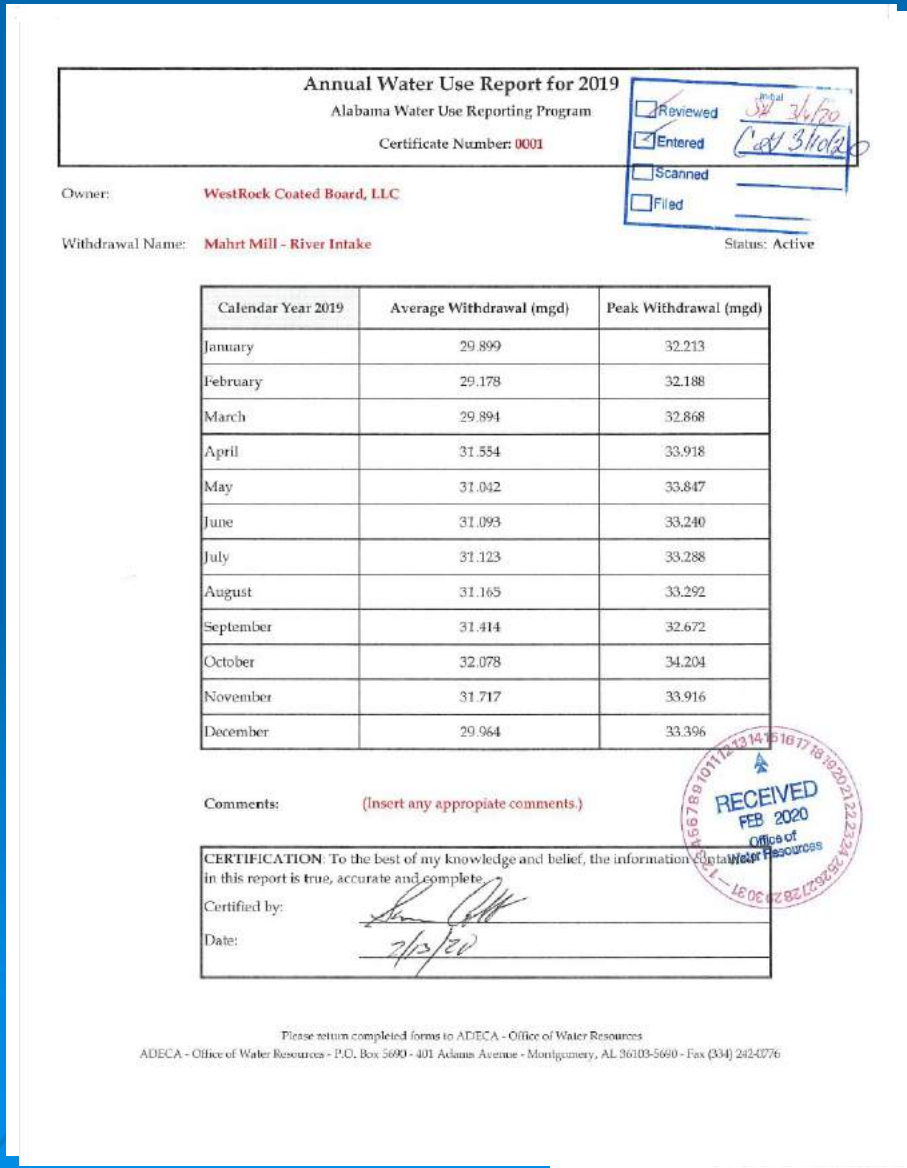
To the best of my knowledge and belief, the information provided by this Declaration of Beneficial Use is true, accurate and complete.

Signature of Owner or Representative _____ Date _____
Name (Typed or printed) _____ Title _____

Rev 05/01/02 ADECA ♦ Office of Water Resources ♦ P.O. Box 5690 ♦ Montgomery, AL 36103-5690 ♦ (334) 242-5499 ♦ Fax (334) 242-0776 Form 02-DBU-GW

Alabama Water Use Reporting Program Components

- Once determined to be complete, a Certificate of Use is issued
  - Does not convey any legal rights
  - Holder required to notify OWR of any changes and to report data annually
  - Issued for 10-year period
- Water Use Reporting forms collected annually
  - Forms sent out in December of reporting year
  - Due back by the next March
- No Fees



Annual Water Use Report for 2019

Alabama Water Use Reporting Program

Certificate Number: 0001

Reviewed
Entered
Scanned
Filed

Owner: WestRock Coated Board, LLC

Withdrawal Name: Mahrt Mill - River Intake

Status: Active

Calendar Year 2019	Average Withdrawal (mgd)	Peak Withdrawal (mgd)
January	29.899	32.213
February	29.178	32.188
March	29.894	32.868
April	31.554	33.918
May	31.042	33.847
June	31.093	33.240
July	31.123	33.288
August	31.165	33.292
September	31.414	32.672
October	32.078	34.204
November	31.717	33.916
December	29.964	33.396

RECEIVED FEB 2020 Office of Water Resources

Comments: (Insert any appropiate comments.)

CERTIFICATION: To the best of my knowledge and belief, the information contained in this report is true, accurate and complete.

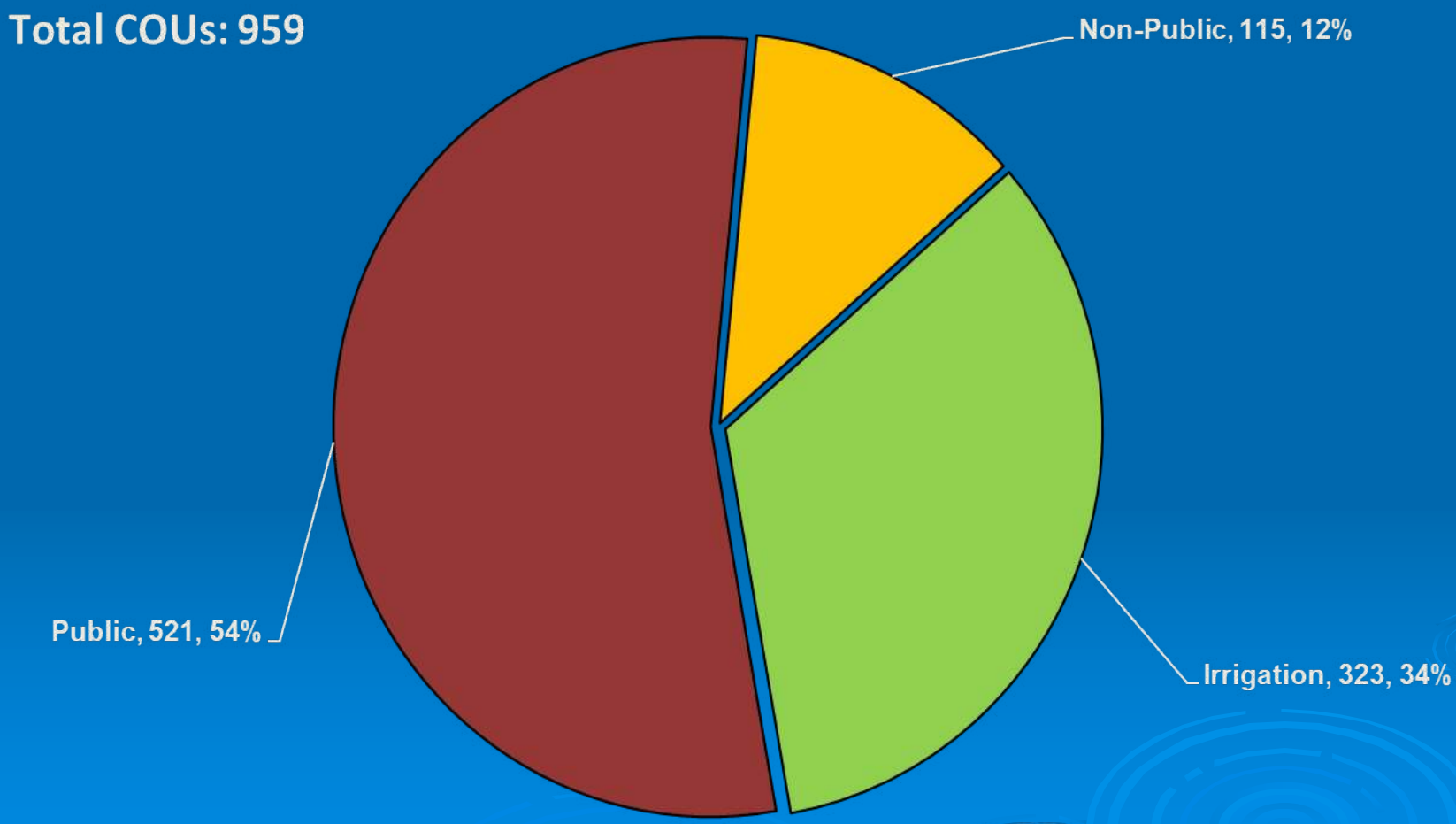
Certified by:

Date: 2/13/20

Please return completed forms to ADECA - Office of Water Resources

ADECA - Office of Water Resources - P.O. Box 5690 - 401 Adams Avenue - Montgomery, AL 36103-5690 - Fax (334) 242-0776

Alabama Certificates of Use



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eWater Application

- eWater is the cumulative term used to describe the various hardware and software tools and capabilities that support OWR's management of the Alabama Water Use Reporting Program

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Reasons for Upgrading eWater

- Created in the 2002-2004 timeframe as a custom client-server application
- Supports a paper-based process and has no capability for external access
- Code is unable to be updated
- Various reviews have resulting in a determination that a complete code rewrite or new application was required

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eWater Upgrade

- Replacement will consist of COTS solution (Laserfiche) with Alabama custom developed eWater Portal
- Cost efficient
- Maintainable
- Will improve process efficiency.
- Estimated to take 2-3 years depending on funding.

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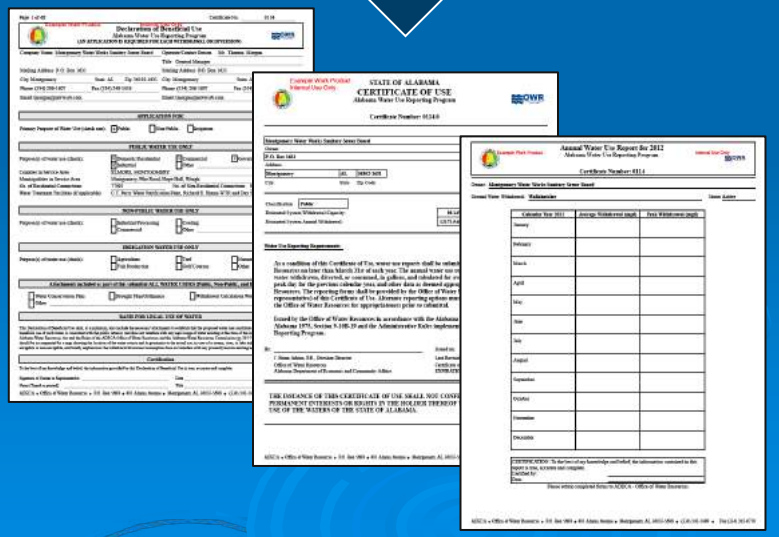
eWater 2.0

Water User/OWR Web Input such as DBU application and water-use reporting

OWR eWater Database

new and improved with more options!

Laserfiche®



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Development Progress - eWater Portal

- Phase 1 efforts:
  - A website, database, and Laserfiche application has been developed
  - eWater Administration Portal is complete
  - Laserfiche infrastructure complete
  - Workflow processes, forms, and PDF templates completed
  - eWater Portal is fully integrated with Laserfiche application

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Development Progress - eWater Portal (cont'd)

- Phase 2 is underway
  - Enhanced GIS Integration
  - Improved User Administration Functionality
  - Guided External User Declaration of Beneficial Use (DBU) Application Process
  - Guided External User Annual Reporting Process
  - Development of User Training Videos
  - Enhanced User Communication Capability
  - Development of Data Reporting Platform
- Completion date – September 2024

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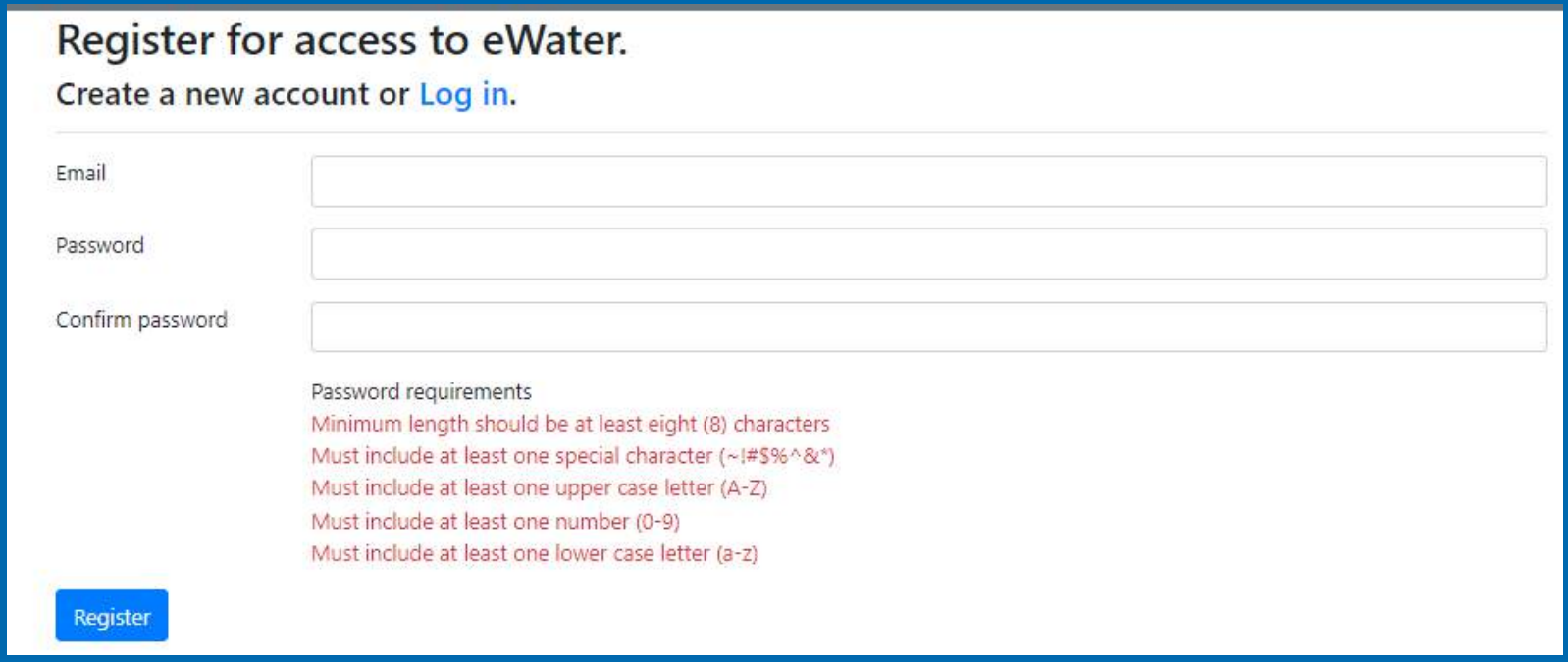
eWater Portal Access



- Email based registration system
  - Users will be able to use existing email accounts
    - Same email accounts associated with ADEM programs can be used
  - OWR will create initial accounts before launch and provide them to users

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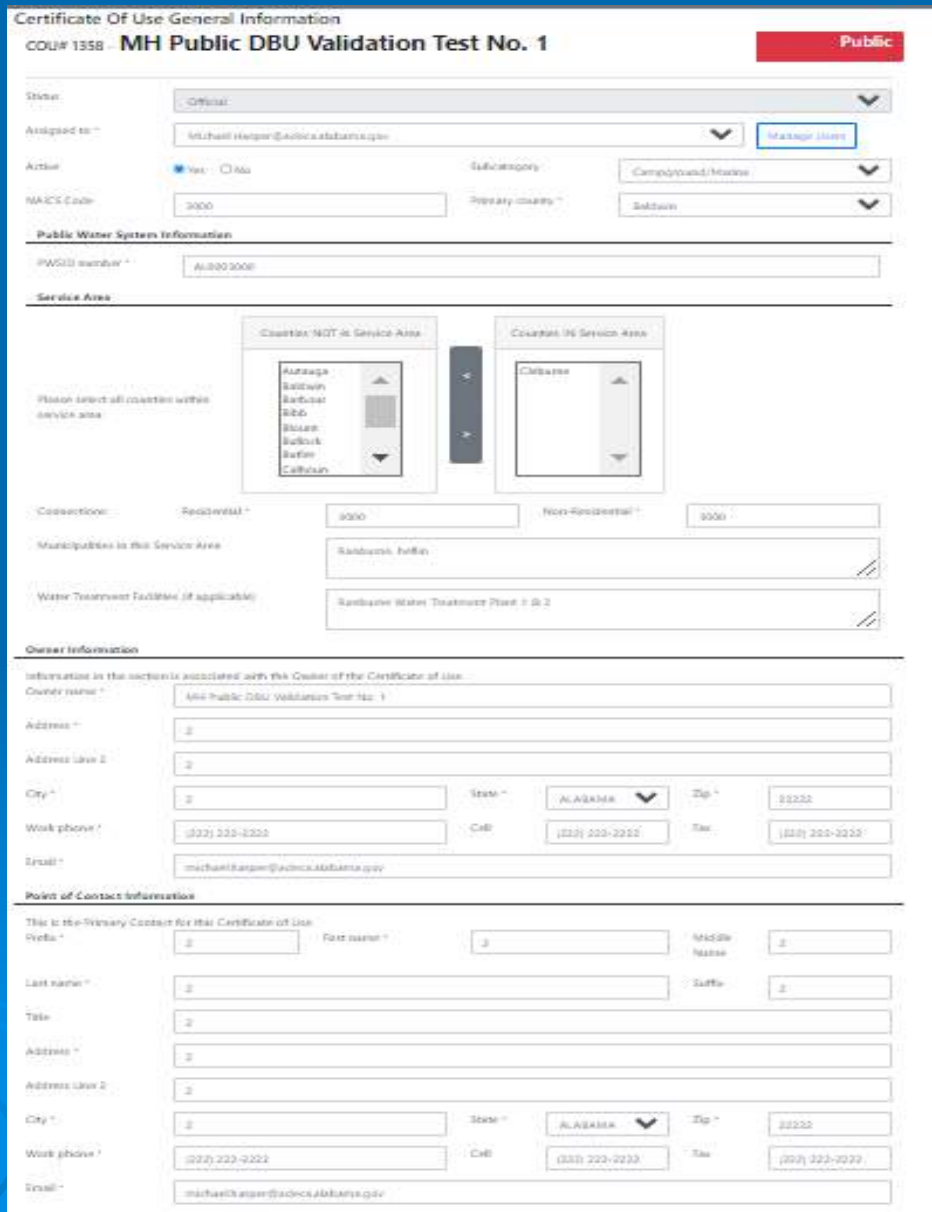
Glimpse of eWater Portal

- Looks like current paper DBU forms
  - Collecting new information:
    - PWSID Number
    - NAICS Code
    - Subcategory
    - Primary County



Glimpse of eWater Portal (cont'd)

- Developing GIS mapping integration for populating location information
  - Will be available for all entity types (GW,SW,DC, and Bulk Sales and Purchases

Groundwater Information

COU# 1358 - **MH Public DBU Validation Test No. 1**

Public

1

Withdrawal Name * 1

Active ◉ Yes ○ No

Start Date * 08/01/2021

Well Depth (ft) * 2

Well Casing Depth (ft) 2

Pump Depth (ft) 2

Average Withdrawal (mgy) * 2.00

Pumping Capacity (gpm) * 200.00

Maximum Withdrawal (mgd) 0.29

**Maximum Withdrawal = (Pump Capacity * 1440/1,000,000)

Estimation Method ◉ Metered ○ Worksheet ○ Other

Location Information

Latitude 32.332070 Longitude -86.094219 Map

County * Montgomery

Groundwater Province East Gulf Coastal Plain Select Province

Click on the link on the right to select the Groundwater Province of the withdrawal

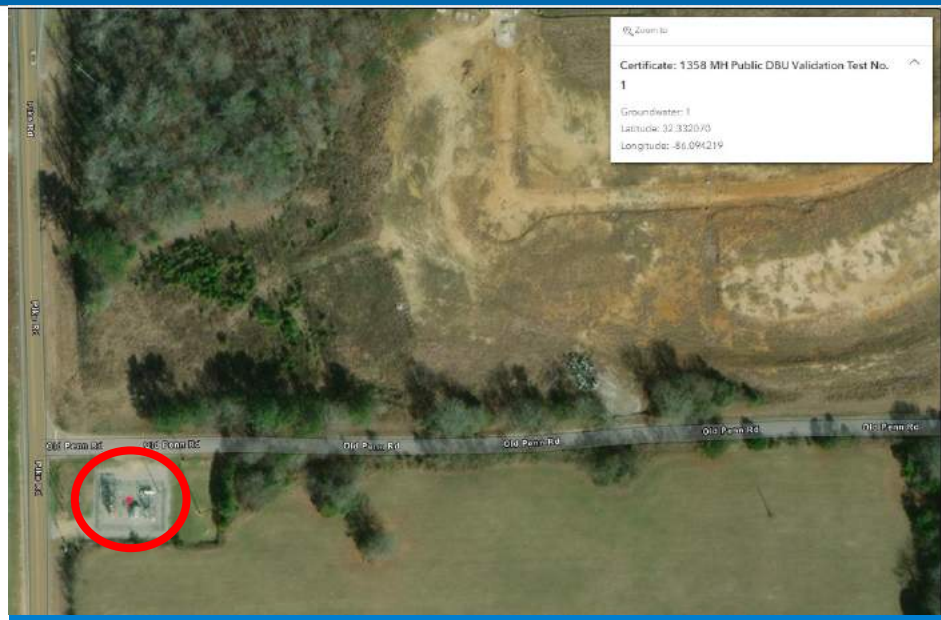
Aquifer Coastal Plain - Coker

River Basin 03150110 - Lower Tallapoosa Select Basin

Click on the link on the right to select River Basin of the withdrawal

Subbasin 031501100901 - Miller Creek-Tallapoosa River

Location Map * Choose file Browse Generate



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Glimpse of eWater Portal (cont'd)

Issued Certificates of Use will be emailed to registered users after approval

Issuance of Certificate of Use (COU) # 1349.1 - 2

laserfiche.notifications@OIT.alabama.gov
To EWater
12/1/2022

COU 1349_2 COU_20221201.pdf
187 KB

Enclosed is the Certificate of Use, which has been issued based on data provided in the Declaration of Beneficial Use (DBU) you filed with the Office of Water Resources (OWR).

Each entity filing a Declaration of Beneficial Use is also required to submit annual water use reports. Each year, you will receive information from our office on how to submit your annual water use data to OWR. The information you provide is vital to maintaining a database that will enable the long-term planning and coordination of water resources in Alabama.

Each entity is also responsible for notifying the OWR of any changes in the data contained in the Declaration of Beneficial Use. If you need to amend your Declaration of Beneficial Use, please contact us.

Thank you for your support. If you have any questions or need further assistance, please contact the ADECA Office of Water Resources.

The Water Management Staff
ADECA Office of Water Resources
401 Adams Ave Suite 434
Montgomery, Alabama 36104
(334) 242-5499 (Office)
(877) ALA WATER (Toll Free)
(334) 242-0776 (Fax)
ewater@adeca.alabama.gov

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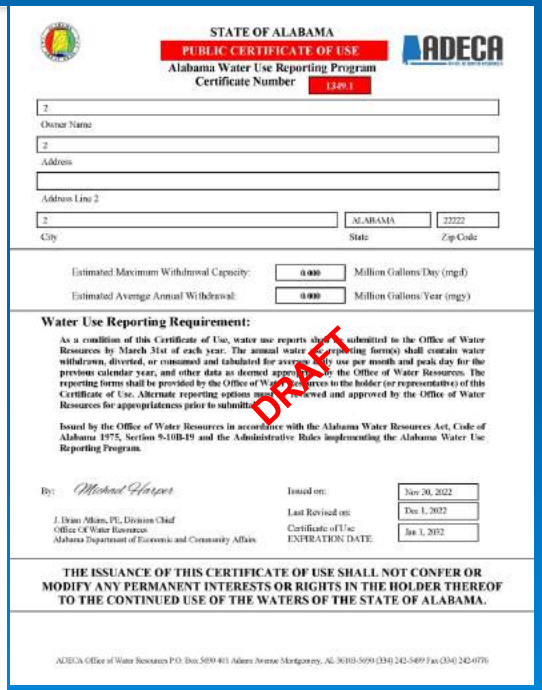

STATE OF ALABAMA
PUBLIC CERTIFICATE OF USE
Alabama Water Use Reporting Program
Certificate Number 1349.1

ADECA

Owner Name
Address
Address Line 2
City
State
Zip Code

Estimated Maximum Withdrawal Capacity: 0.000 Million Gallons/Day (mgd)
Estimated Avenge Annual Withdrawal: 0.000 Million Gallons/Year (mgy)

Water Use Reporting Requirement:

As a condition of this Certificate of Use, water use reports shall be submitted to the Office of Water Resources by March 31st of each year. The annual water use reporting form(s) shall contain water withdrawn, diverted, or consumed and tabulated for average daily use per month and peak day for the previous calendar year, and other data as deemed appropriate by the Office of Water Resources. The reporting forms shall be provided by the Office of Water Resources to the holder (or representative) of this Certificate of Use. Alternate reporting options must be reviewed and approved by the Office of Water Resources for appropriateness prior to submittal.

Issued by the Office of Water Resources in accordance with the Alabama Water Resources Act, Code of Alabama 1975, Section 9-10B-19 and the Administrative Rules implementing the Alabama Water Use Reporting Program.

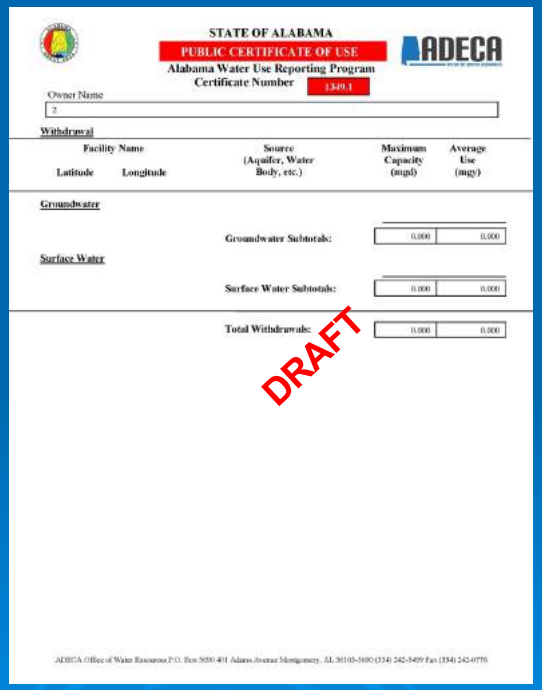
By: Michael Harper
J. Brian Atkins, PE, Division Chief
Office Of Water Resources
Alabama Department of Economic and Community Affairs

Issued on: Nov 30, 2022
Last Revised on: Dec 1, 2022
Certificate of Use EXPIRATION DATE: Jan 1, 2032

THE ISSUANCE OF THIS CERTIFICATE OF USE SHALL NOT CONFER OR MODIFY ANY PERMANENT INTERESTS OR RIGHTS IN THE HOLDER THEREOF TO THE CONTINUED USE OF THE WATERS OF THE STATE OF ALABAMA.

ADECA Office of Water Resources P.O. Box 5690 401 Adams Avenue Montgomery, AL 36103-5690 (334) 242-5499 Fax (334) 242-0776

DRAFT


STATE OF ALABAMA
PUBLIC CERTIFICATE OF USE
Alabama Water Use Reporting Program
Certificate Number 1349.1

ADECA

Owner Name

Withdrawal

Facility Name	Latitude	Longitude	Source (Aquifer, Water Body, etc.)	Maximum Capacity (mgd)	Average Use (mgy)
Groundwater					
			Groundwater Subtotals:	0.000	0.000
Surface Water					
			Surface Water Subtotals:	0.000	0.000
			Total Withdrawals:	0.000	0.000

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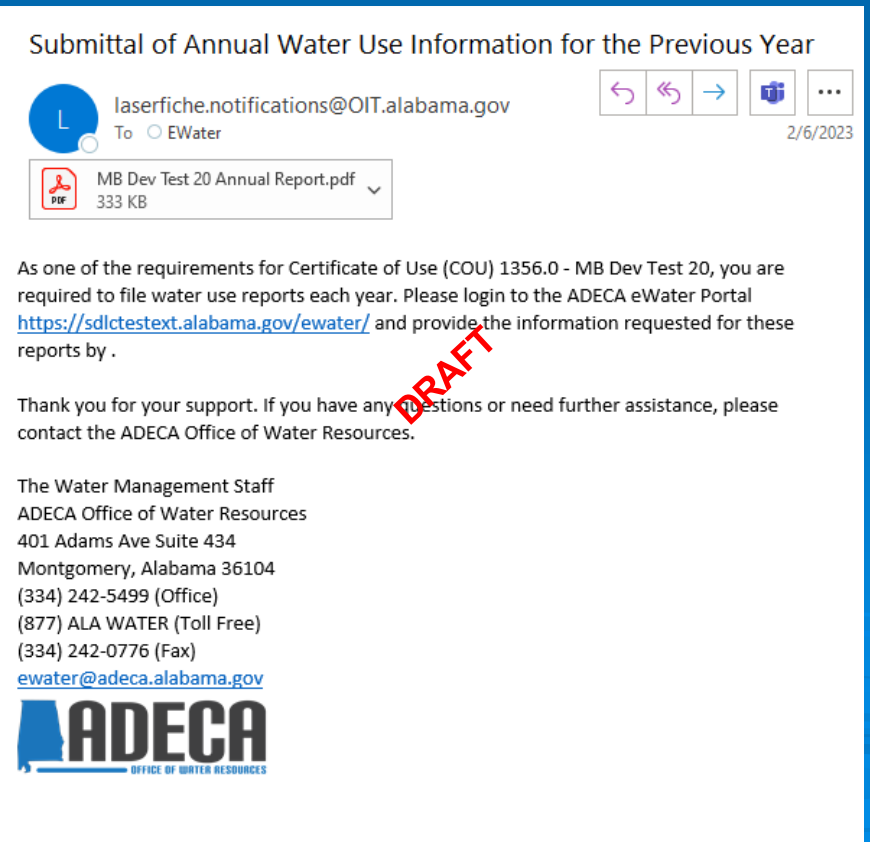
Glimpse of eWater Portal (cont'd)

- Annual Use Reporting reminders will be emailed out to users
  - Portal used for entering data
  - OWR will review the data electronically
  - Once accepted, OWR will email user with confirmation with PDF of annual use submitted to keep for record retention.



Submittal of Annual Water Use Information for the Previous Year

laserfiche.notifications@OIT.alabama.gov
To EWater
2/6/2023

MB Dev Test 20 Annual Report.pdf
333 KB

As one of the requirements for Certificate of Use (COU) 1356.0 - MB Dev Test 20, you are required to file water use reports each year. Please login to the ADECA eWater Portal https://sdlctestext.alabama.gov/ewater/ and provide the information requested for these reports by .

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Thank you for your support. If you have any questions or need further assistance, please contact the ADECA Office of Water Resources.

The Water Management Staff
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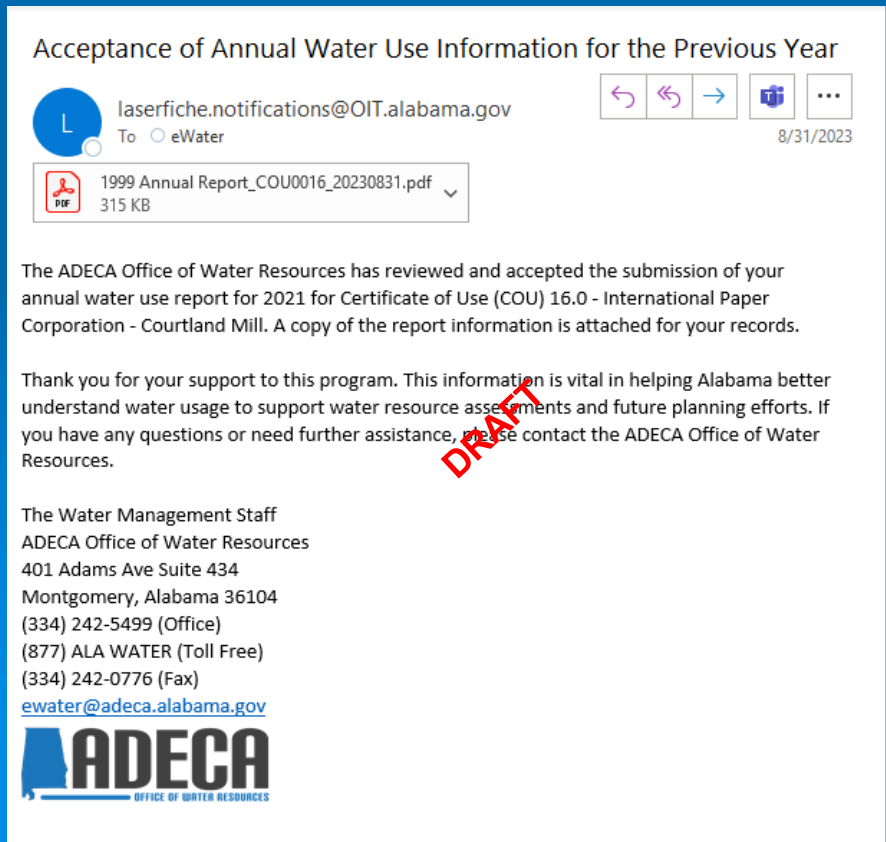

Acceptance of Annual Water Use Information for the Previous Year

laserfiche.notifications@OIT.alabama.gov
To eWater
8/31/2023

1999 Annual Report_COU0016_20230831.pdf
315 KB

The ADECA Office of Water Resources has reviewed and accepted the submission of your annual water use report for 2021 for Certificate of Use (COU) 16.0 - International Paper Corporation - Courtland Mill. A copy of the report information is attached for your records.

Thank you for your support to this program. This information is vital in helping Alabama better understand water usage to support water resource assessments and future planning efforts. If you have any questions or need further assistance, please contact the ADECA Office of Water Resources.

DRAFT

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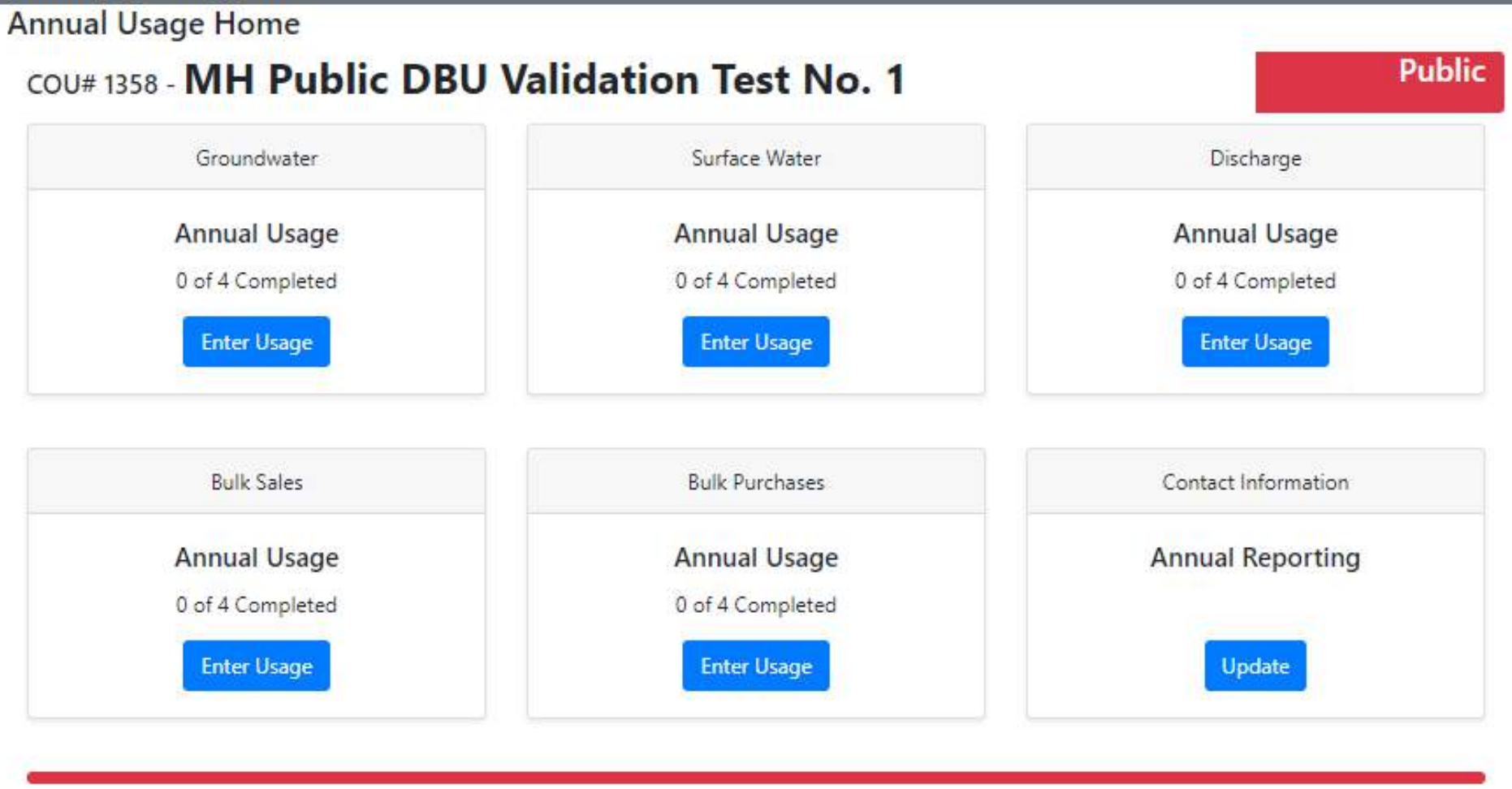
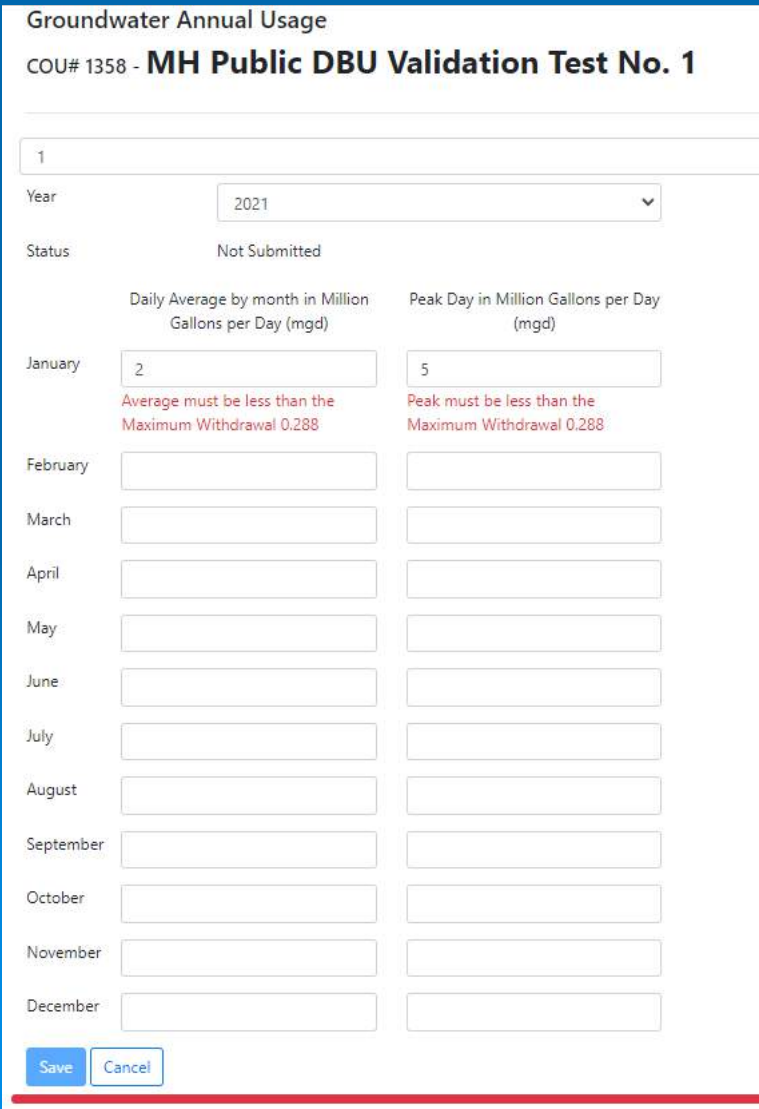
Glimpse of eWater Portal Annual Use



Glimpse of eWater Portal Annual Use (cont'd)

- User can enter data directly into portal
- Allows for user to enter partial or previous years data
- Advanced error checking
  - Checks that Average and Peak Withdrawal is less than Maximum Withdrawal Capacity on COU
  - Checks that the Average Withdrawal is less than the Peak Daily Withdrawal



Benefits to Upgrading

External access to information

Ability to apply and register (or modify) online

Online Annual Use Reporting

Eliminates paper-routing

Improved data quality

Enhanced data analysis

Improved reports and data summaries

Improved customer efficiency

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eWater Upgrade Summary

- eWater 2.0 will
  - Provide long term support for the management of the Water Use Program
  - Improve the quality of the data
  - Allow external Certificate holders access to information and data
  - Improve efficiency and customer support

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Information Uses

- Water Use Assessments
  - "Water Use in Alabama" Summaries
  - Watershed Assessments
- Demand Forecasting
- Demographic Analysis
- Water Resource Studies
- Analyzing Economic and Industrial Trends

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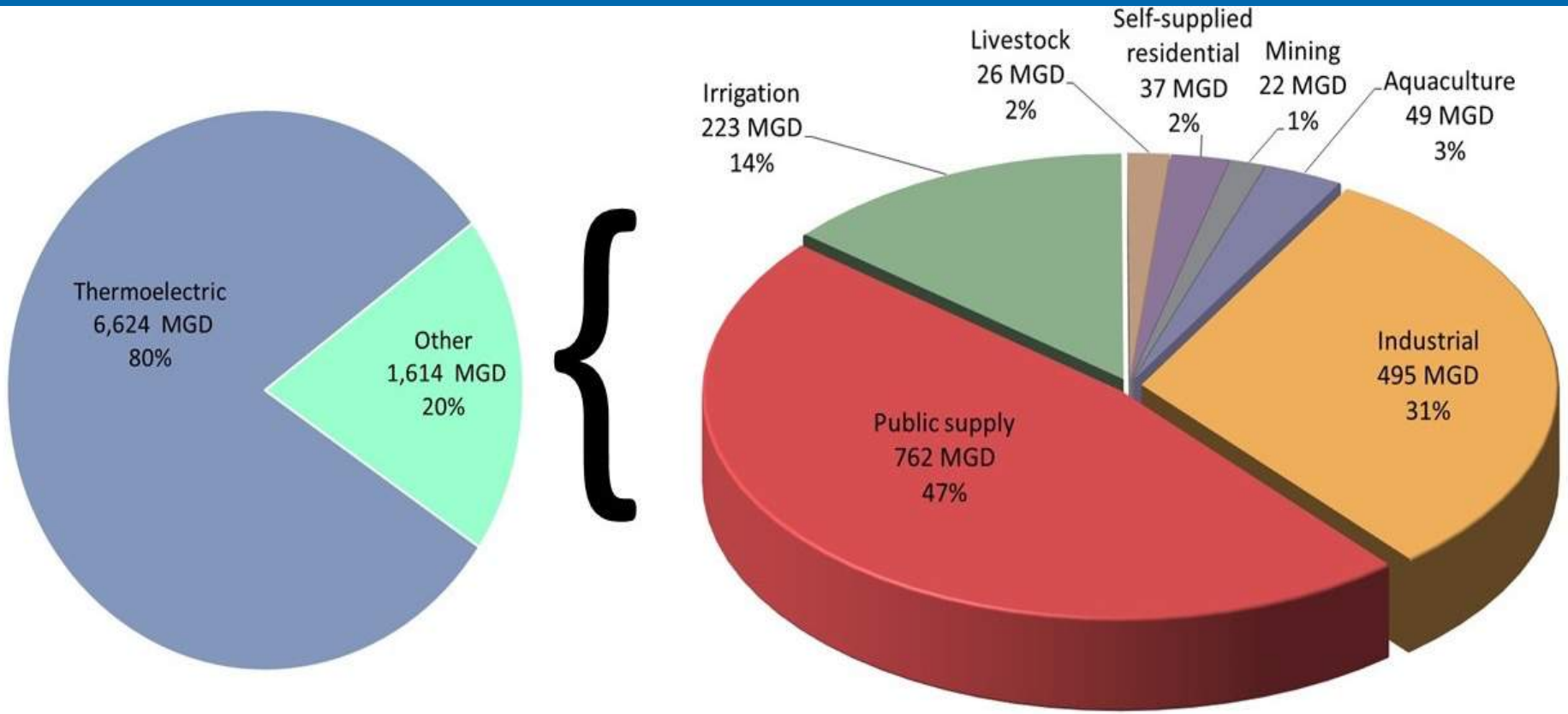
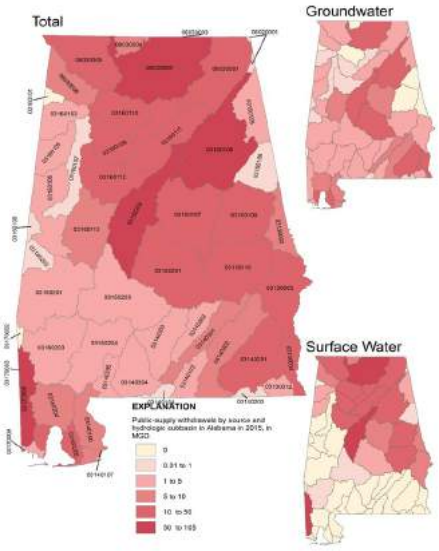
2015 Water Withdrawals

- Total Withdrawals – 8,239 MGD
  - 94 % Surface water
  - 6 % groundwater

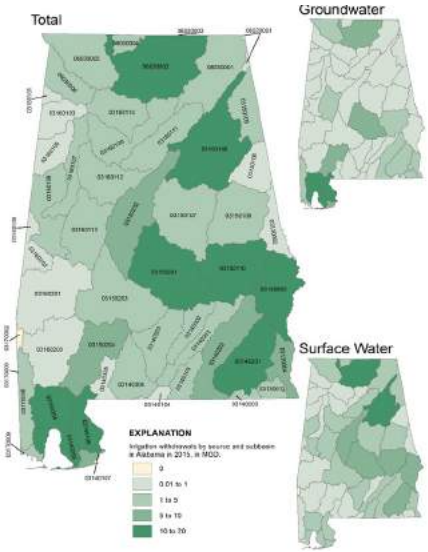


2015 Water Withdrawals by Sector

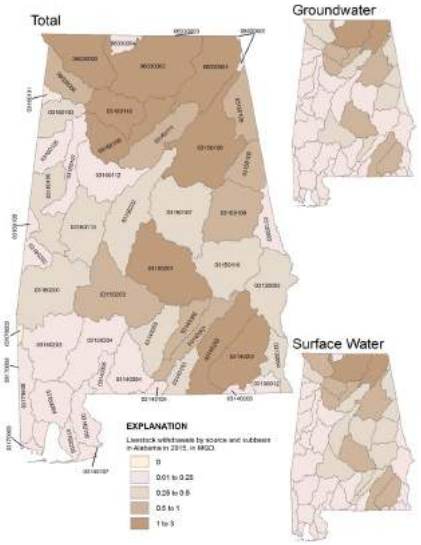
Public Supply



Irrigation

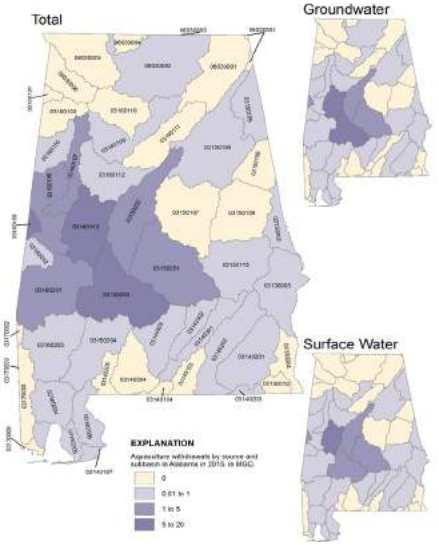


Livestock

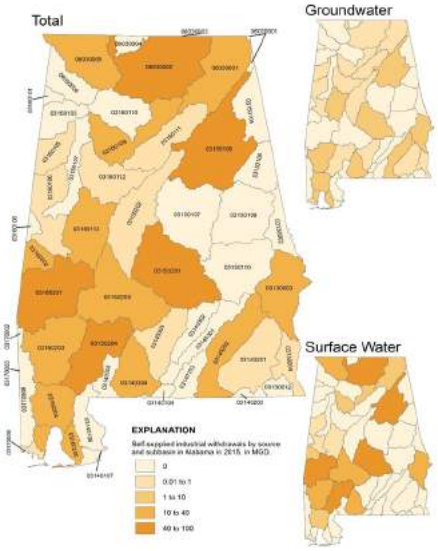


Residential (Self-Supplied)

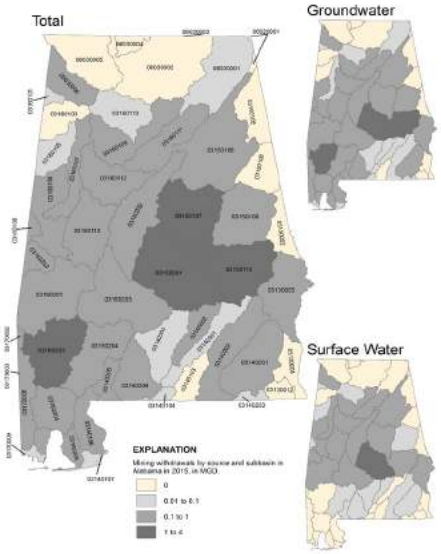
Aquaculture



Industrial (Self-Supplied)

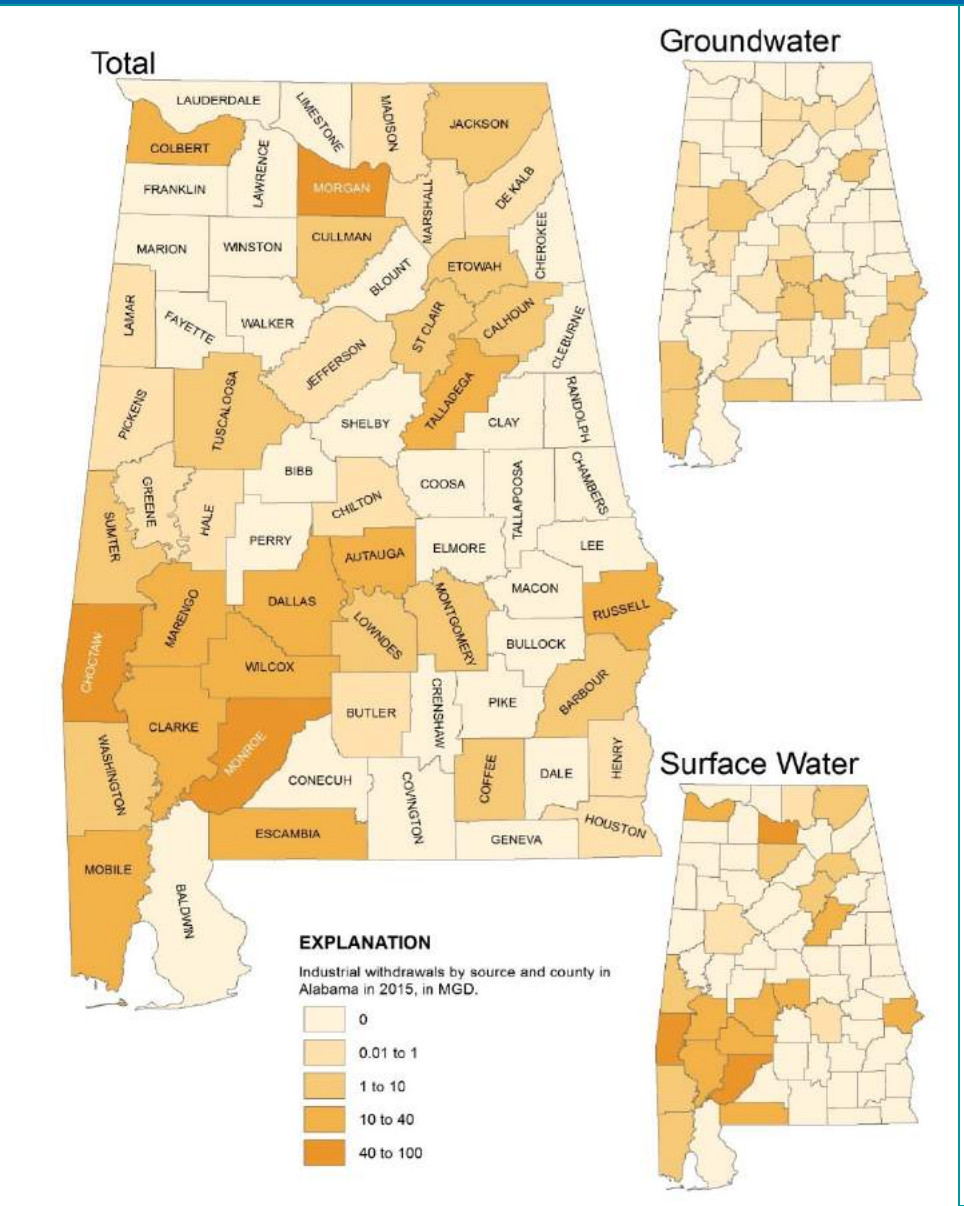


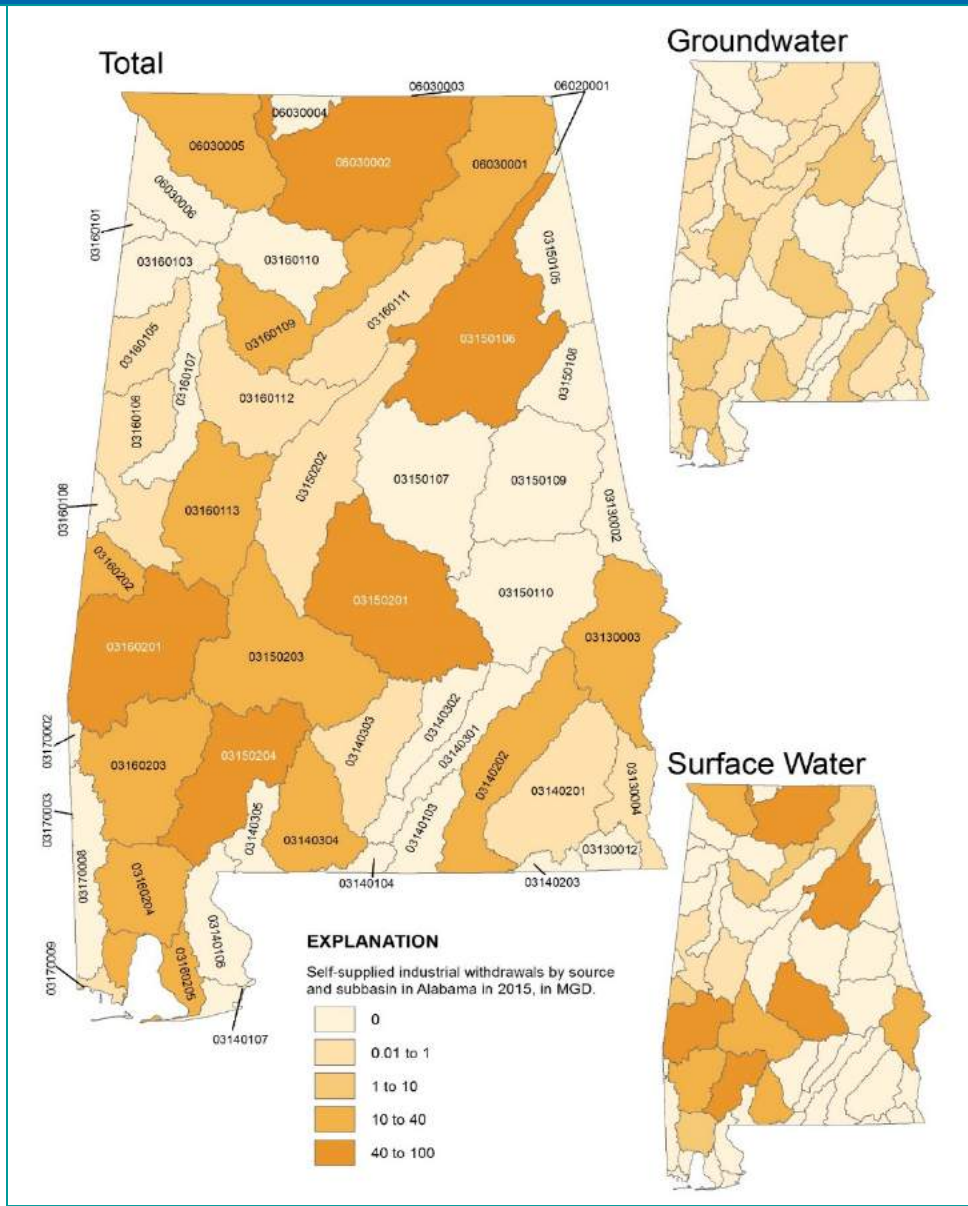
Mining



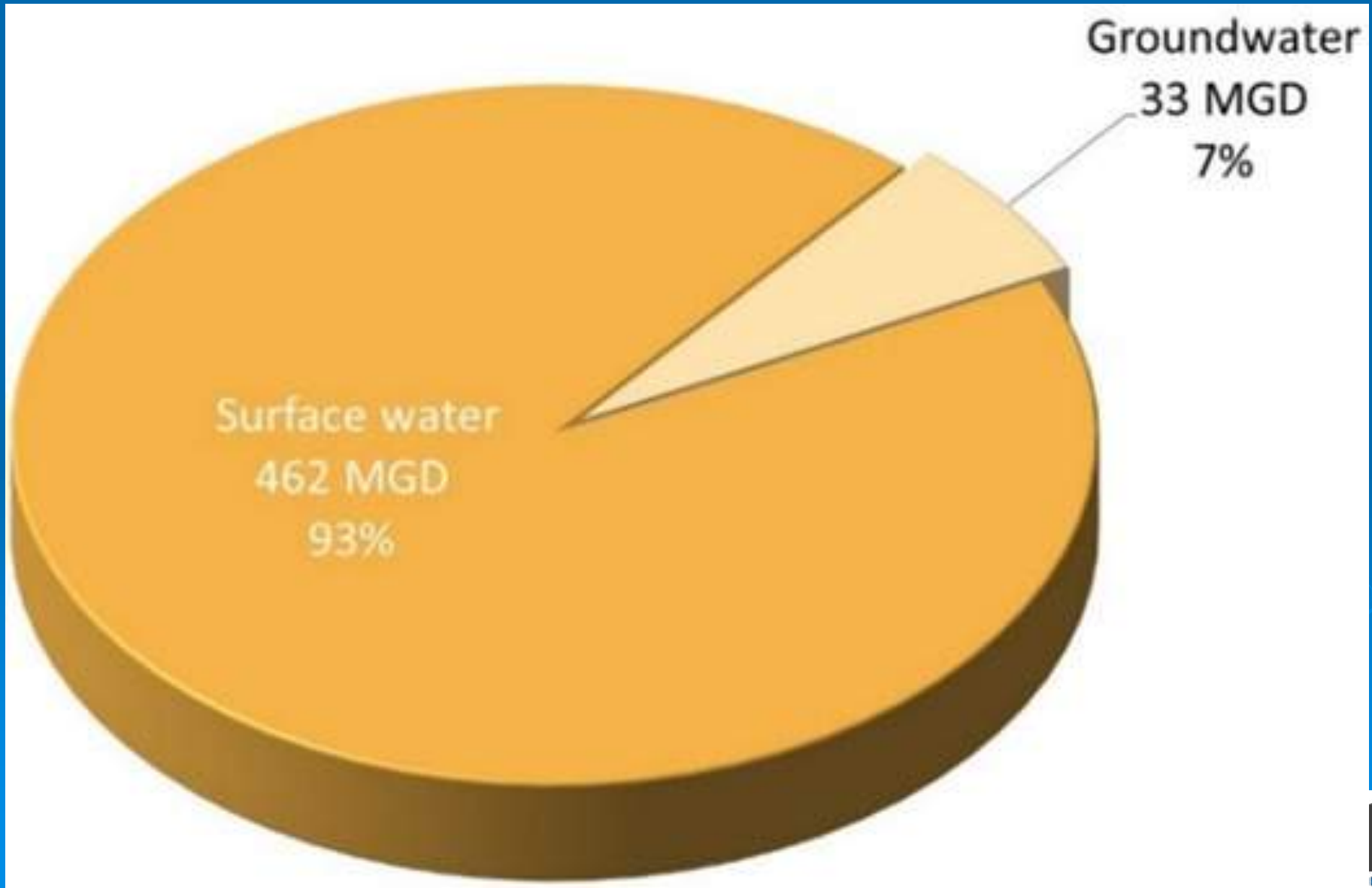
Thermoelectric

Self Supplied Industrial Water Withdrawals – 2015





Self-Supplied Industrial Water Sources



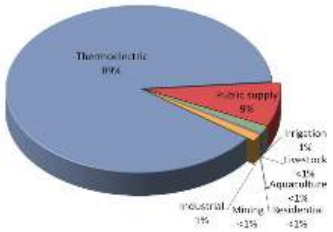
2015 Water Withdrawal Summaries

MOBILE

Population 415,395
Pop served by public supply 377,074

Withdrawals, in Million Gallons per Day

Category	GW	SW	Totals
Public Supply	13.49	52.64	66.13
	20%	80%	
Residential	2.72	0.00	2.72
	100%	0%	
Irrigation	8.67	2.27	10.94
	79%	21%	
Aquaculture	0.00	0.01	0.01
	0%	100%	
Livestock	0.10	0.13	0.23
	43%	57%	
Industrial	6.49	3.61	10.10
	64%	36%	
Mining	0.22	0.00	0.22
	100%	0%	
Thermoelectric	0.00	693.70	693.70
	0%	100%	
Totals	31.68	752.37	784.05
	4%	96%	



Withdrawals by Public Supplier, in MGD

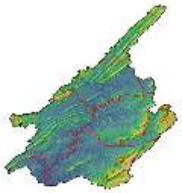
System Name	GW	SW	Total
Le Moyne Water System, Inc.	0.40	0.00	0.40
Mount Vernon	0.16	0.00	0.16
Saraland Water System	1.52	0.00	1.52
Satsuma	0.52	0.00	0.52
South Alabama Utilities	4.01	0.00	4.01
Bayou La Batre Utilities Bd.	0.59	0.00	0.59
Dauphin Island W&SA	0.57	0.00	0.57
Grand Bay Water Works Bd.	0.87	0.00	0.87
Kushla WD	0.47	0.00	0.47
MCB WA, Inc.	0.18	0.00	0.18
Mobile Bd. of W&S Comm.	0.00	52.64	52.64
Mobile Co. WS&FPA	3.03	0.00	3.03
St. Elmo - Irvington WA	0.81	0.00	0.81
Turnerville W&FPD	0.36	0.00	0.36

Withdrawals by North American Industry Classification, in MGD

Industry Group	GW	SW	Total
Elect Pwr Gen, Trans & Dist	0.00	693.70	693.70
Utility System Construction	0.10	0.00	0.10
Seafood Product Prep & Pkg	0.00	0.00	0.00
Fabric Mills	1.30	0.00	1.30
Petro & Coal Products Man	0.57	0.00	0.57
Basic Chemical Manufact	1.99	0.00	1.99
Pest, Fert, & Otr Ag Chem Man	0.51	0.00	0.51
Paint, Coat, & Adhsv Man	1.75	0.00	1.75
Iron & Steel Mills & Ferro Man	0.26	3.61	3.87
Otr Support Activities for Trans	0.02	0.00	0.02

Subbasin number - Subbasin name

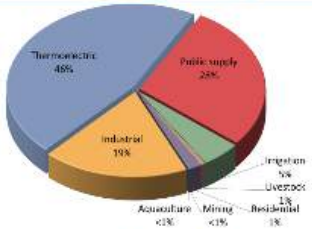
03150106-Middle Coosa



Area (Square Miles) 2,582
Estimated Population (2015) 355,811
Subregion: Alabama

Withdrawals, in Million Gallons per Day (MGD) and percent (%)

Category	GW	SW	Totals
Public Supply	36.18	27.70	63.88
	57%	43%	
Residential	2.75	0.00	2.75
	100%	0%	
Irrigation	0.54	10.84	11.38
	5%	95%	
Aquaculture	0.15	0.12	0.26
	55%	45%	
Livestock	0.70	0.87	1.57
	44%	56%	
Industrial	1.72	40.98	42.71
	4%	96%	
Mining	0.69	0.10	0.79
	87%	13%	
Thermoelectric	0.00	105.52	105.52
	0%	100%	
Totals	42.73	186.13	228.86
	19%	81%	



Withdrawals by Public Supplier, in MGD

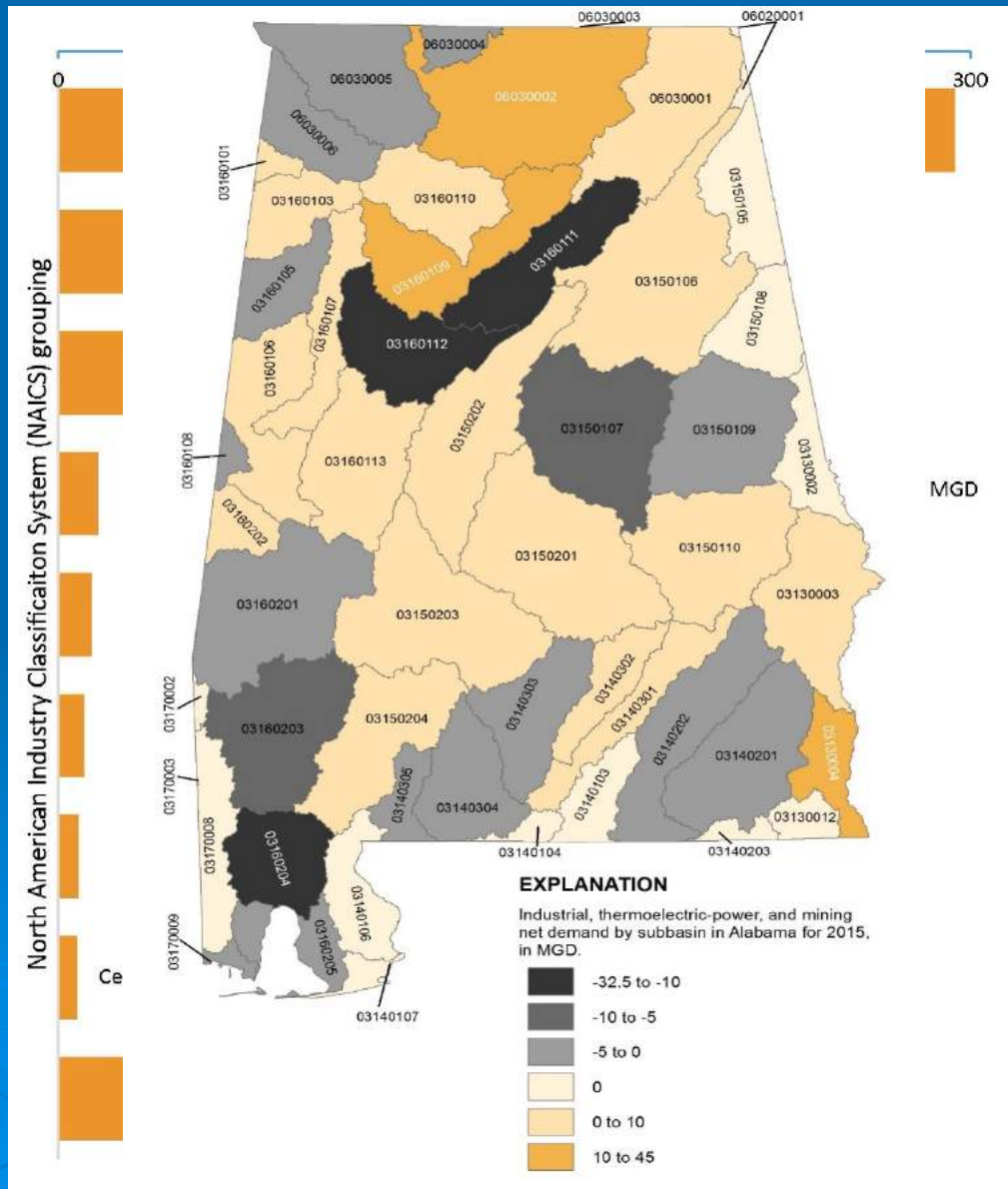
System Name	GW	SW	Total
Ashville Water and Sewer	0.21	0.32	0.53
Big Wills Water	0.23	0.00	0.23
Glencoe Water and Sewer Works	0.42	0.00	0.42
Lincoln	1.39	0.00	1.39
Pell City	1.40	0.00	1.40
Weaver Water System	0.52	0.00	0.52
Anniston WW&SB	15.28	0.74	16.02
Attalla Water Works Bd.	1.28	0.00	1.28
Calhoun Co. WA	2.96	0.00	2.96
Childersburg WS&GB	0.26	0.00	0.26
City of Talladega W&SD	2.90	0.52	3.42
Coosa Valley WSD	0.00	2.26	2.26
Fort Payne Water Works Bd.	0.00	4.82	4.82
Gadsden WW&SB	0.00	12.73	12.73
Hokes Bluff Water Bd.	0.75	0.00	0.75
Jacksonville WW&SB	0.00	1.17	1.17
Munford WA, Inc.	0.31	0.00	0.31
New London WA	0.66	0.00	0.66
Odenville Utilities Bd.	1.22	0.00	1.22
Oxford WW&SB	3.70	0.00	3.70
Ragland Water Works Bd.	0.44	0.00	0.44
Riverside Utility Bd.	0.03	0.00	0.03
Southside WW&SB	0.75	0.00	0.75
Talladega/Shelby WTP	0.00	5.14	5.14
Vincent Water Dept.	0.26	0.00	0.26
Water Works, Inc.	0.35	0.00	0.35
Wattsville WA	0.60	0.00	0.60
West Etowah Co. WA	0.23	0.00	0.23

Withdrawals by North American Industry Classification, in MGD

Industry Group	GW	SW	Total	Industry Group	GW	SW	Total
Beverage Man	0.43	0.00	0.43	Poultry & Egg Prod	0.57	0.00	0.57
Cement & Concrete Prod Man	0.00	6.10	6.10	Pulp, Paper, & Paperboard Mills	0.50	26.59	27.08
Elect Pwr Gen, Trans & Dist	0.00	105.52	105.52	Rubber Product Man	0.00	8.30	8.30
Foundries	0.22	0.00	0.22				

Self Supplied Industrial Water Withdrawal and Consumption (2015)

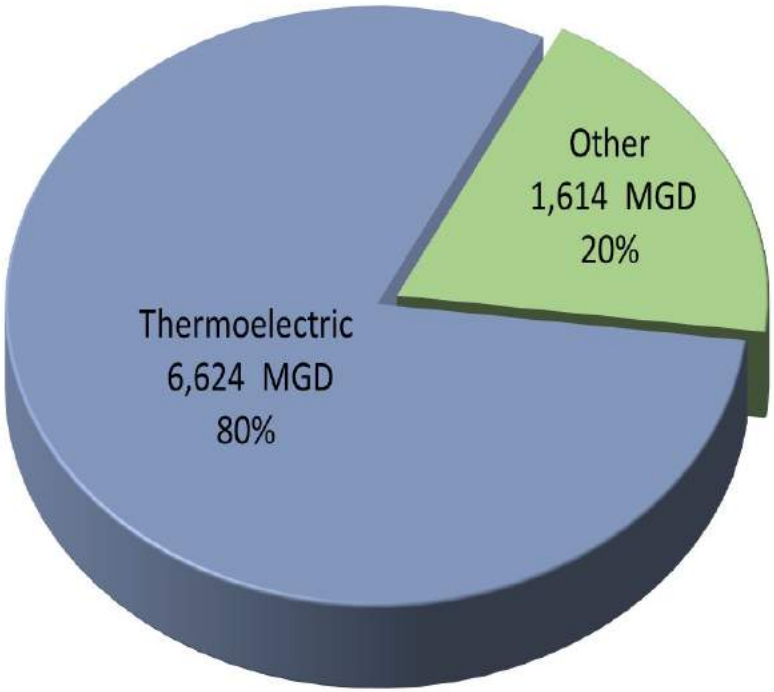
- Other than the Thermoelectric sector, Pulp and Paper activities withdraw the most water in this sector
- But consumption is a different story



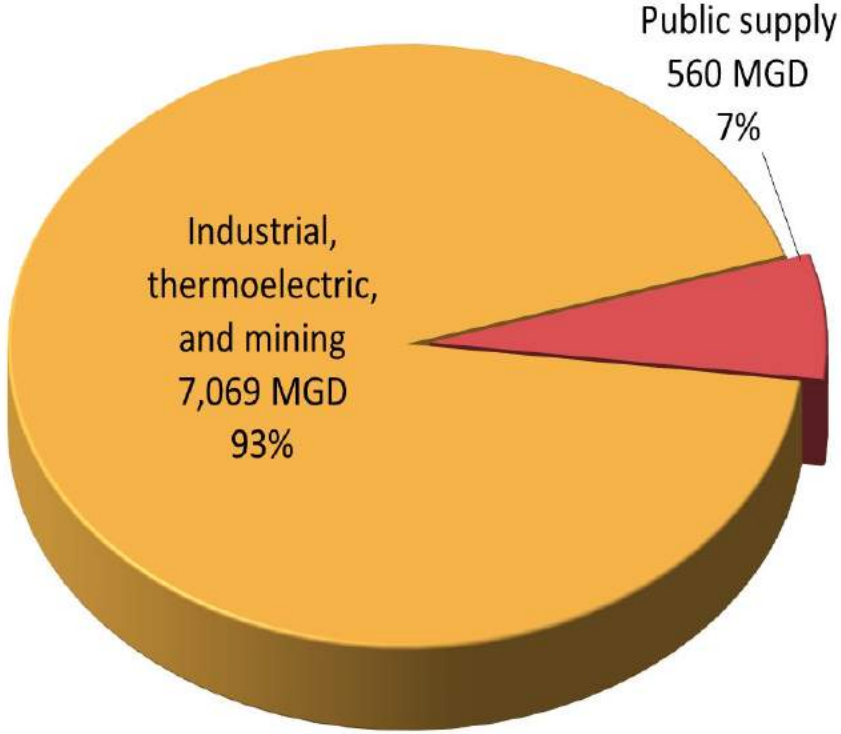
2015 Water Use

Total Withdrawals:	8,239 MGD
Total Returns:	7,629 MGD
GW Withdrawals:	496 MGD
Total SW Consumptive Use:	115 MGD

Withdrawals

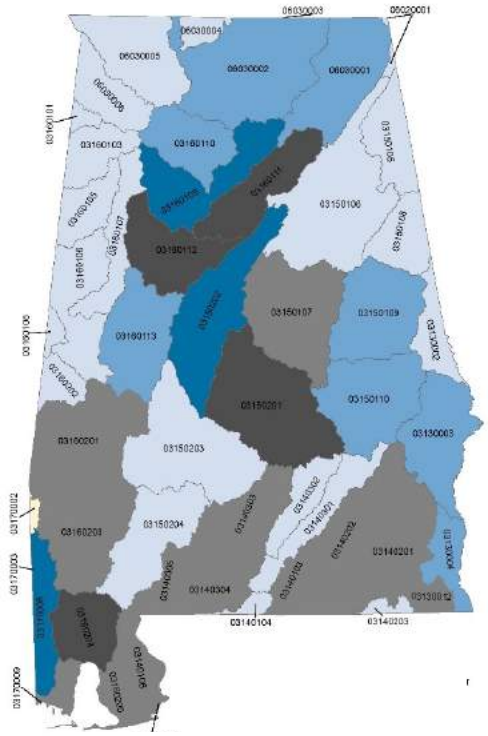


Wastewater Returns



2015 Consumptive Use

Total

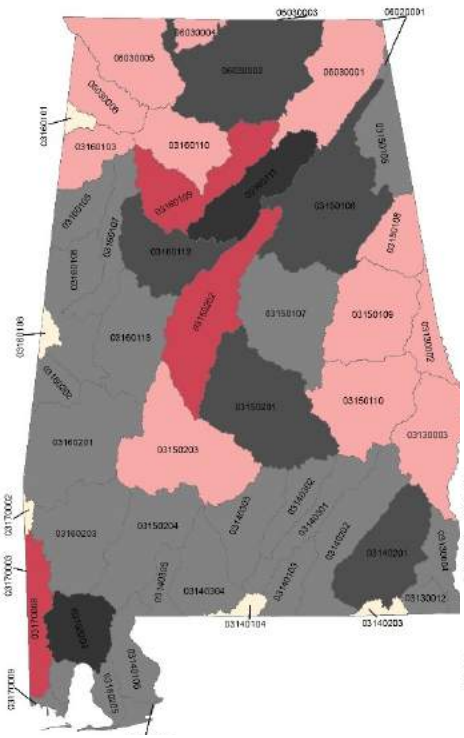


EXPLANATION

Total net demand by subbasin in Alabama for 2015, in MGD.

- -75 to -10
- -10 to 0
- 0
- 0 to 10
- 10 to 25
- 25 to 80

Public Supply

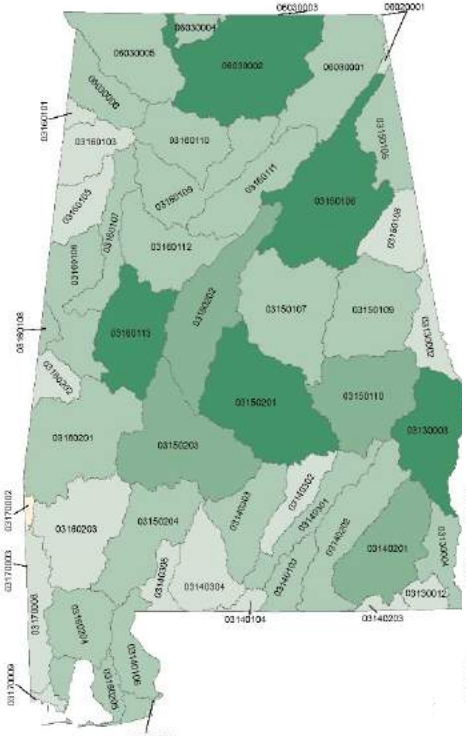


EXPLANATION

Public-supply net demand by subbasin in Alabama for 2015, in MGD.

- -65 to -40
- -40 to -10
- -10 to 0
- 0
- 0 to 20
- 20 to 55

Agriculture

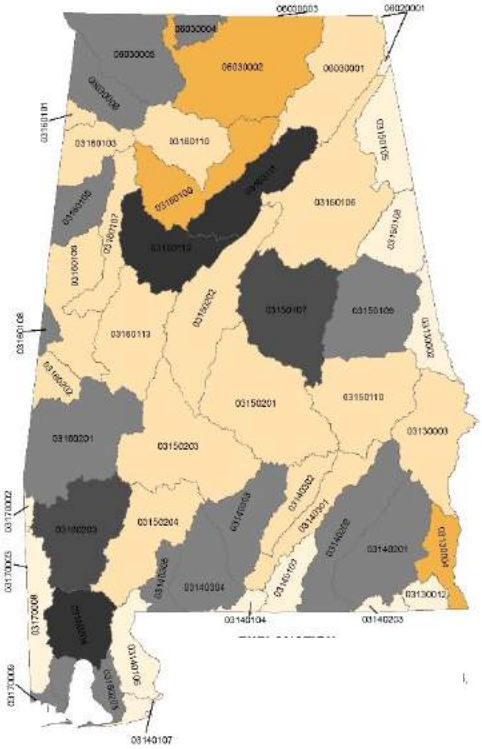


EXPLANATION

Agriculture net demand by subbasin in Alabama for 2015, in MGD.

- 0
- 0 to 1
- 1 to 5
- 5 to 10
- 10 to 15

Industrial and Power



EXPLANATION

Industrial, thermoelectric-power, and mining net demand by subbasin in Alabama for 2015, in MGD.

- -32.5 to -10
- -10 to -5
- -5 to 0
- 0
- 0 to 10
- 10 to 45

Subbasin number - Subbasin name

03150106-Middle Coosa

Area (Thousand Acres) 2,582
Estimated Population (2015)* 355,811
Subregion: Alabama

2015 Demands

Withdrawals

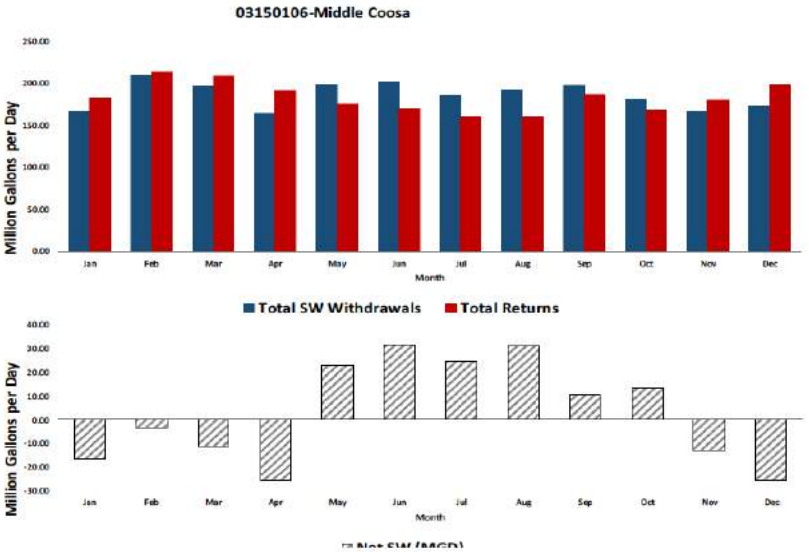
Category	Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Public Supply/Residential	GW	38.02	38.81	37.48	36.39	39.41	41.24	42.30	42.67	39.51	38.15	37.24	35.95	38.93
Public Supply	SW	27.65	27.34	26.03	26.11	28.04	30.08	30.51	30.93	28.55	26.76	25.34	25.04	27.70
Industrial/Mining	GW	2.37	2.31	2.40	2.27	2.40	2.53	2.42	2.46	2.41	2.42	2.52	2.43	2.41
Industrial/Mining	SW	38.87	40.83	36.06	33.38	45.02	45.40	41.93	44.69	43.40	38.34	39.61	45.40	41.09
Thermoelectric	SW	98.21	137.20	128.84	96.27	110.07	105.62	92.10	96.13	108.40	102.43	95.03	98.41	105.52
Agriculture	GW	0.97	0.98	1.11	1.22	1.60	2.11	2.18	1.86	1.35	1.23	1.02	0.97	1.39
Agriculture	SW	2.19	4.57	6.23	9.36	15.03	19.92	20.58	20.82	16.91	13.90	7.22	4.70	11.83
Total	GW	**41.35**	**42.10**	**40.99**	**39.89**	**43.42**	**45.88**	**46.90**	**46.92**	**43.27**	**41.80**	**40.77**	**39.35**	**42.73**
Total	SW	**166.93**	**209.96**	**197.16**	**165.12**	**198.16**	**201.01**	**186.11**	**192.57**	**197.26**	**181.43**	**167.20**	**173.55**	**186.13**

Returns

Category		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Public Supply		52.32	47.58	57.87	69.23	35.42	34.21	28.84	29.06	25.55	25.76	46.07	60.47	42.70
Industrial/Mining		33.28	29.00	27.98	25.94	31.48	29.97	37.91	36.48	53.10	40.52	38.95	40.91	35.46
Thermoelectric		97.84	136.85	122.52	95.84	108.50	105.27	93.85	95.98	108.05	102.08	94.94	97.93	104.97
Agriculture		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Returns		**183.45**	**213.43**	**208.37**	**191.00**	**175.40**	**169.45**	**160.61**	**161.52**	**186.70**	**168.38**	**179.96**	**199.31**	**183.13**

03150106-Middle Coosa

Total SW Withdrawals	SW	166.93	209.95	197.16	165.12	198.16	201.01	185.11	192.57	197.26	181.43	167.20	173.55	186.13
Total GW Withdrawals	GW	41.35	42.10	40.99	39.89	43.42	45.88	46.90	46.92	43.27	41.80	40.77	39.35	42.73
Withdrawal Total		208.28	252.05	238.15	205.01	241.58	246.89	232.01	239.49	240.53	223.23	207.97	212.90	228.86
Total Returns		**183.45**	**213.43**	**208.37**	**191.00**	**175.40**	**169.45**	**160.61**	**161.52**	**186.70**	**168.38**	**179.96**	**199.31**	**183.13**
Net SW (MGD)	SW	**-16.52**	**-3.48**	**-11.21**	**-25.88**	**22.76**	**31.56**	**24.50**	**31.05**	**10.56**	**13.05**	**-12.76**	**-25.76**	**3.00**



MOBILE

Population 415,395
Pop served by public supply 377,074

2015 Demands

Withdrawals

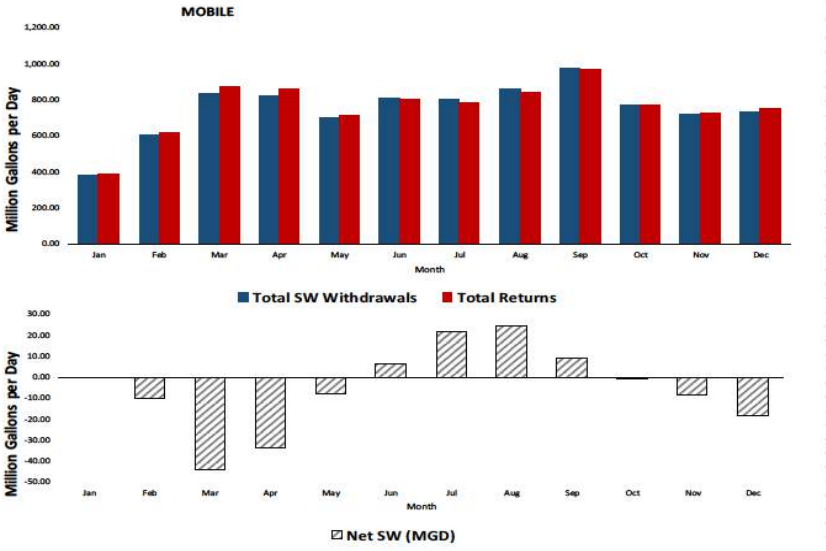
Category	Source	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Public Supply/Residential	GW	15.73	14.92	15.54	15.73	17.16	17.65	17.29	17.16	17.06	16.27	14.94	14.89	16.20
Public Supply	SW	51.06	47.87	49.68	51.98	55.62	58.12	49.29	56.91	54.49	53.33	52.82	50.32	52.64
Industrial/Mining	GW	6.61	6.54	6.92	6.71	6.44	6.90	6.59	6.89	6.63	6.55	6.86	6.89	6.71
Industrial/Mining	SW	3.22	3.05	2.99	3.09	3.52	3.73	4.11	4.60	4.50	3.93	2.99	3.55	3.61
Thermoelectric	SW	329.20	555.13	778.21	766.67	639.34	745.74	745.87	796.97	913.35	710.52	662.26	677.81	693.70
Agriculture	GW	4.04	5.17	5.91	7.04	9.57	12.55	13.03	13.08	11.63	10.60	6.96	5.38	8.77
Agriculture	SW	0.66	0.58	0.99	1.95	3.31	4.17	4.38	4.35	3.75	2.96	1.06	0.63	2.41
Total	GW	**26.37**	**26.63**	**28.37**	**29.48**	**33.17**	**37.10**	**36.90**	**37.12**	**35.31**	**33.42**	**28.76**	**27.15**	**31.68**
Total	SW	**384.14**	**606.63**	**831.87**	**823.69**	**701.79**	**811.76**	**803.65**	**862.83**	**976.09**	**770.74**	**719.13**	**732.31**	**752.37**

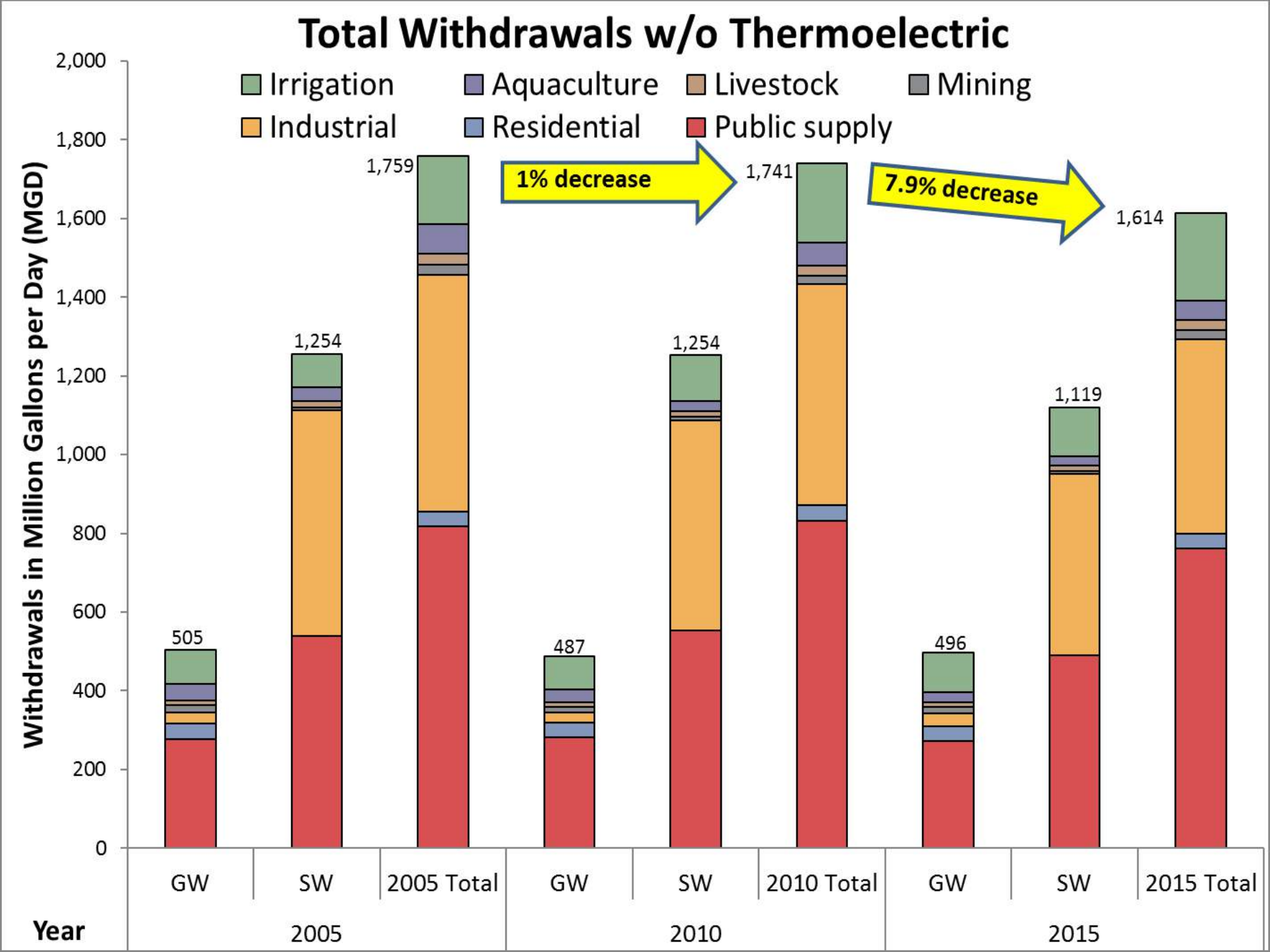
Returns

Category		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Public Supply		43.39	38.12	49.91	59.86	55.19	47.72	30.70	35.49	33.48	39.53	38.15	52.91	43.70
Industrial/Mining		28.27	26.19	40.49	28.44	30.19	31.93	30.45	28.59	28.68	29.95	34.06	30.27	30.63
Thermoelectric		313.08	552.48	785.64	769.40	634.31	725.99	721.15	774.34	904.90	701.99	655.91	667.52	683.06
Agriculture		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Returns		**384.74**	**616.79**	**876.03**	**857.70**	**709.69**	**805.65**	**782.31**	**838.42**	**967.05**	**771.47**	**728.12**	**750.69**	**757.39**

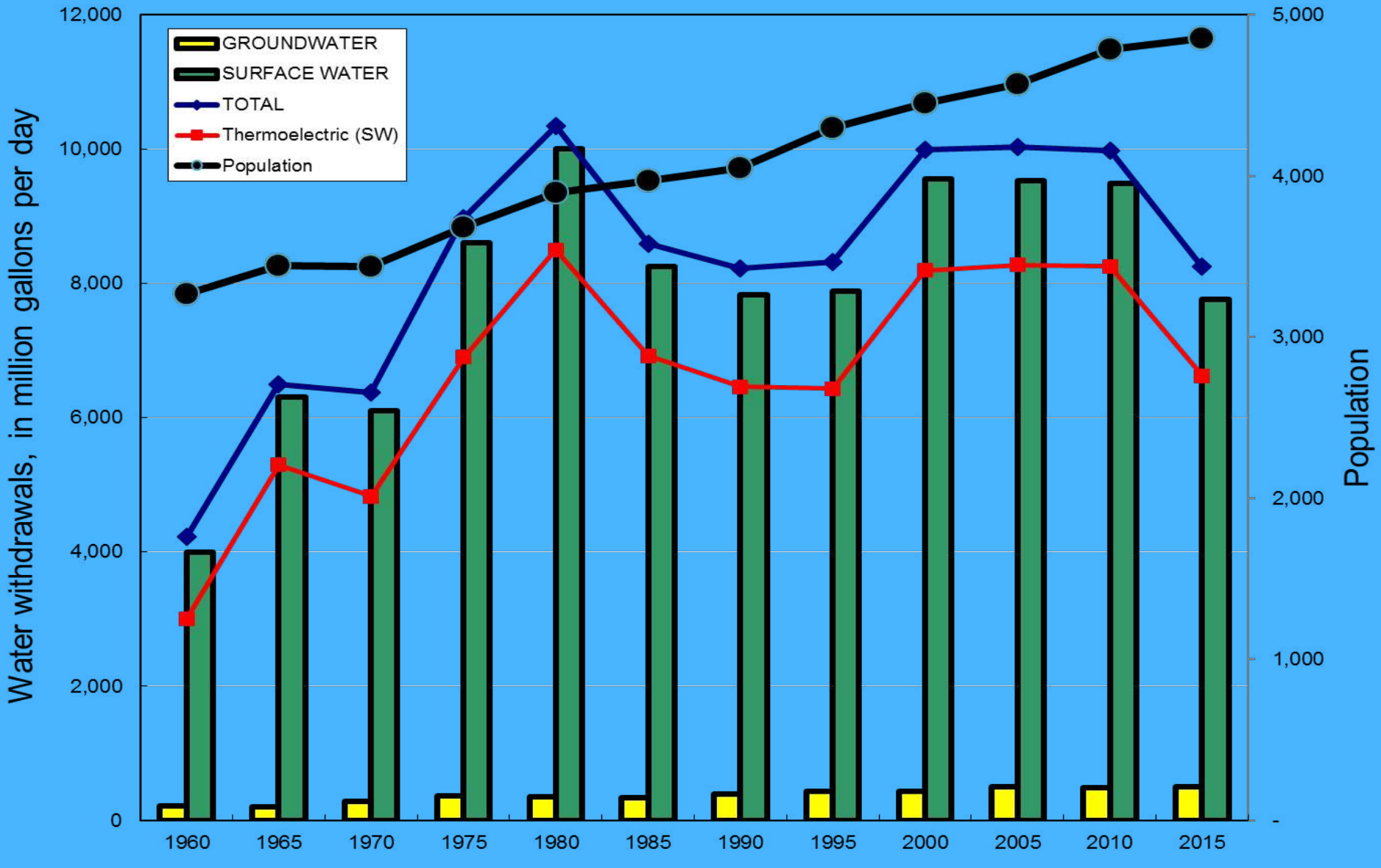
MOBILE — **2015 FINAL DATA**

Total SW Withdrawals	SW	384.14	606.63	831.87	823.69	701.79	811.76	803.65	862.83	976.09	770.74	719.13	732.31	752.37
Total GW Withdrawals	GW	26.37	26.63	28.37	29.48	33.17	37.10	36.90	37.12	35.31	33.42	28.76	27.15	31.68
Withdrawal Total		410.51	633.26	860.24	853.18	734.96	848.87	840.55	899.96	1,011.40	804.15	747.89	759.47	784.05
Total Returns		**384.74**	**616.79**	**876.03**	**857.70**	**709.69**	**805.65**	**782.31**	**838.42**	**967.05**	**771.47**	**728.12**	**750.69**	**757.39**
Net SW (MGD)	SW	**-0.60**	**-10.16**	**-44.16**	**-34.01**	**-7.90**	**6.12**	**21.34**	**24.41**	**9.03**	**-0.73**	**-8.98**	**-18.38**	**-5.33**

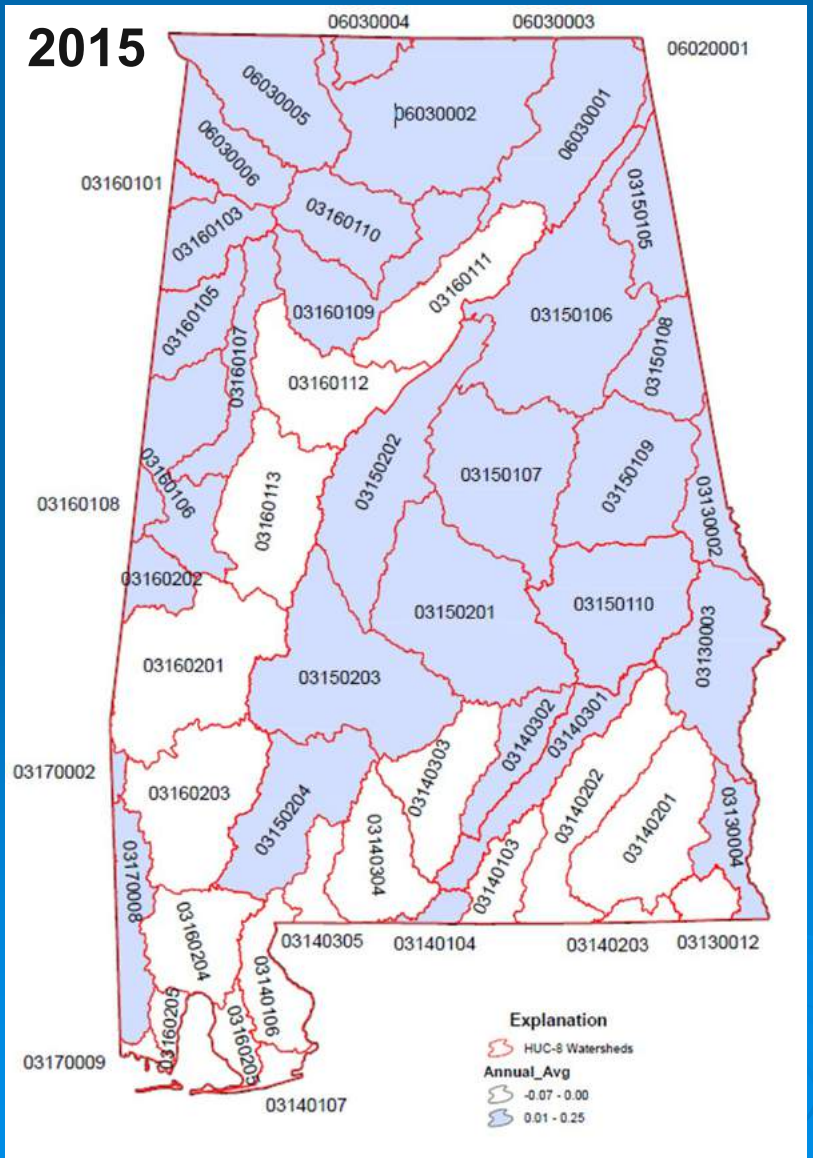


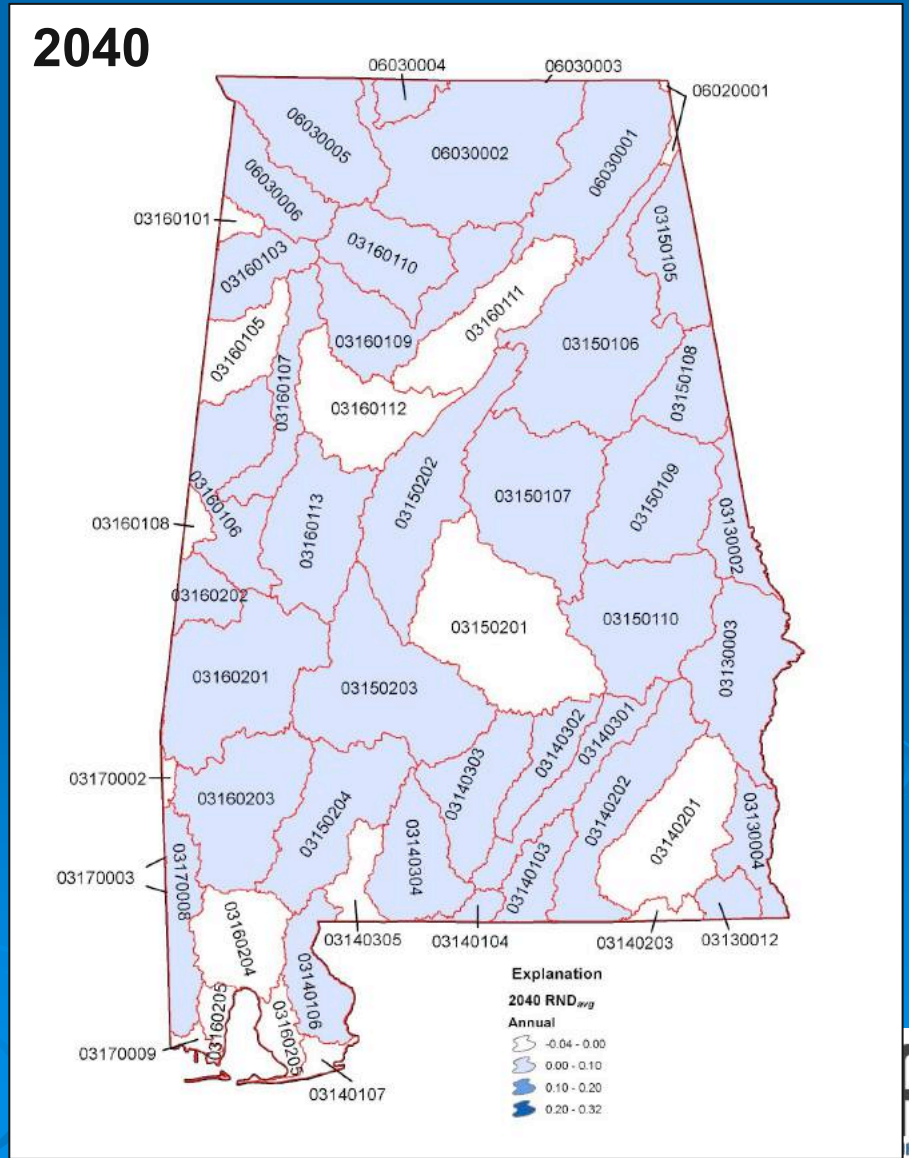

Total Withdrawals w/o Thermoelectric
Irrigation
Aquaculture
Livestock
Mining
Industrial
Residential
Public supply
Withdrawals in Million Gallons per Day (MGD)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
505
1,254
1,759
487
1,254
1,741
496
1,119
1,614
1% decrease
7.9% decrease
GW
SW
2005 Total
GW
SW
2010 Total
GW
SW
2015 Total
Year
2005
2010
2015

Alabama Water Withdrawals
1960 - 2015



Consumptive Demand to Average Flow Ratios (Relative Net Demand)





Hydrologic Update and Drought Planning and Response

ADECA
OFFICE OF WATER RESOURCES

Alabama Drought Planning & Response Act (Act 2014 – 400)

Alabama Drought Planning and Response Act
Code of Alabama, 9-10C-1 through 9-10C-10

Section 9-10C-1

Short title.

This chapter may be known and cited as the Alabama Drought Planning and Response Act.
(Act 2014-400, §1.)

Section 9-10C-2

Definitions.

As used in this chapter, the following words shall have the following meanings:

(1) ADAPT. The Alabama Drought Assessment and Planning Team as created by this chapter.

(2) ADECA. The Alabama Department of Economic and Community Affairs.

(3) ADCNR COMMISSIONER. The Commissioner of the Alabama Department of Conservation and Natural Resources.

(4) ADEM DIRECTOR. The Director of the Alabama Department of Environmental Management.

(5) AEMA DIRECTOR. The Director of the Alabama Emergency Management Agency.

(6) ALABAMA ADJUTANT GENERAL. The Commanding General of the Alabama National Guard.

(7) AGI COMMISSIONER. The Commissioner of the Alabama Department of Agriculture and Industries.

(8) COMMUNITY PUBLIC WATER SYSTEM. A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(9) DROUGHT CONSERVATION PLAN. A written plan that addresses graduated drought response procedures with implementation of specific measures based on drought severity. The drought conservation plan may be a separate plan or a component of a broader emergency response plan.

(10) DROUGHT DECLARATION. A written summary, issued by OWR, containing a description of drought conditions throughout the state.

(11) DROUGHT EMERGENCY. A written declaration by the Governor that drought conditions in all or any part of the state are of such severity that public health or safety is threatened.

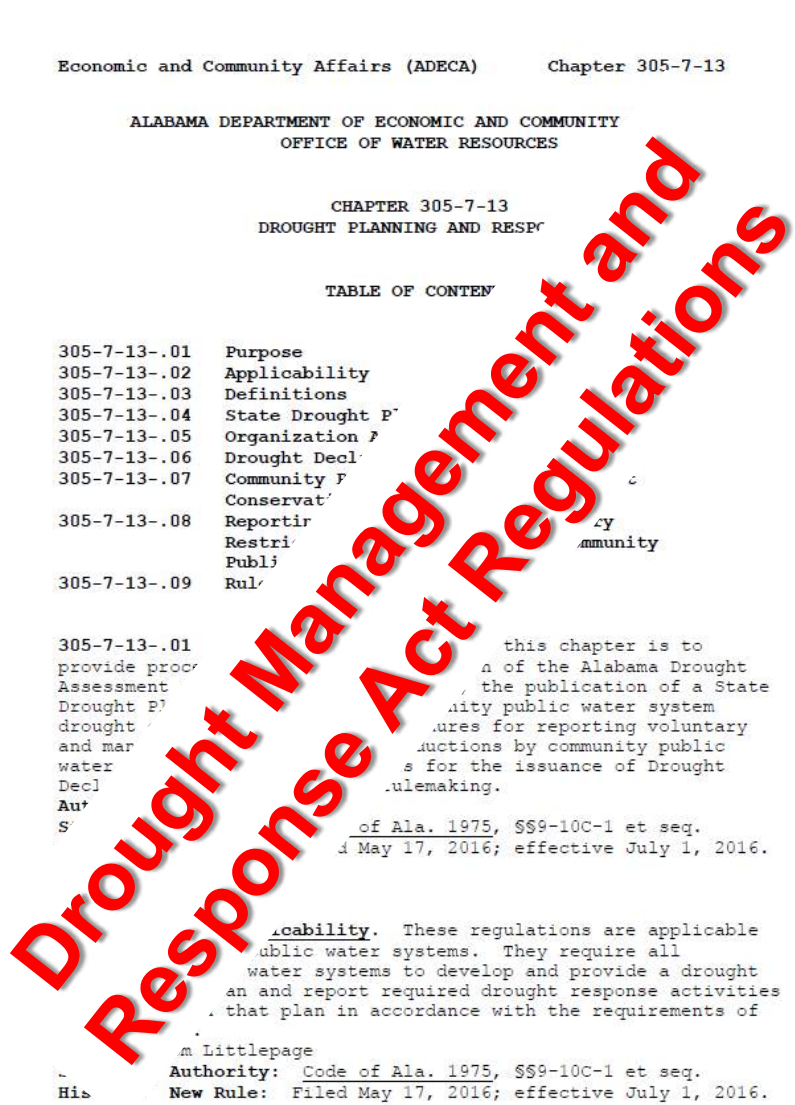
**(NOTE: This copy is provided for informational purposes but should not to be considered as an official version of the Alabama Drought Planning and Response Act. An official copy can be found in the Code of Alabama, Annotated, 1975, §9-10C-1, et seq.)

- Signed on April 9, 2014
- Codified in Code of Alabama as § § 9-10C-1, et seq.

Legislative Acts Details

ACT NUMBER 2014 - 400	
er	H - 49
pe	Regular
	General
	BOOTHE
ho	AL DROUGHT ASSESS TEAM
hat	CODIFY ESTABLISHMENT OF
ere	STATE OF AL
n	Codify establishment of the AL Drought Assessment and Planning Team created by Exec Order # 19
vernor	Yes
nd Time	4-9-2014 1:02 PM
nd Time	4-9-2014 4:14 PM

OWR Drought Regulations



Economic and Community Affairs (ADECA) Chapter 305-7-13

ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY
OFFICE OF WATER RESOURCES

CHAPTER 305-7-13
DROUGHT PLANNING AND RESP

TABLE OF CONTEN

305-7-13-.01 Purpose
305-7-13-.02 Applicability
305-7-13-.03 Definitions
305-7-13-.04 State Drought P
305-7-13-.05 Organization
305-7-13-.06 Drought Decl
305-7-13-.07 Community
Conservat
305-7-13-.08 Reportir
Restri
Publ
305-7-13-.09 Rul

305-7-13-.01 this chapter is to
provide proc n of the Alabama Drought
Assessment , the publication of a State
Drought P ility public water system
drought ures for reporting voluntary
and mar uctions by community public
water s for the issuance of Drought
Decl ulemaking.
Aut
S of Ala. 1975, §§9-10C-1 et seq.
d May 17, 2016; effective July 1, 2016.

cability. These regulations are applicable
ublic water systems. They require all
water systems to develop and provide a drought
an and report required drought response activities
that plan in accordance with the requirements of

m Littlepage
Authority: Code of Ala. 1975, §§9-10C-1 et seq.
His New Rule: Filed May 17, 2016; effective July 1, 2016.

Supp. 6/30/16 7-13-1

- Implementation of Drought Planning & Response Act
- Focus:
  - State drought plan criteria
  - ADAPT/MIG operating procedures
  - State drought declaration process
  - Establishes requirement for drought conservation plan but allows for use of existing plans if they address drought response
  - Establishes reporting requirements for public water systems

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Alabama Drought Management Approach

- Drought Act provides broad overview of drought management policies, priorities, structures, processes, and agency responsibilities
- Drought regulations provide more detailed information on specific procedures and responsibilities for drought reporting and publication of Alabama Drought Plan
- Alabama Drought Plan provides specific criteria on drought declarations, drought reporting information and format, and meeting procedures

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FINAL

ALABAMA DROUGHT MANAGEMENT PLAN

Alabama Department of Economic and Community Affairs (ADECA)

Alabama Office of Water Resources

November 30, 2018

ADECA
building better alabama communities
Alabama Department of Economic and Community Affairs

OWR
The Office of Water Resources
A Division of ADECA

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Alabama Drought Plan History

- Plan provides the basic operating guidelines for responding to droughts
- Last revised on November 30, 2018
- Required review every five years in accordance with the Alabama Drought Planning and Response Act
- Five-year review is currently underway

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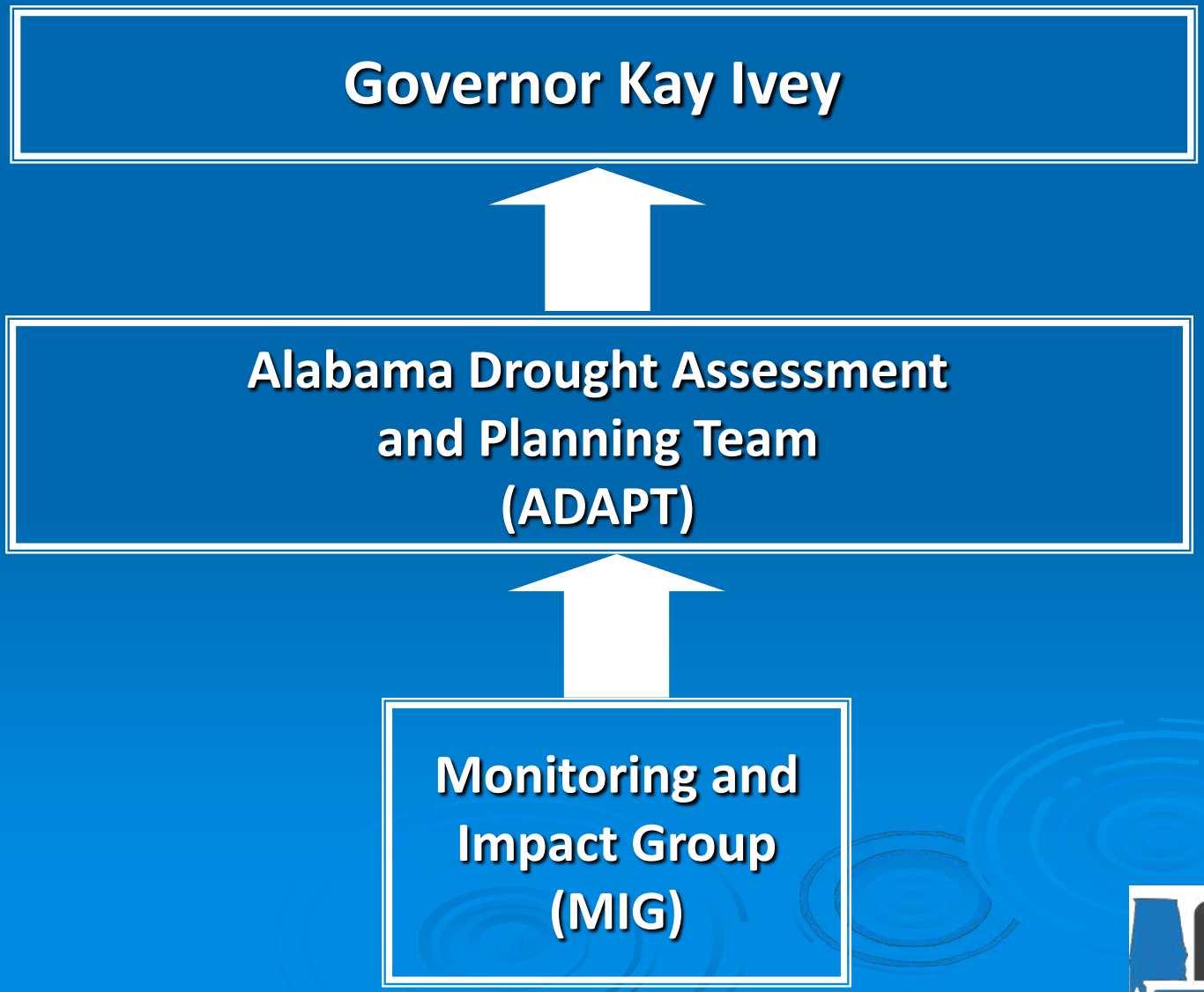
Alabama Drought Planning Structure



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Alabama Drought Planning Structure

Alabama Drought Assessment and Planning Team (ADAPT)

- Senior advisory body to the Governor and OWR
- Composed of key state and federal agencies and Governor's appointees
- Receive inputs from OWR, MIG, and others
- Focal point for coordination of governmental drought responses

Monitoring and Impact Group (MIG)

- Develop triggers and indicators of drought
- Collect climatic, meteorological, stream flow, groundwater, reservoir, soil moisture, and impact data
- Perform data analysis
- Make recommendations based on data analysis
- Assess the potential and real impacts of drought
- Develop mitigation recommendations

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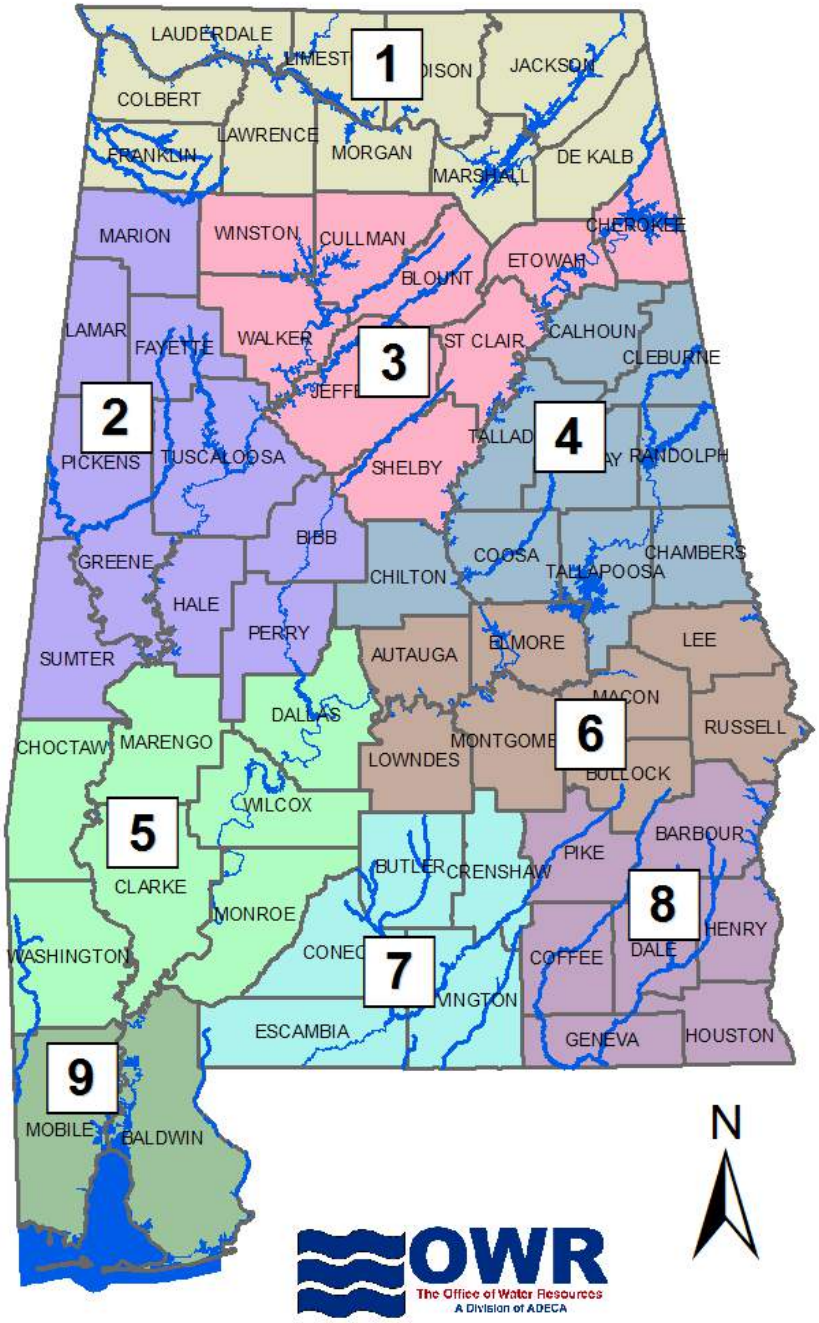

Alabama Drought Planning Regions

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Reservoir Drought Operations

- Corps of Engineers
  - ACT Master Water Control Manual
  - ACF Master Water Control Manual
- Tennessee Valley Authority
  - Reservoir Operations System
- Alabama Power Company
  - Alabama Drought Response Operations Proposal (ADROP)
- PowerSouth
  - Conecuh River below Point A Dam

US Army Corp of Engineers®

TVA

PowerSouth Energy Cooperative

Alabama Power

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Local Level Planning

- Key aspects for water utilities:
  - Requirement for local Drought Conservation Plan
  - Reporting to OWR upon activation (or deactivation) of plan
- Examples of Drought Conservation Plan or and emergency action plan details:
  - Identification of drought region(s)
  - Tiered levels of response actions to reduce water usage
  - A means of implementation and enforcement
  - Procedures for regulating compliance with the plan
  - How customers will be informed
  - Designation of staff responsible for notifying OWR
  - Procedure for variances

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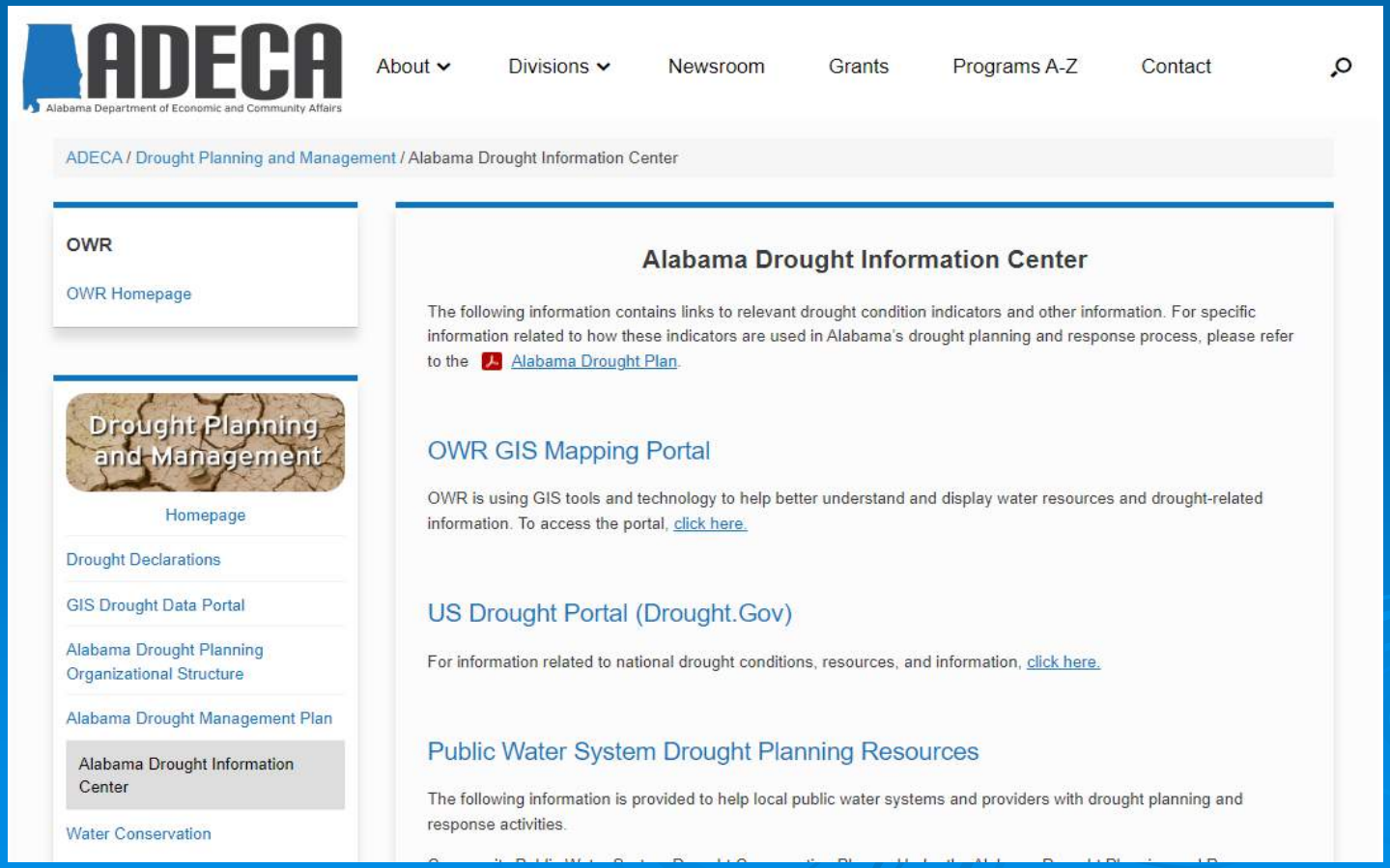
Drought Management Plan

- Current plan can be found at https://adeca.alabama.gov/drought/alabama-drought-plan/



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Drought Plan Update Process

- Drafts were distributed to MIG members including: AWRC / State Climatologist / TVA / Alabama Power / PowerSouth / SWCC / GSA / ADEM
- OWR has received comments from MIG for proposed revisions
- Monthly updates are provided to the MIG group as proposed revisions are evaluated
- Once approved by the MIG group, the revised Drought Plan will be submitted to ADAPT for approval
- Your comments are welcome and encouraged

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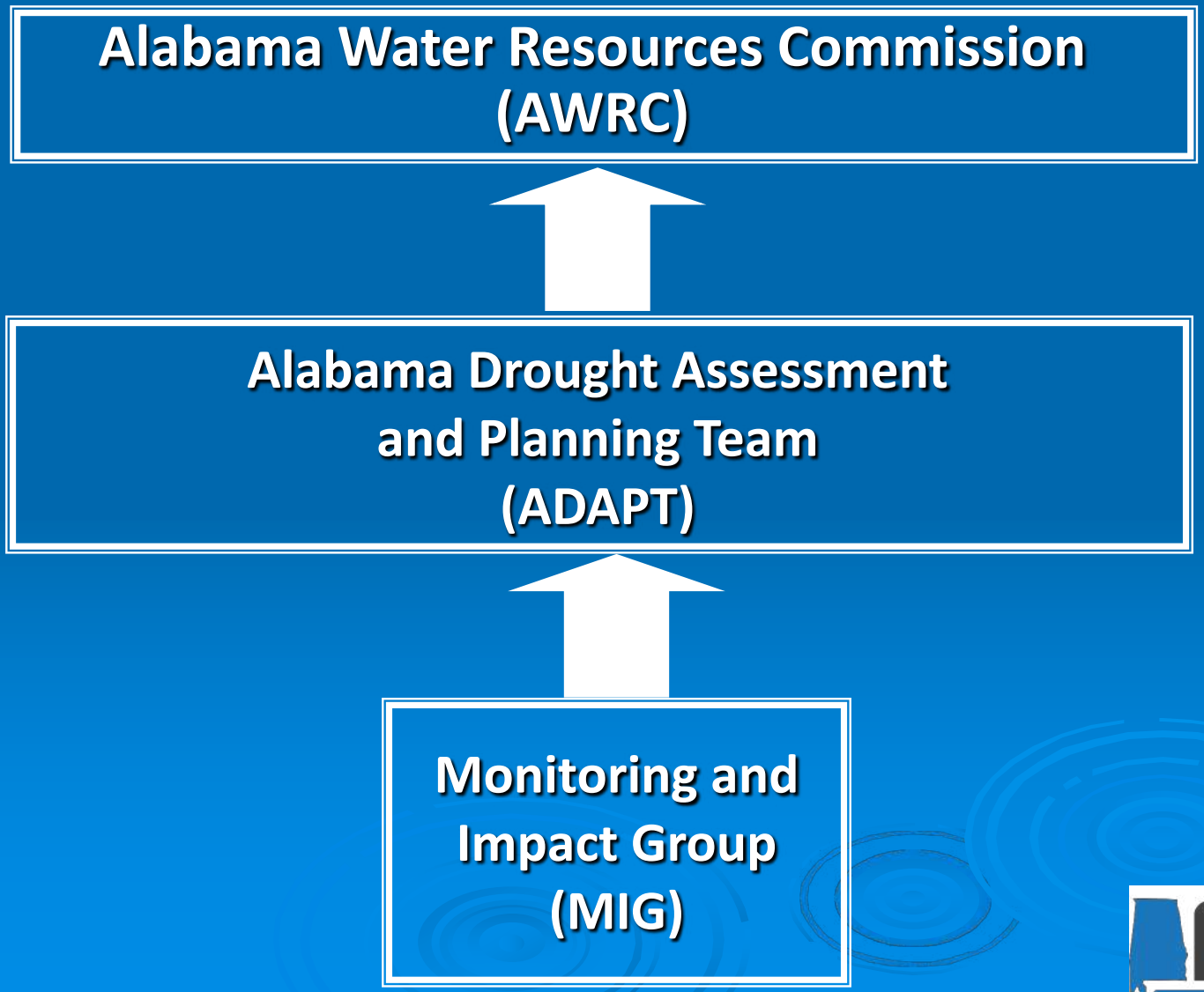
Major Organizations within the Plan

- Alabama Power Company (APC)
- Tennessee Valley Authority (TVA)
- US Army Corps of Engineers (USACE)
- PowerSouth Energy Cooperative
- Alabama Forestry Commission (AFC)
- Alabama Department of Environmental Management (ADEM)
- Alabama Department of Agriculture and Industries (AGI)
- Office of State Climatologist
- National Weather Service/NOAA
- Geological Survey of Alabama (GSA)
- US Geological Survey (USGS)
- Alabama Emergency Management Agency (EMA)
- Alabama Adjutant General
- Alabama Department of Conservation and Natural Resources (ADCNR)
- Choctawhatchee Pea and Yellow Rivers Watershed Management Authority (CPYRWMA)
- Governor's Office
- Alabama Soil and Water Conservation Committee (SWCC)
- USDA Natural Resource Conservation Service (NRCS)

Drought Management Plan Approval



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Alabama Drought Monitoring & Impact Group (MIG)

- The MIG has been actively meeting throughout 2023 as conditions have intensified:
  - May 23, 2023
  - July 11, 2023
  - August 15, 2023
  - September 19, 2023
  - October 10, 2023
  - November 7, 2023
  - Scheduled December 12, 2023

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Precipitation Update

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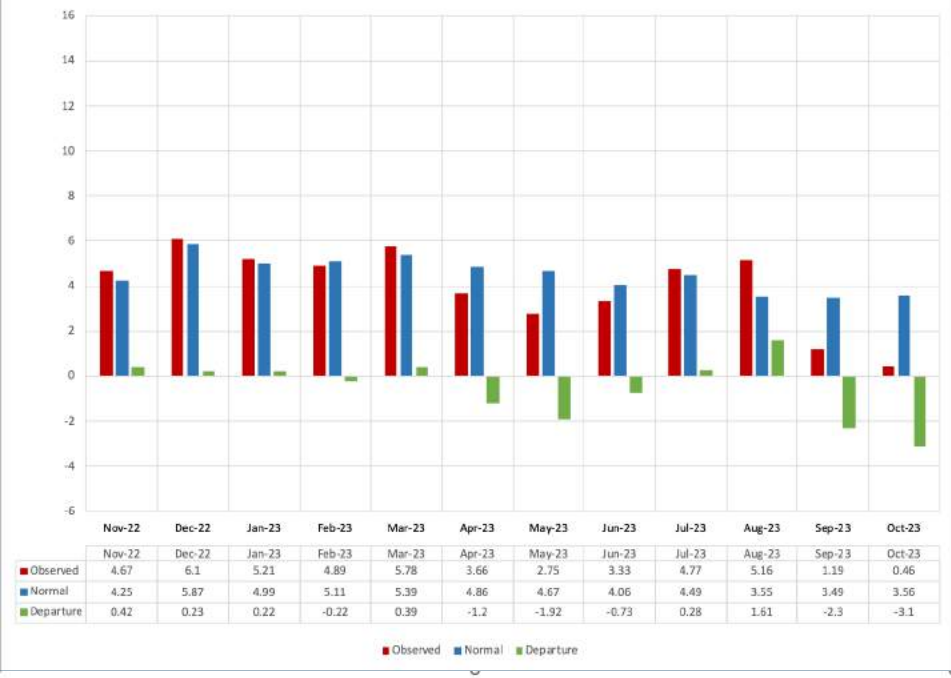
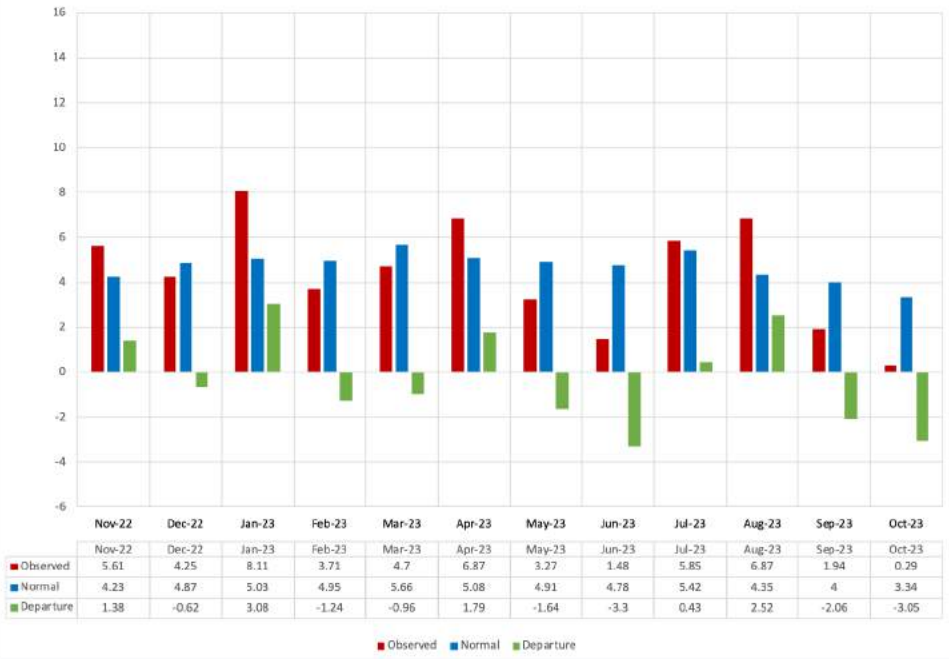
Huntsville Rainfall Data



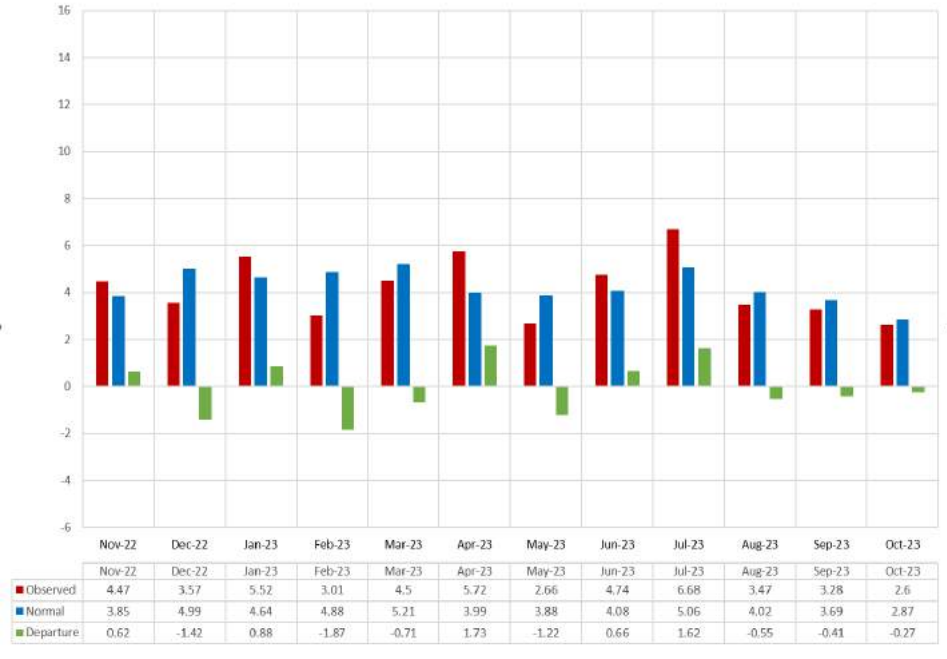
	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Observed	4.67	6.1	5.21	4.89	5.78	3.66	2.75	3.33	4.77	5.16	1.19	0.46
Normal	4.25	5.87	4.99	5.11	5.39	4.86	4.67	4.06	4.49	3.55	3.49	3.56
Departure	0.42	0.23	0.22	-0.22	0.39	-1.2	-1.92	-0.73	0.28	1.61	-2.3	-3.1

Birmingham Rainfall Data



	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Observed	5.61	4.25	8.11	3.71	4.7	6.87	3.27	1.48	5.85	6.87	1.94	0.29
Normal	4.23	4.87	5.03	4.95	5.66	5.08	4.91	4.78	5.42	4.35	4	3.34
Departure	1.38	-0.62	3.08	-1.24	-0.96	1.79	-1.64	-3.3	0.43	2.52	-2.06	-3.05

Montgomery Rainfall Data

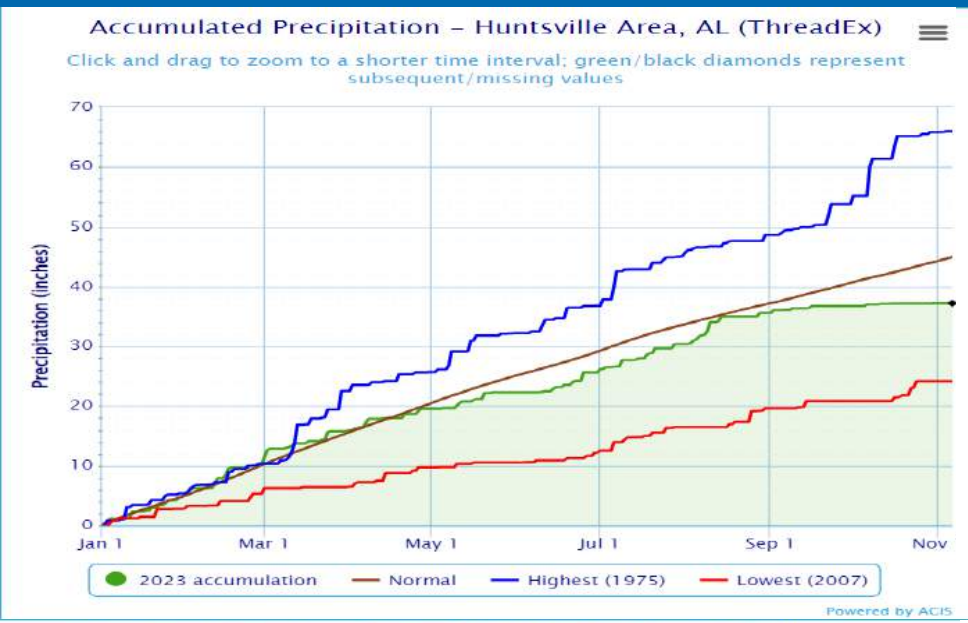


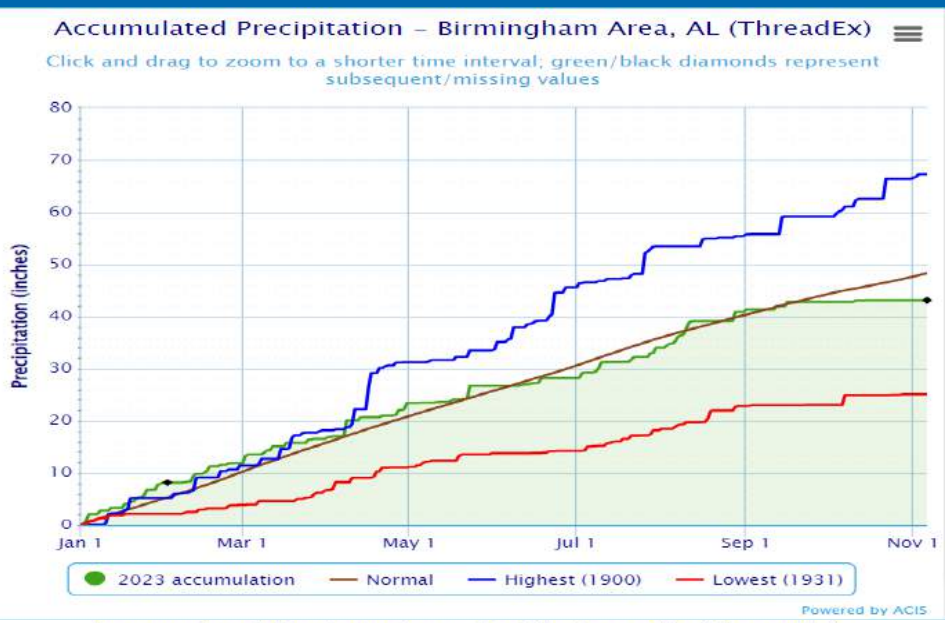
	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Observed	4.47	3.57	5.52	3.01	4.5	5.72	2.66	4.74	6.68	3.47	3.28	2.6
Normal	3.85	4.99	4.64	4.88	5.21	3.99	3.88	4.08	5.06	4.02	3.69	2.87
Departure	0.62	-1.42	0.88	-1.87	-0.71	1.73	-1.22	0.66	1.62	-0.55	-0.41	-0.27

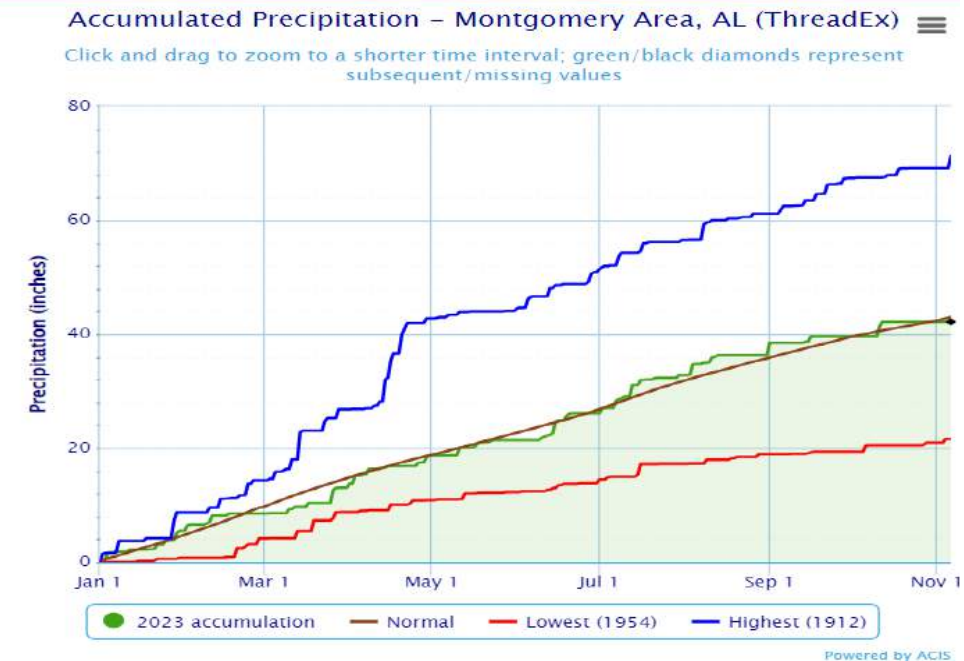
Mobile Rainfall Data

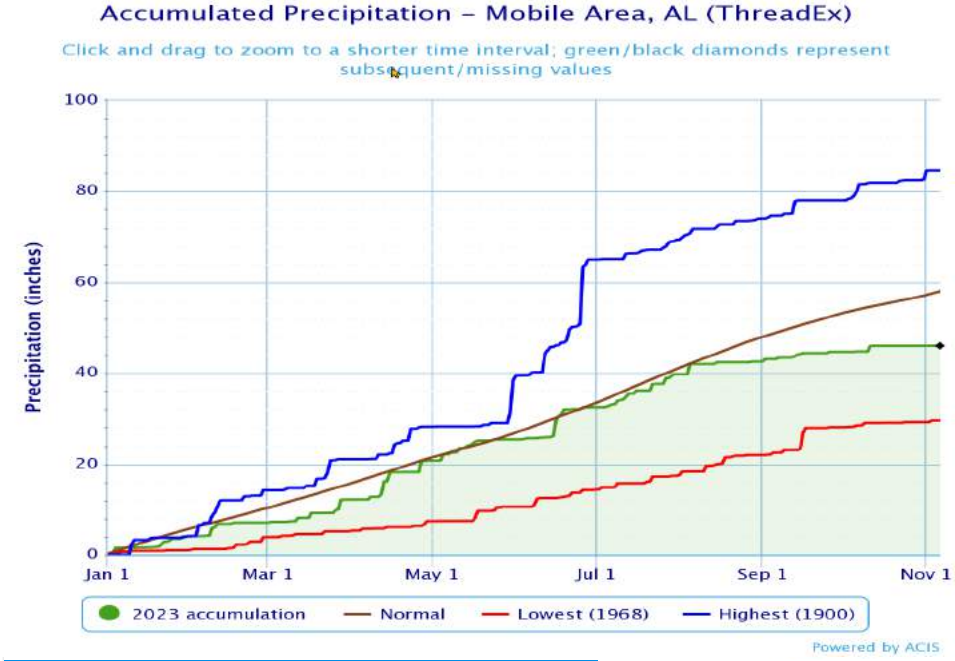
	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Observed	6.28	4.8	4.05	3.03	5.06	8.57	4.66	7.11	7.28	2.8	2.12	1.34
Normal	4.6	5.45	5.66	4.47	5.44	5.71	5.39	6.55	7.69	6.87	5.3	3.95
Departure	1.68	-0.65	-1.61	-1.44	-0.38	2.86	-0.73	0.56	-0.41	-4.07	-3.18	-2.61

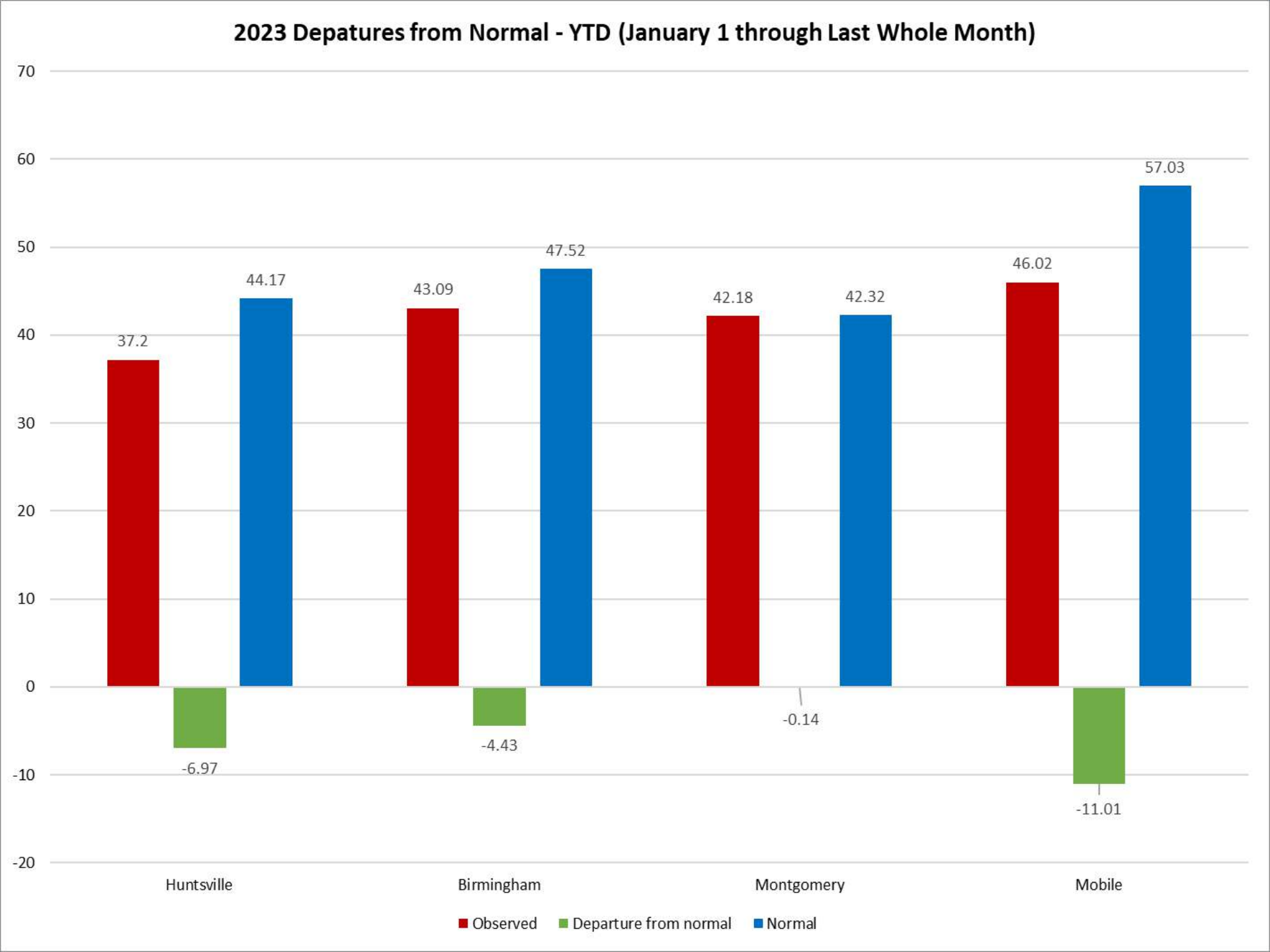
Accumulated Precipitation

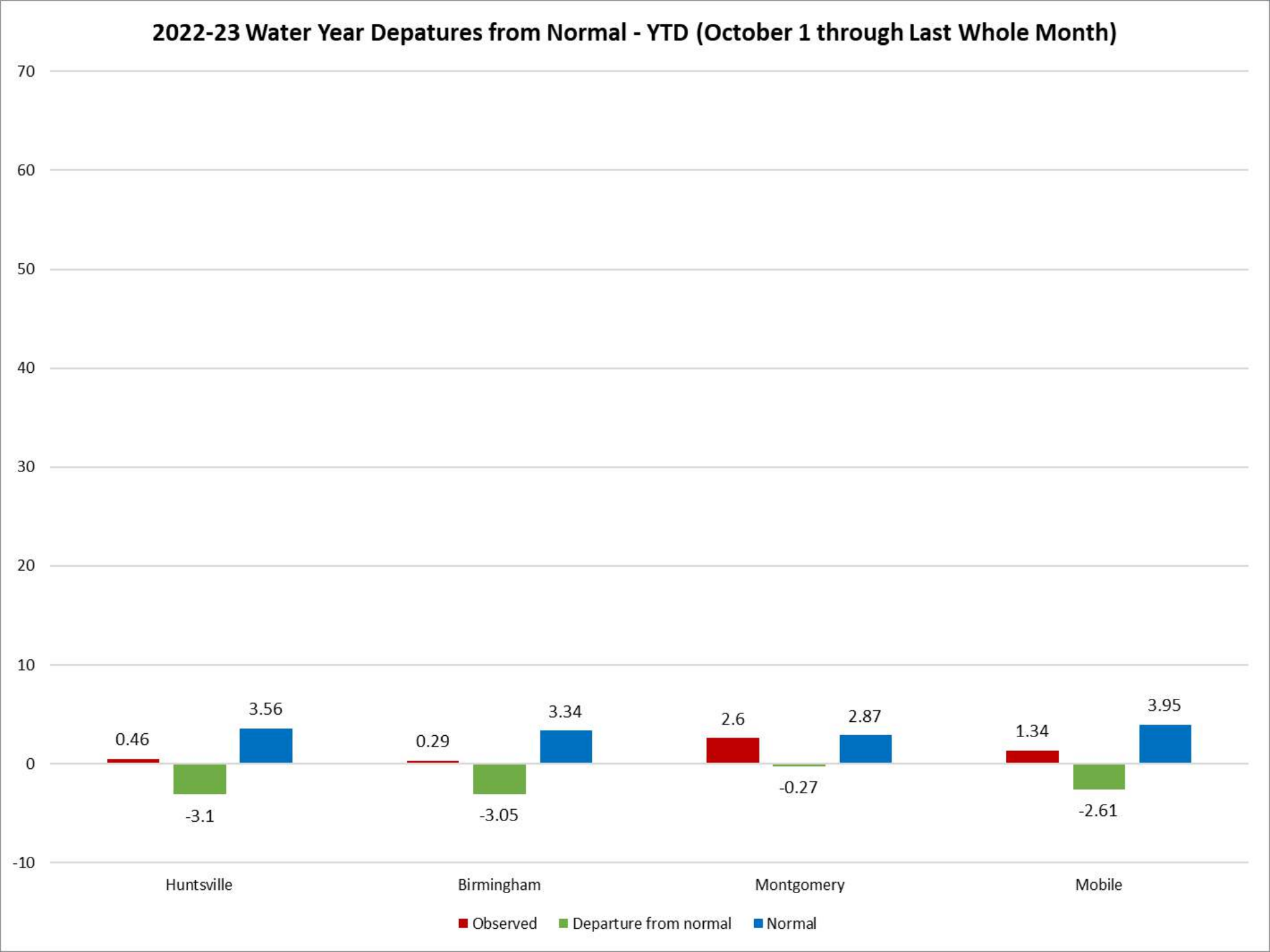






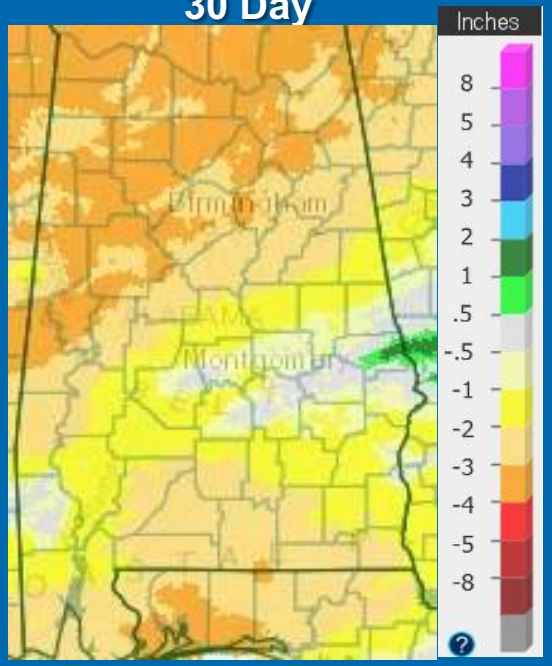



2023 Depatures from Normal - YTD (January 1 through Last Whole Month)
70
60
50
40
30
20
10
0
-10
-20
37.2
-6.97
44.17
43.09
-4.43
47.52
42.18
-0.14
42.32
46.02
-11.01
57.03
Huntsville
Birmingham
Montgomery
Mobile
Observed
Departure from normal
Normal

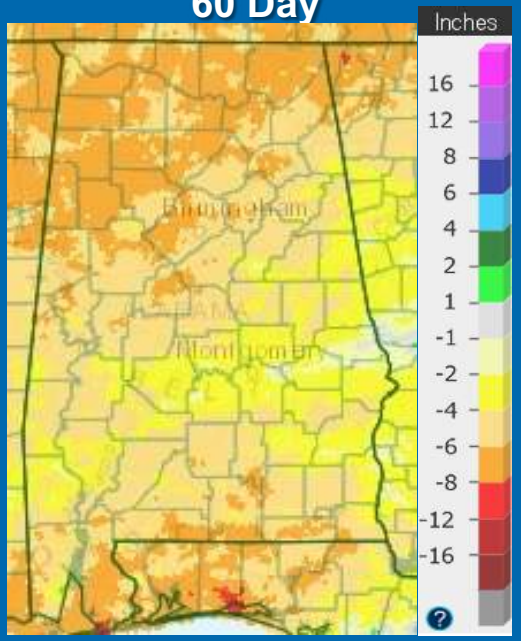

2022-23 Water Year Depatures from Normal - YTD (October 1 through Last Whole Month)
70
60
50
40
30
20
10
0
-10
0.46
-3.1
3.56
0.29
-3.05
3.34
2.6
-0.27
2.87
1.34
-2.61
3.95
Huntsville
Birmingham
Montgomery
Mobile
Observed
Departure from normal
Normal

Departure from Normal – November 3, 2023

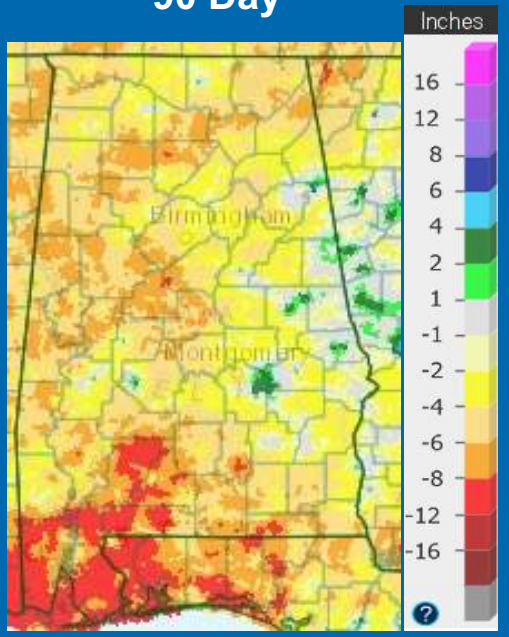
30 Day



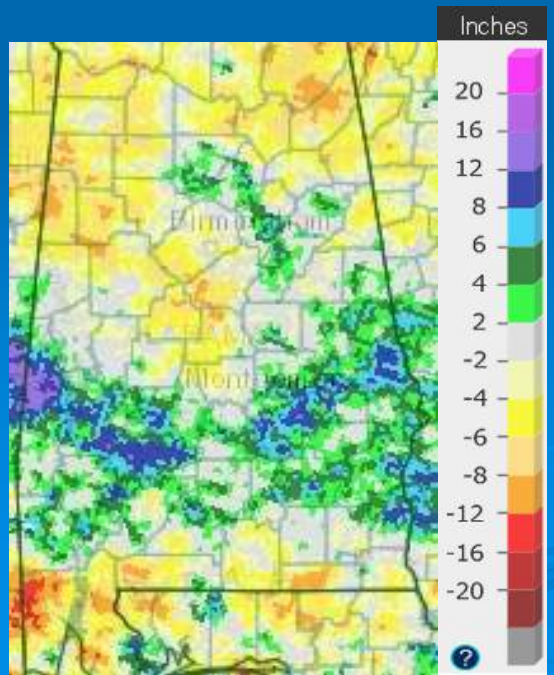
60 Day



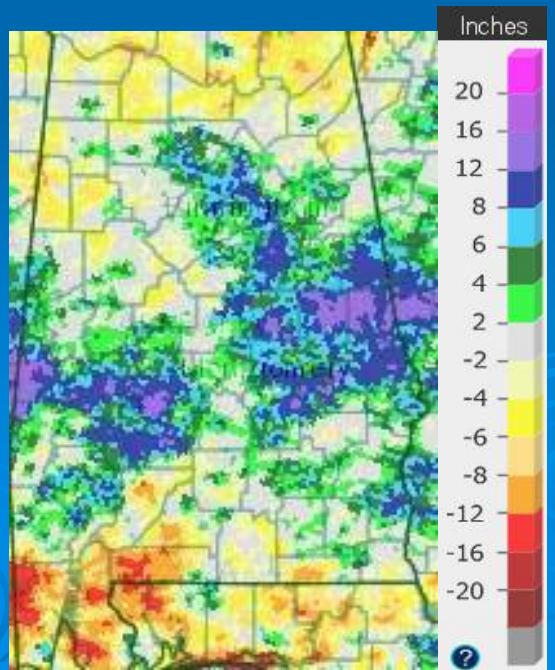
90 Day



180 Day



Year to Date



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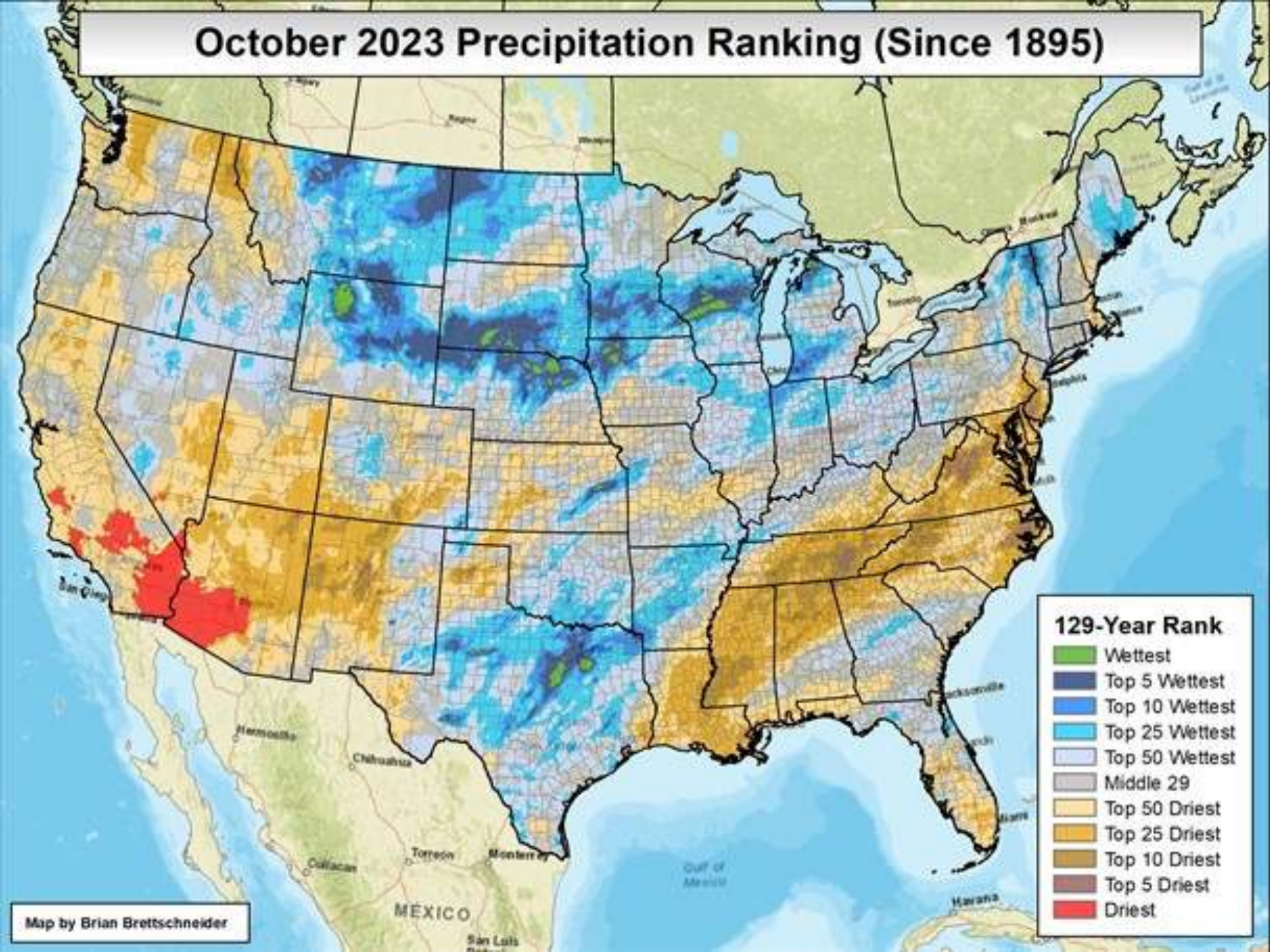
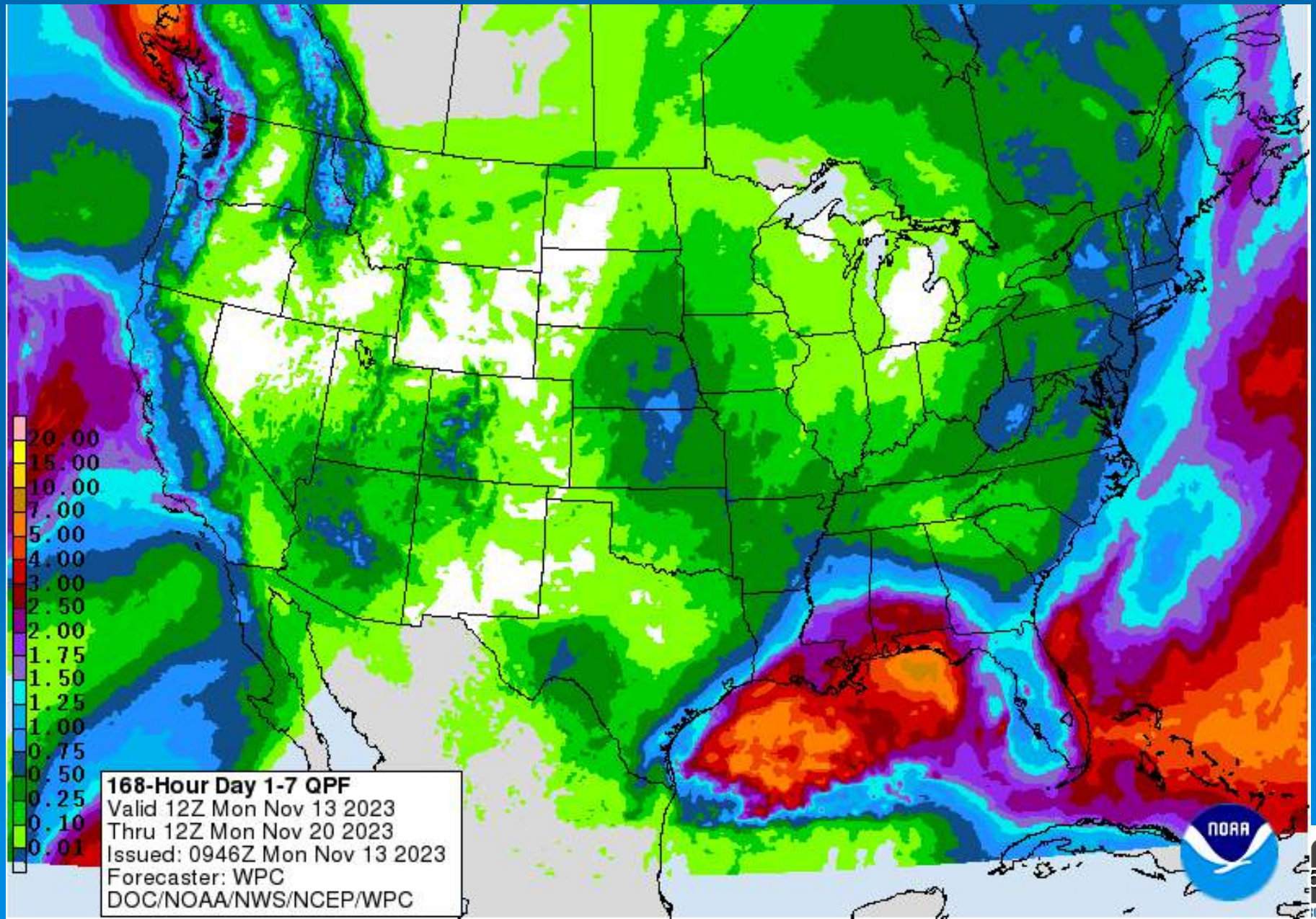
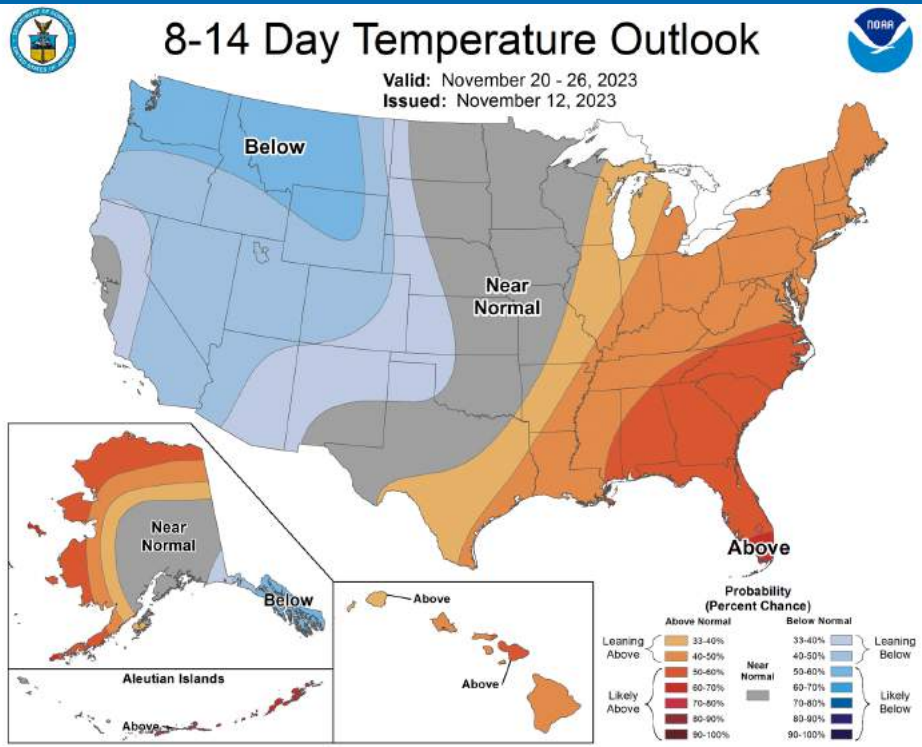
October 2023 Precipitation Ranking (Since 1895)

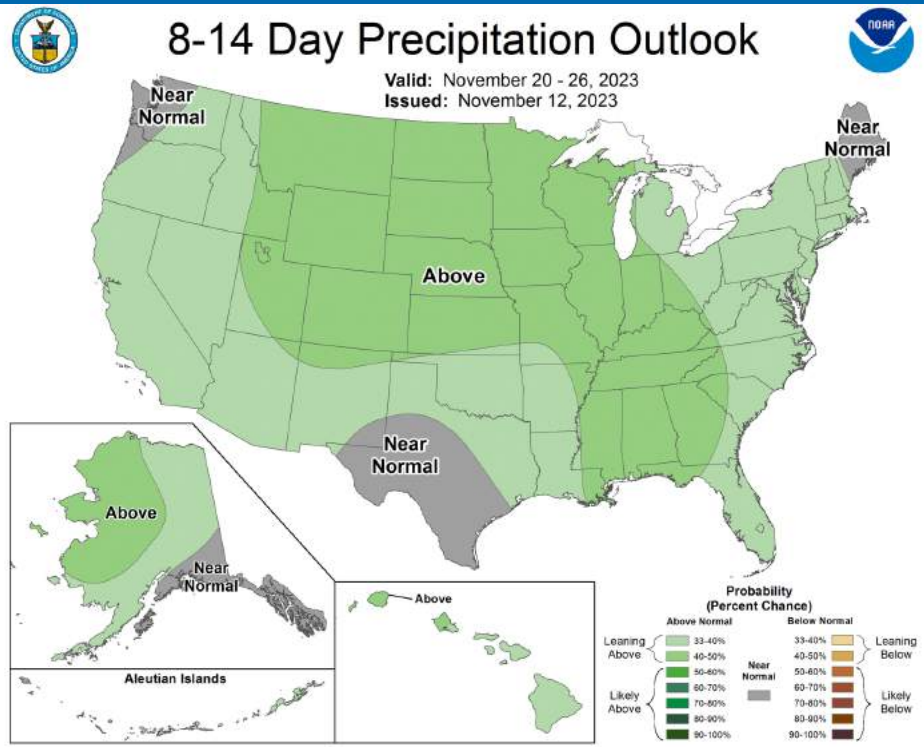


7-Day NWS WPC Forecast Precipitation

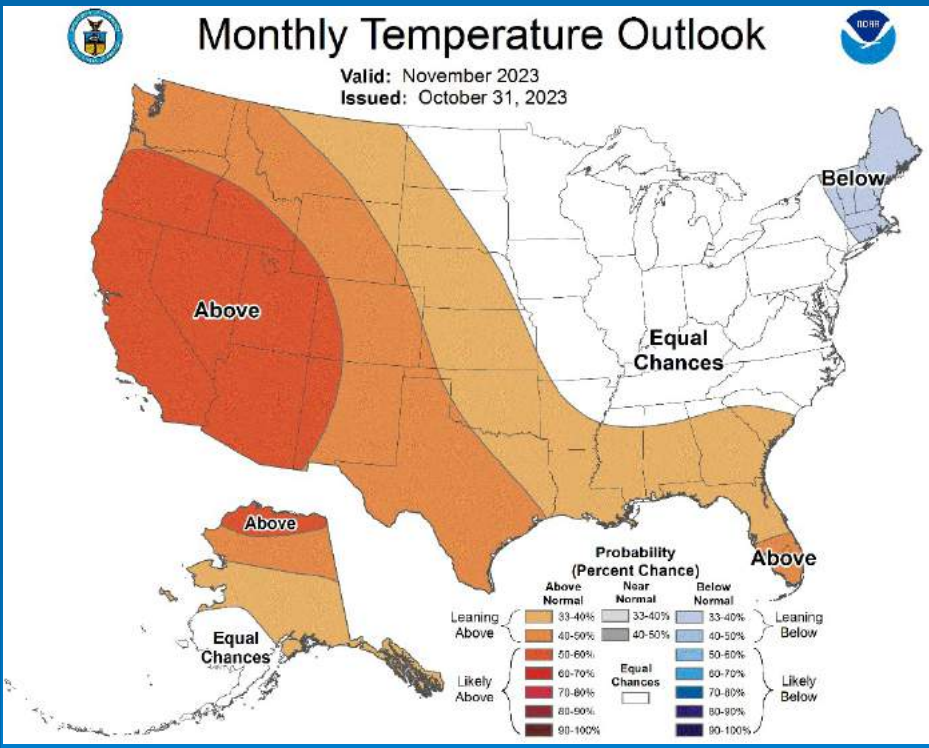


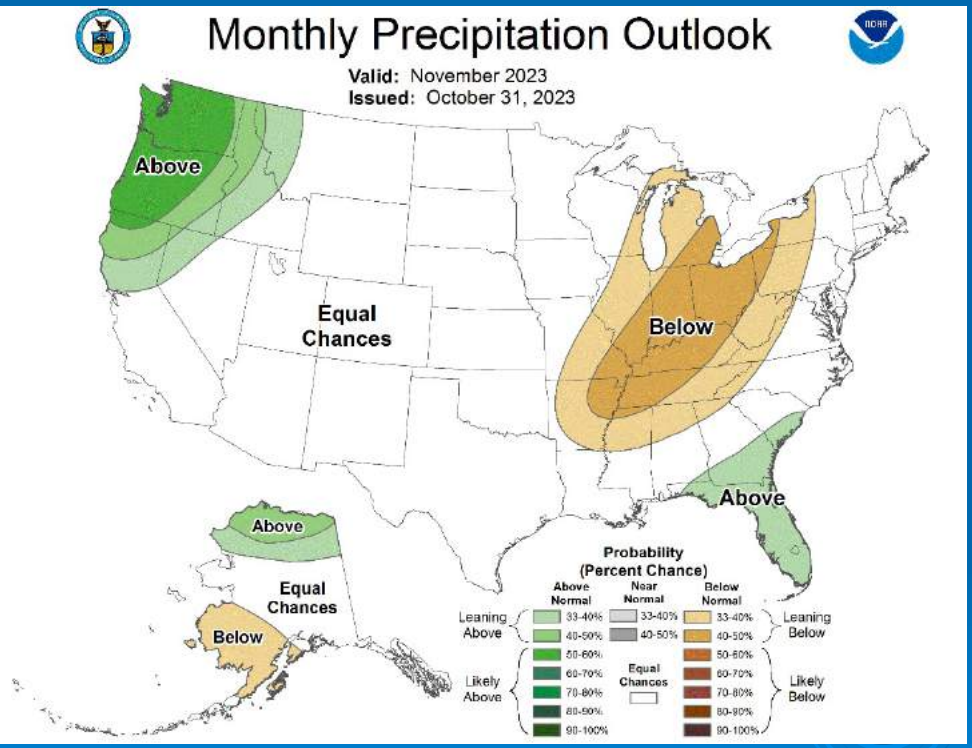
8-14 Day Outlooks from NWS CPC
Valid November 20-26, 2023





1 Month Outlook from NWS CPC (Issued: October 31, 2023)





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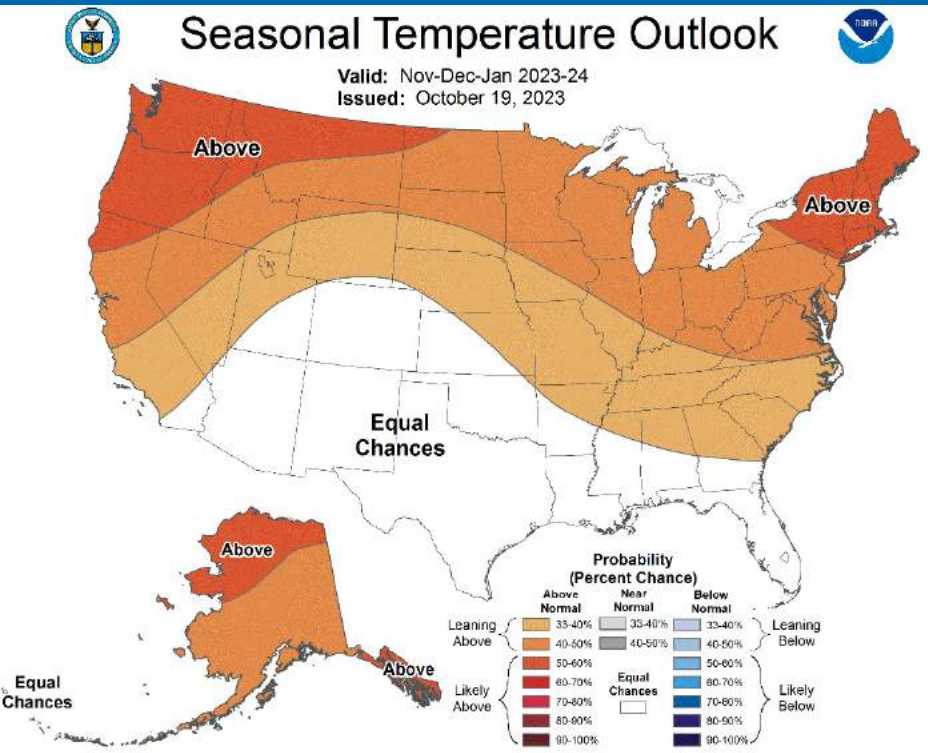
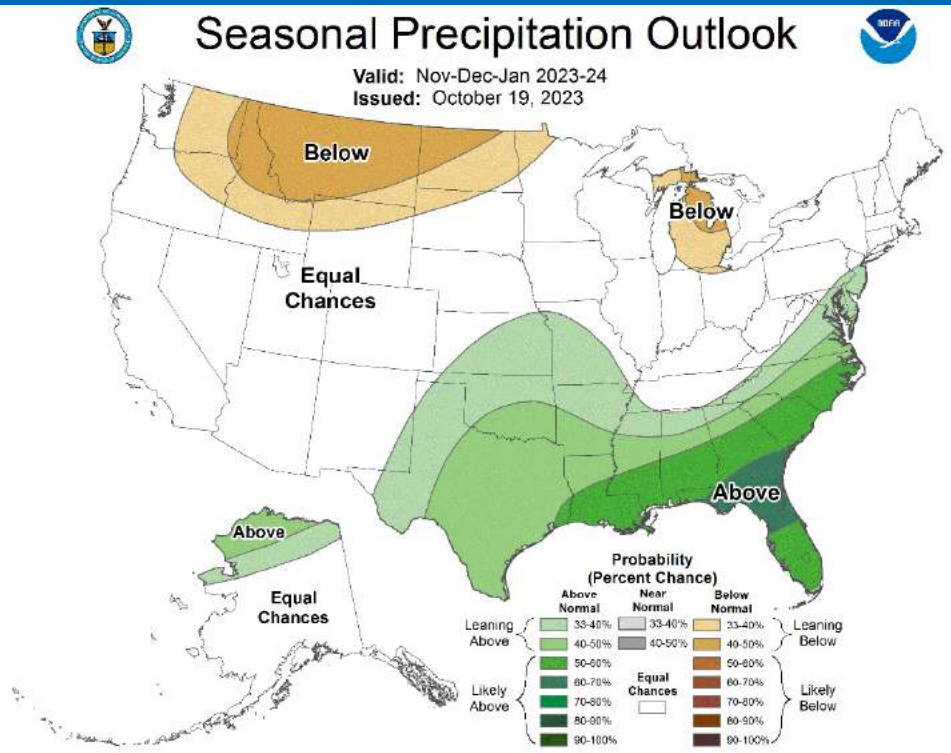
Aug-Sep-Oct 2023 Outlook from NWS CPC (Issued: October 19, 2023)





Soil Moisture Update

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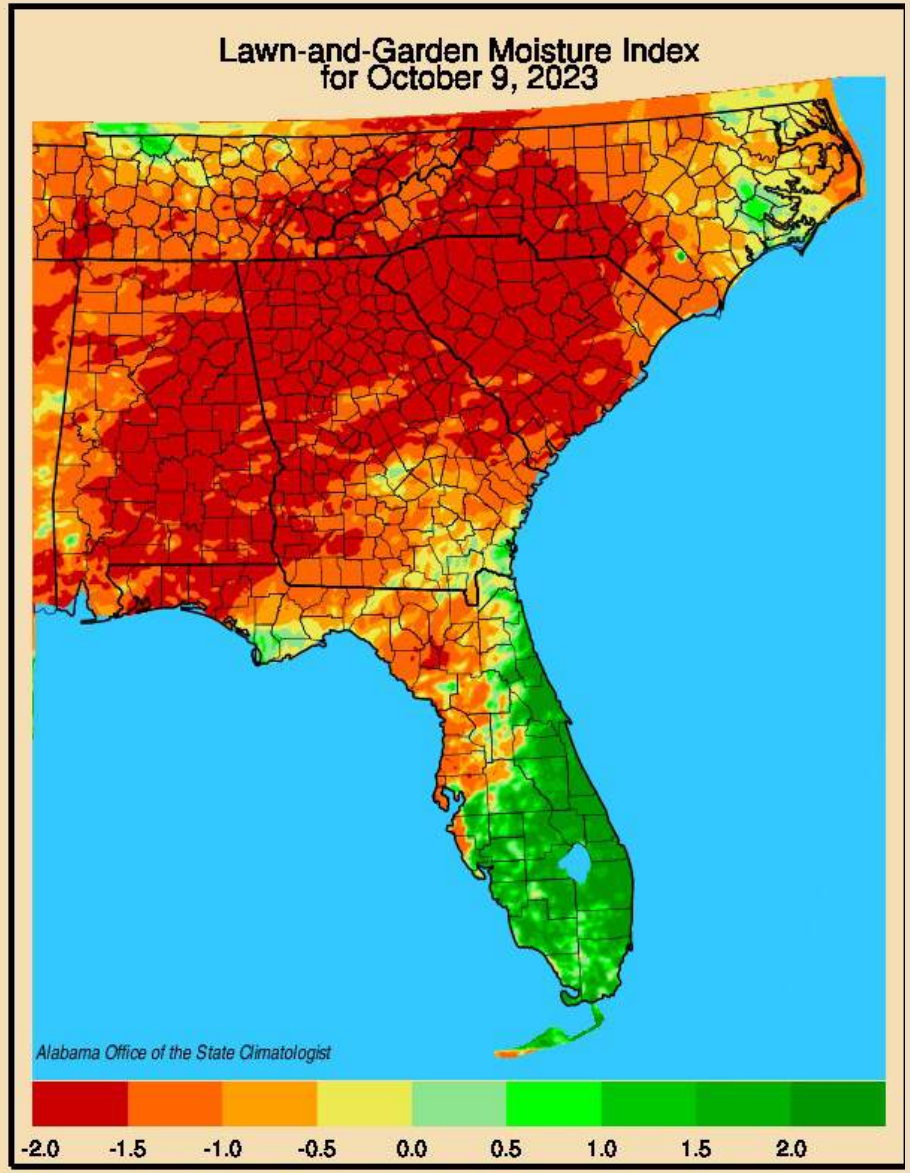
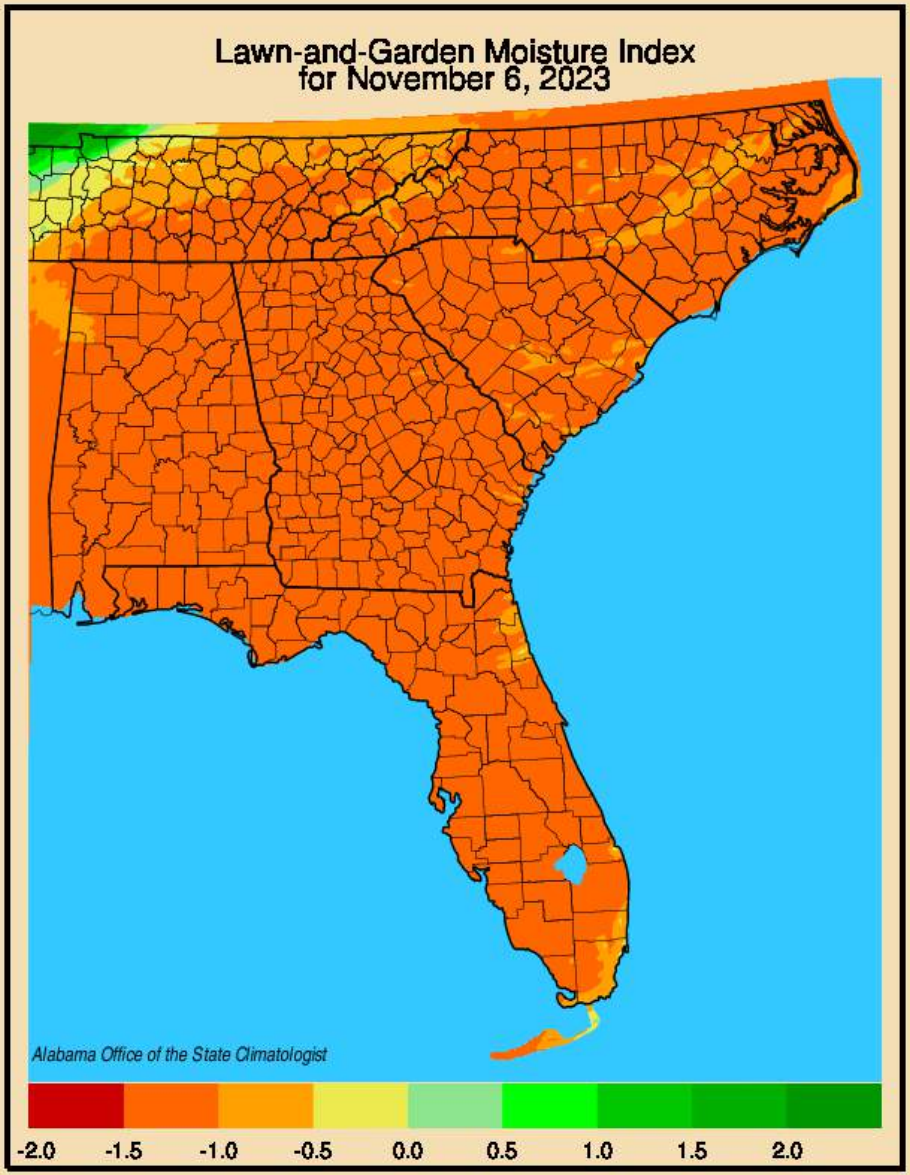
Lawn & Garden Index - Alabama

Previous

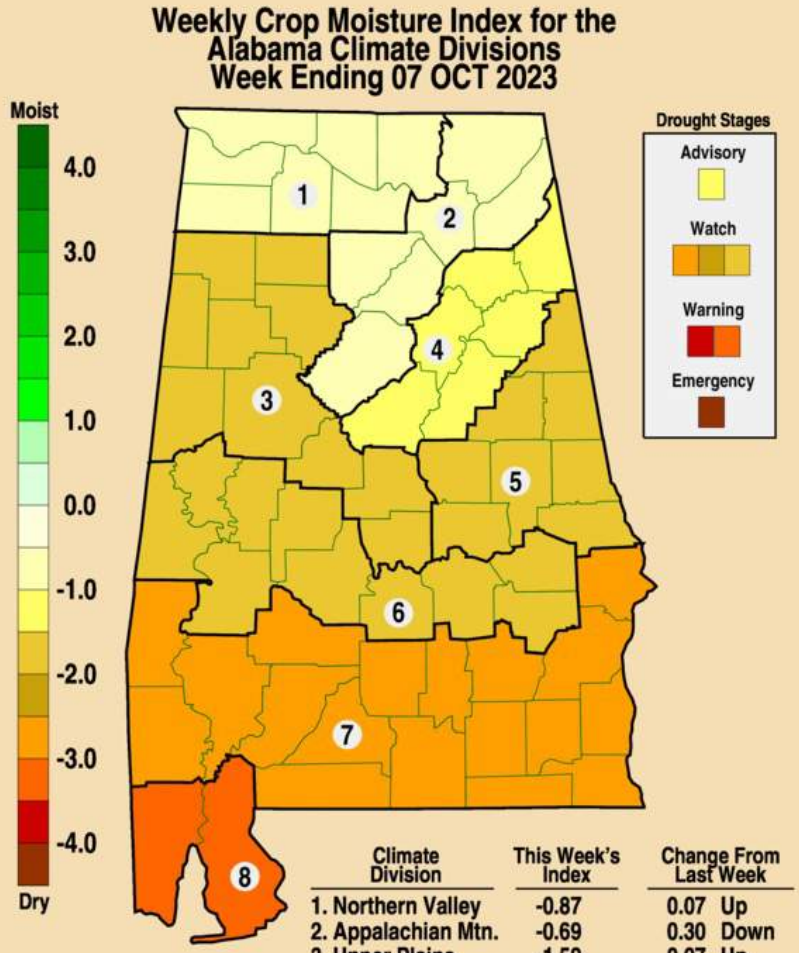


Current



Crop Moisture

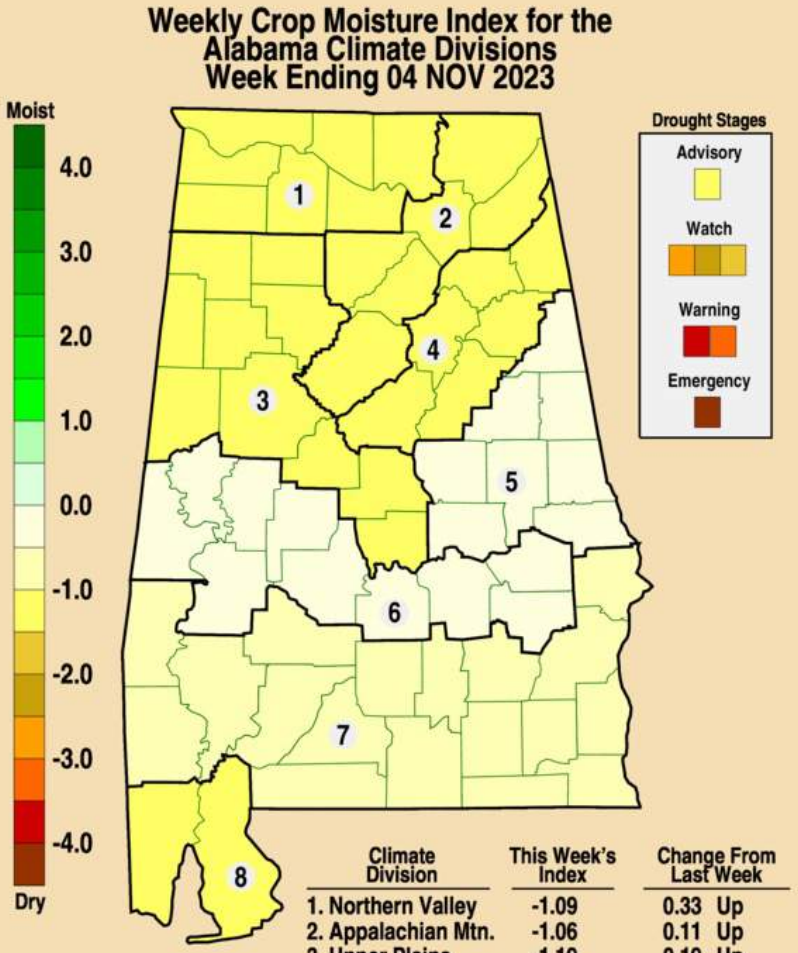
Previous



Climate Division	This Week's Index	Change From Last Week
1. Northern Valley	-0.87	0.07 Up
2. Appalachian Mtn.	-0.69	0.30 Down
3. Upper Plains	-1.52	0.07 Up
4. Eastern Valley	-1.47	0.38 Down
5. Piedmont Plateau	-1.81	0.34 Down
6. Prairie	-1.67	0.41 Down
7. Coastal Plain	-2.64	0.23 Down
8. Gulf	-3.14	0.24 Down

Alabama Office of the State Climatologist

Current

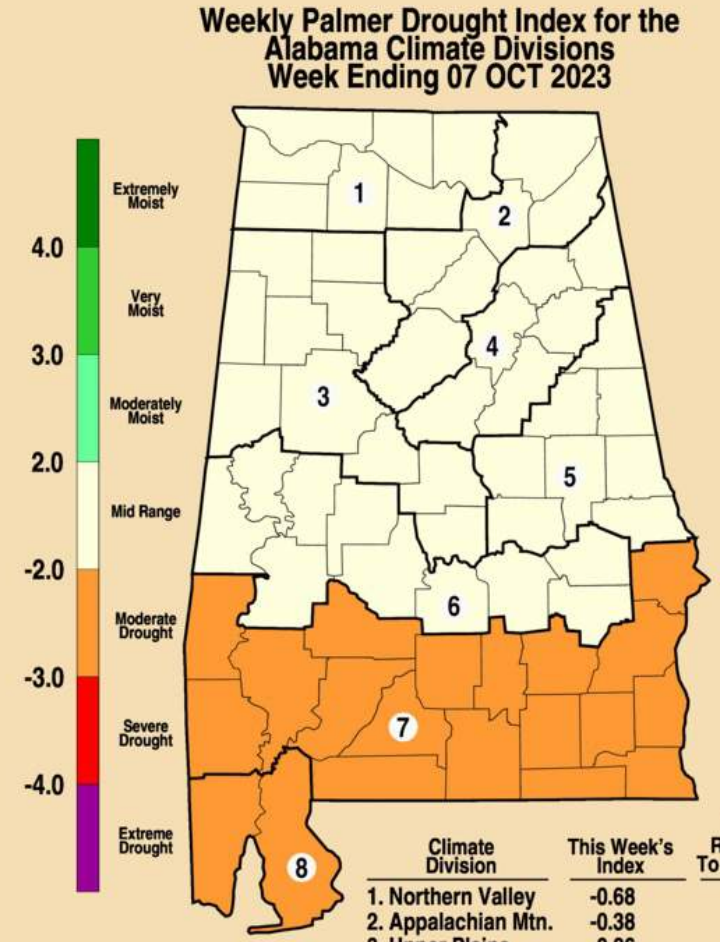


Climate Division	This Week's Index	Change From Last Week
1. Northern Valley	-1.09	0.33 Up
2. Appalachian Mtn.	-1.06	0.11 Up
3. Upper Plains	-1.19	0.19 Up
4. Eastern Valley	-1.25	0.10 Up
5. Piedmont Plateau	-0.26	0.03 Down
6. Prairie	-0.41	0.32 Down
7. Coastal Plain	-0.84	0.25 Down
8. Gulf	-1.20	0.07 Down

Alabama Office of the State Climatologist

Palmer Drought Severity

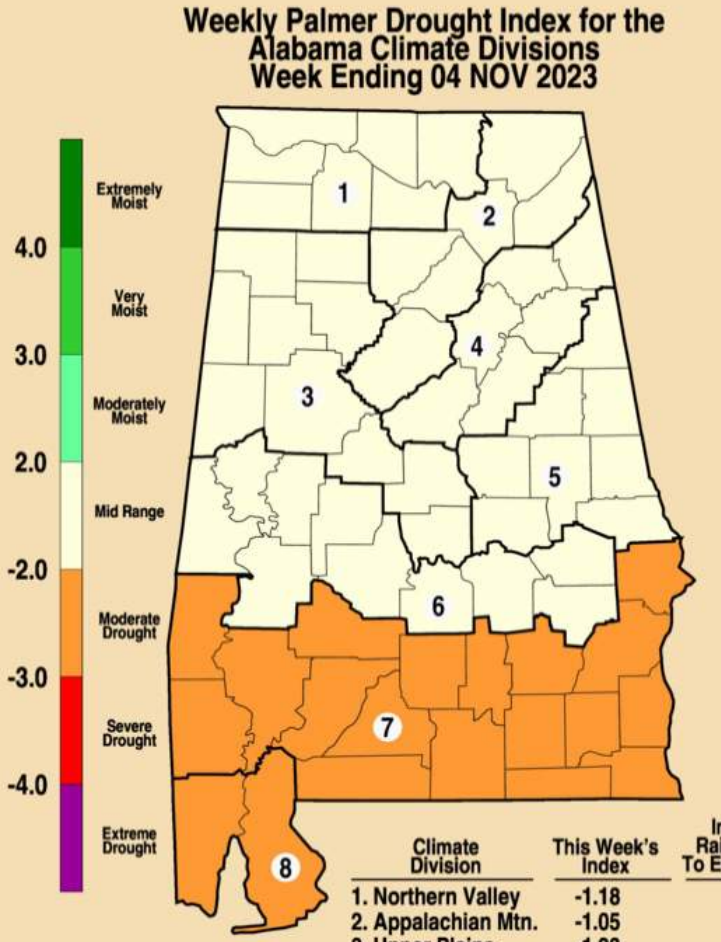
Previous



Climate Division	This Week's Index	Inches of Rain Needed To End Drought
1. Northern Valley	-0.68	1.26
2. Appalachian Mtn.	-0.38	0.00
3. Upper Plains	-0.86	1.96
4. Eastern Valley	-0.85	1.91
5. Piedmont Plateau	-1.05	2.71
6. Prairie	-0.71	1.30
7. Coastal Plain	-2.40	7.71
8. Gulf	-2.12	9.59

Alabama Office of the State Climatologist

Current



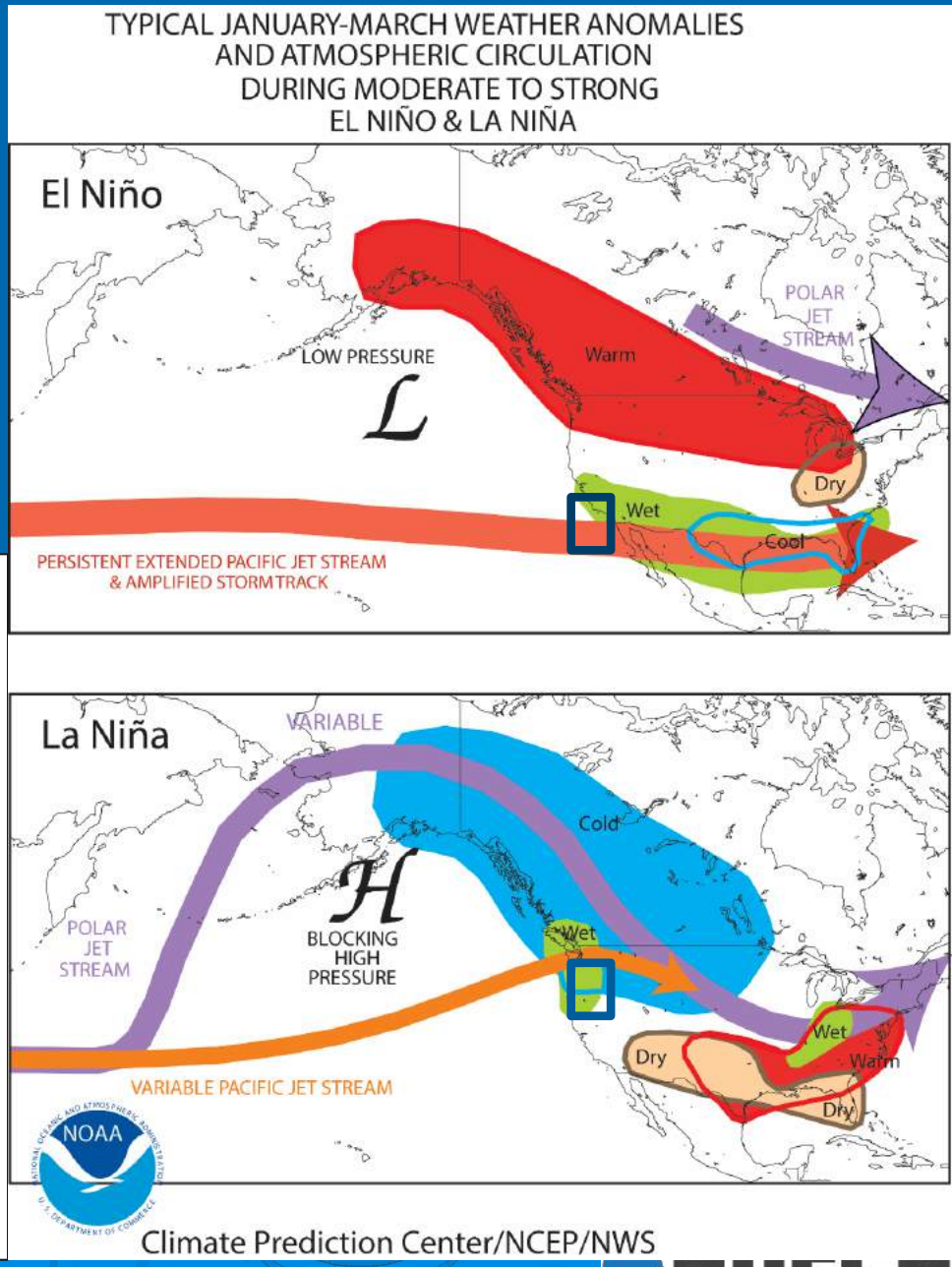
Climate Division	This Week's Index	Inches of Rain Needed To End Drought
1. Northern Valley	-1.18	2.62
2. Appalachian Mtn.	-1.05	2.13
3. Upper Plains	-1.23	2.85
4. Eastern Valley	-1.25	2.71
5. Piedmont Plateau	-0.95	1.80
6. Prairie	-0.73	1.05
7. Coastal Plain	-2.36	6.24
8. Gulf	-2.29	7.48

Alabama Office of the State Climatologist

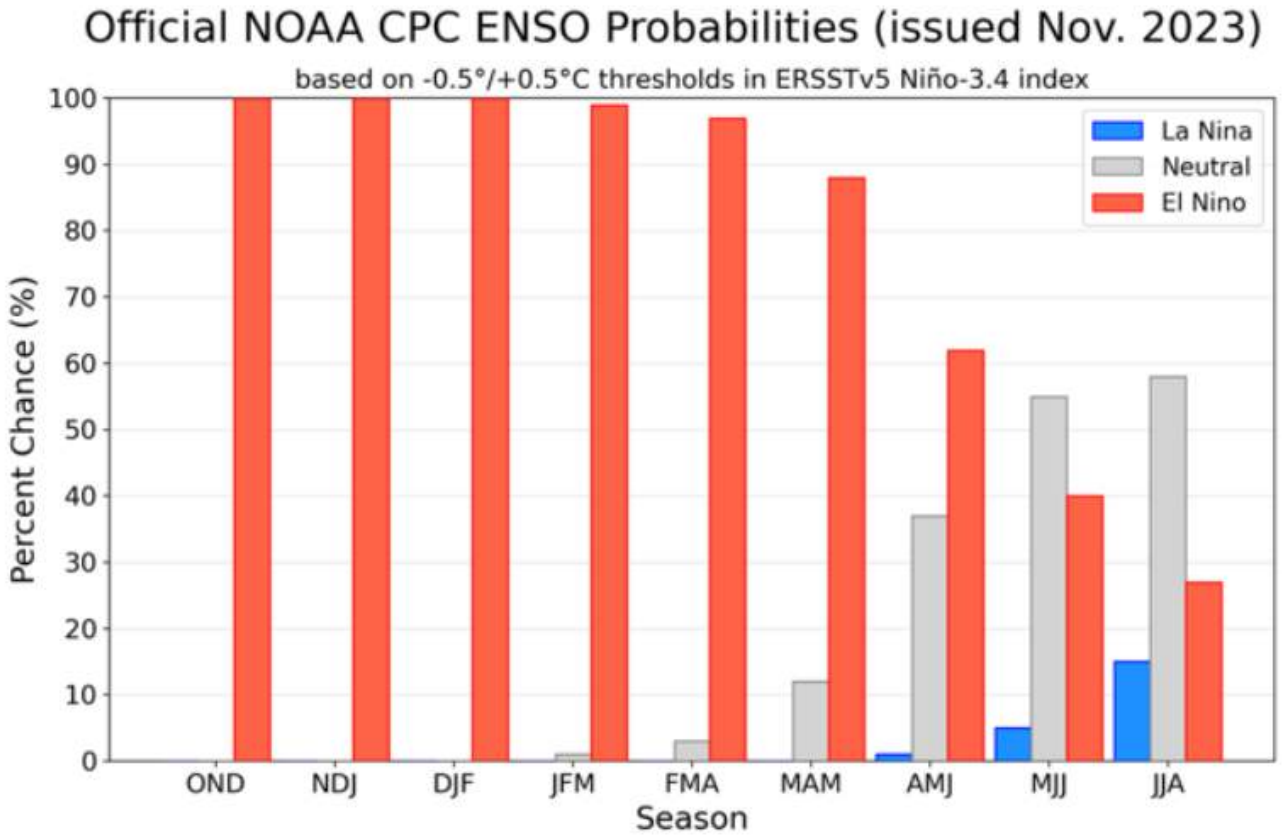
El Nino Conditions

El Nino and La Nina Influences

Each El Nino and La Nina is different, but typically El Nino winters mean colder than average temperatures with wetter than average conditions along the southern parts of the state and drier than average conditions in the northern parts.



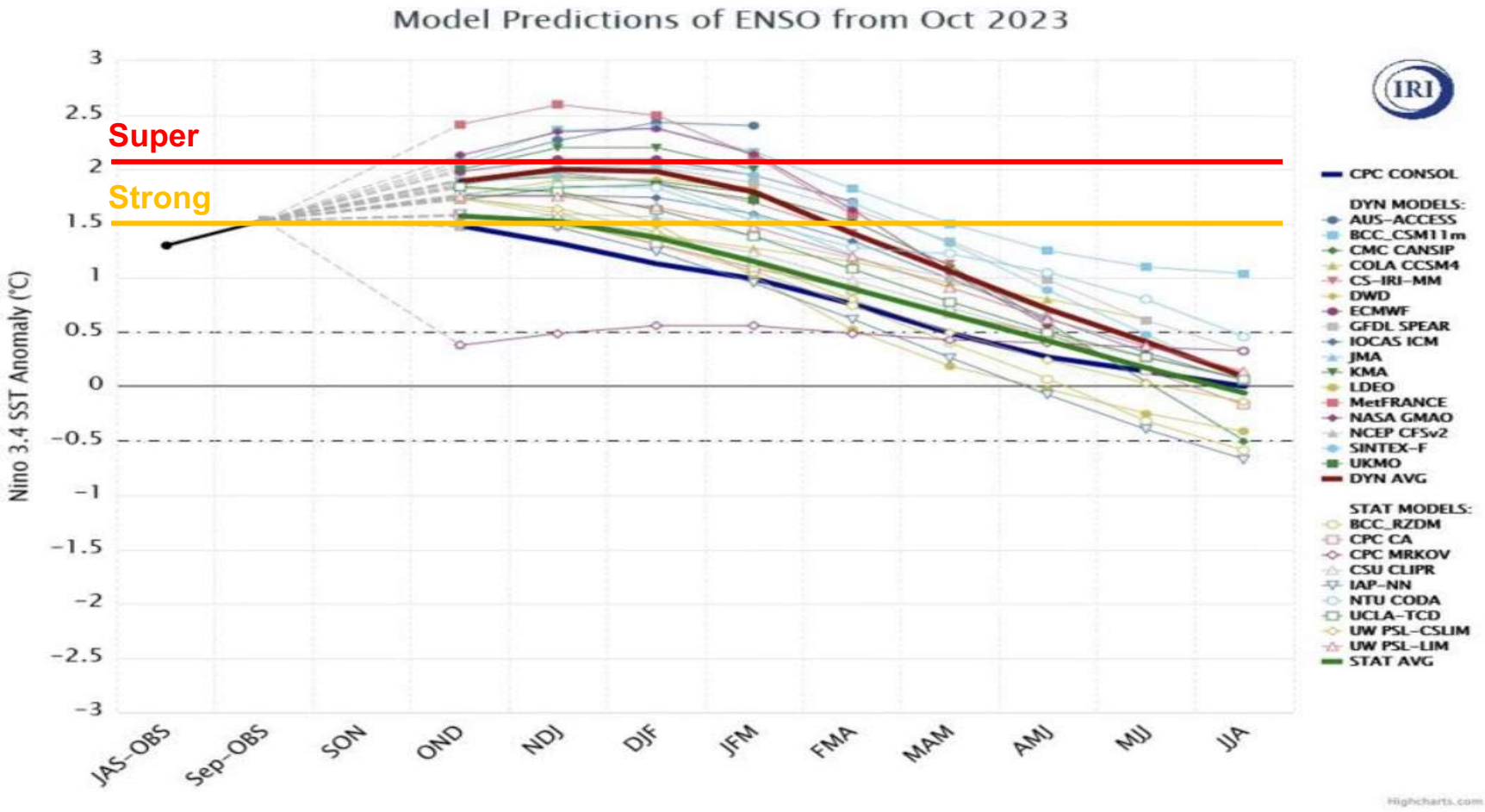
El Nino / La Nina Forecast



The current ENSO forecast shows the predicted transition to El Niño that began this spring and persisting into next spring.

There is a high degree of uncertainty in predicting the magnitude.

El Nino / La Nina Forecast



https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-sst_table

Alabama Office of the State Climatologist

El Nino-Southern Oscillation (ENSO) Update

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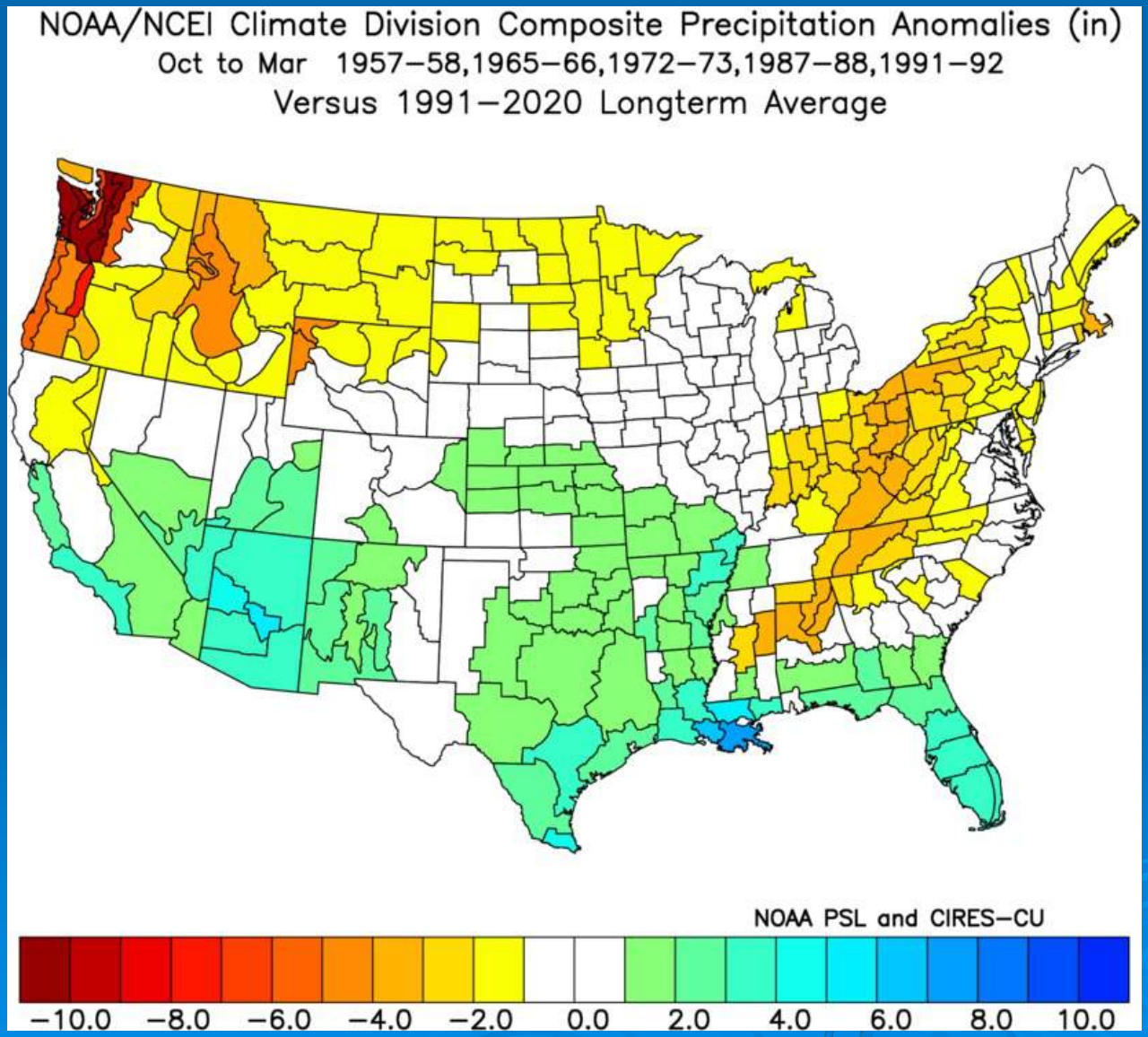
“Average” conditions of a strong El Nino



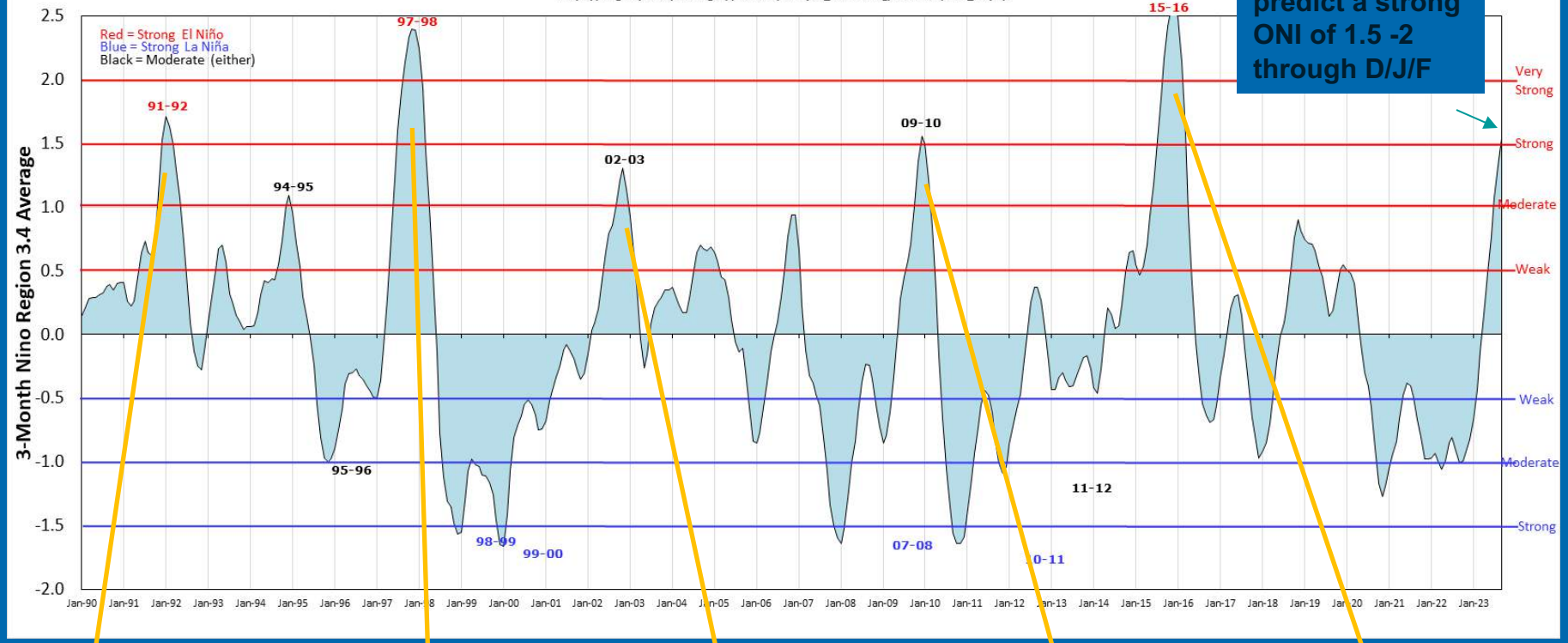
The Alabama State Climatologist

ADECA OFFICE OF WATER RESOURCES

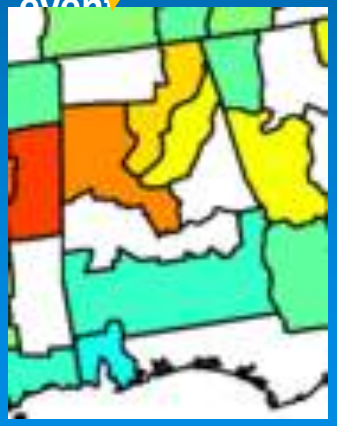
Oceanic Niño Index (ONI) - 1990-present

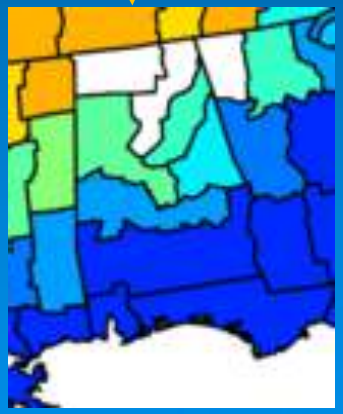
https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

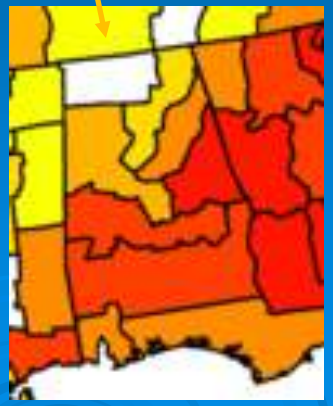
Most models predict a strong ONI of 1.5 -2 through D/J/F



Winter (November, December, January, February, March) precipitation associated with each El-Nino event





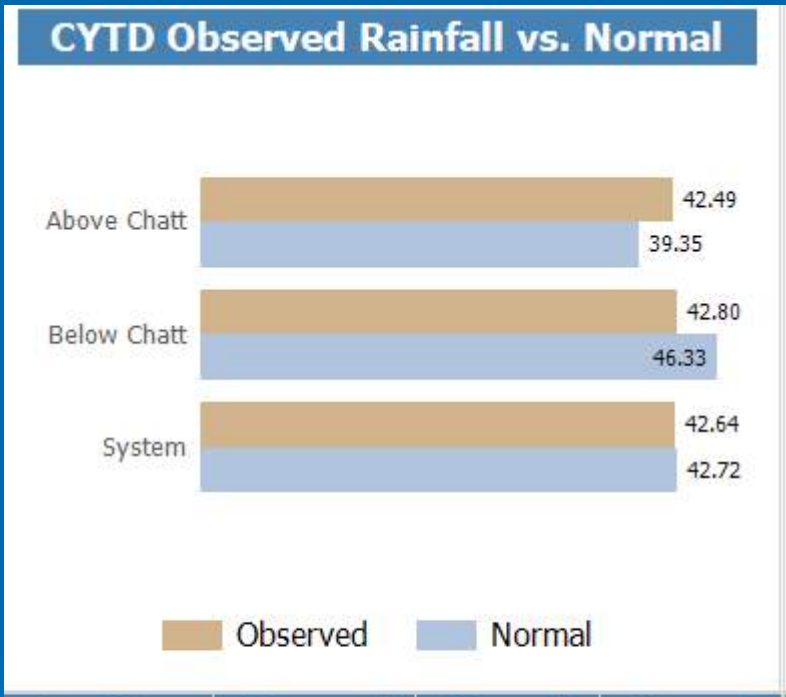


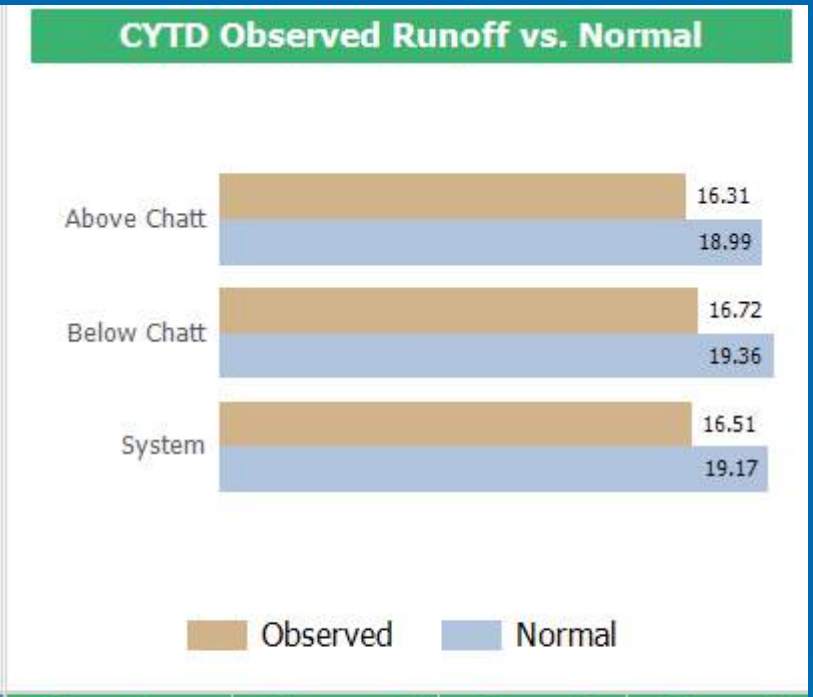
Alabama State Climatologist

HUNTSVILLE OFFICE OF WATER RESOURCES

TVA
System Status

TVA System Status – Rainfall/Runoff





Location	Observed (in)	Normal (in)	Normal (%)
Above Chatt	42.49	39.35	107.99%
Below Chatt	42.80	46.33	92.38%
System	42.64	42.72	99.80%

Location	Observed (in)	Normal (in)	Normal (%)
Above Chatt	16.31	18.99	85.90%
Below Chatt	16.72	19.36	86.37%
System	16.51	19.17	86.12%

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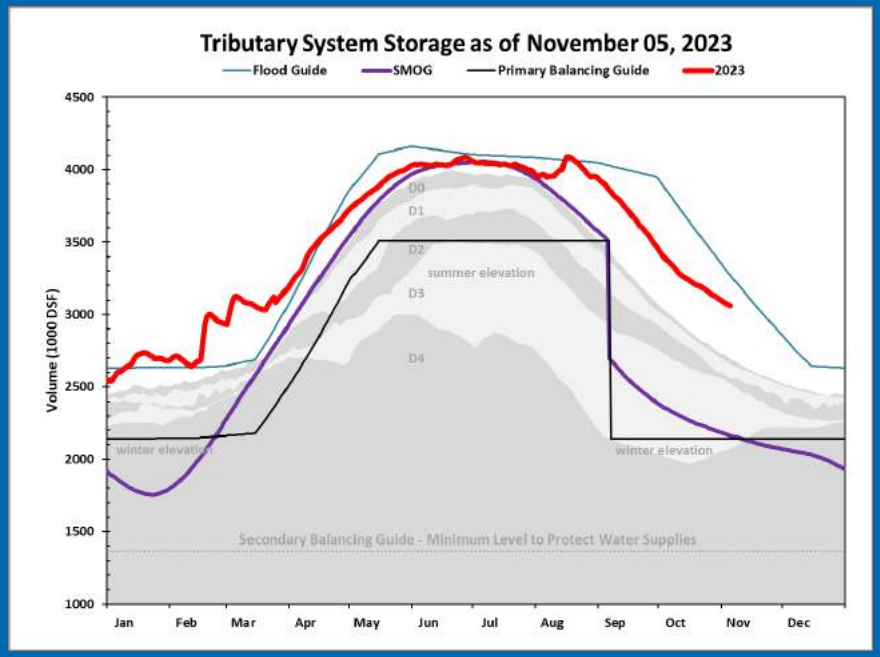
Tributary System Storage and Inflow



Tributary Reservoir Storage is 111.8% of average and is above the System Minimum Operating Guide (SMOG).

Drought Classifications (Percentiles):

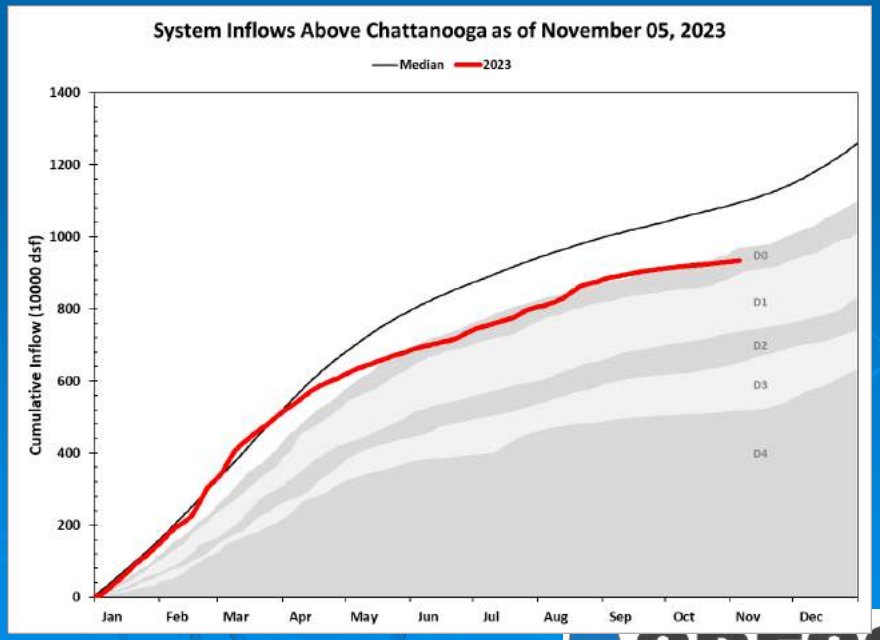
D0 – Abnormally Dry, 30-20%

D1 – Moderate Drought, 20-10%

D2 – Severe Drought, 10-5%

D3 – Extreme Drought, 5-2%

D4 – Exceptional Drought, 2-0%



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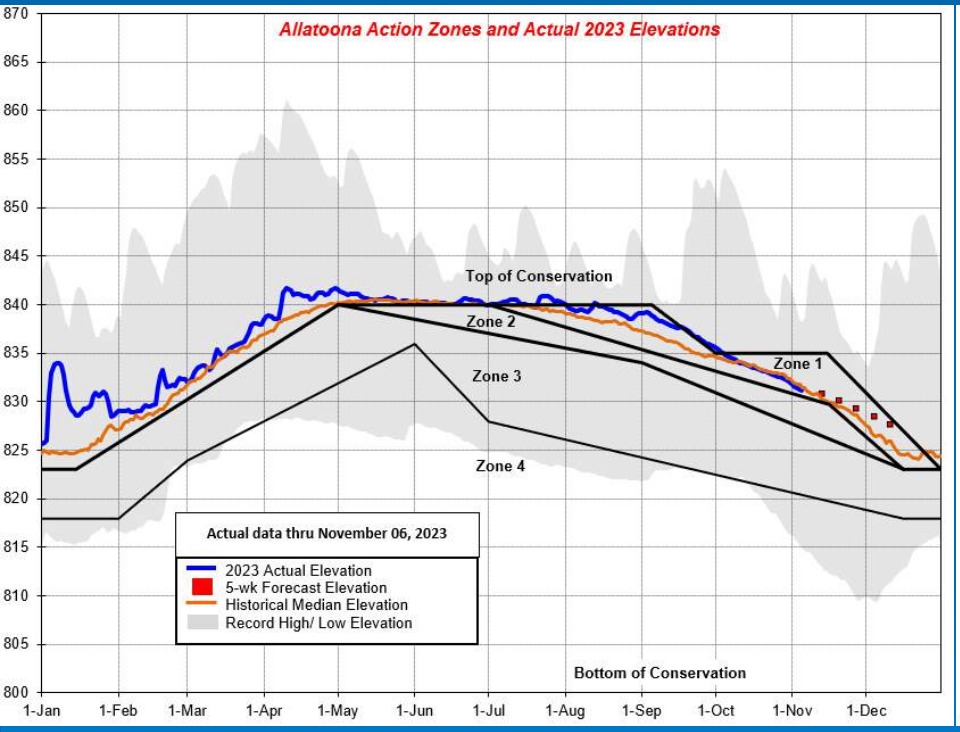
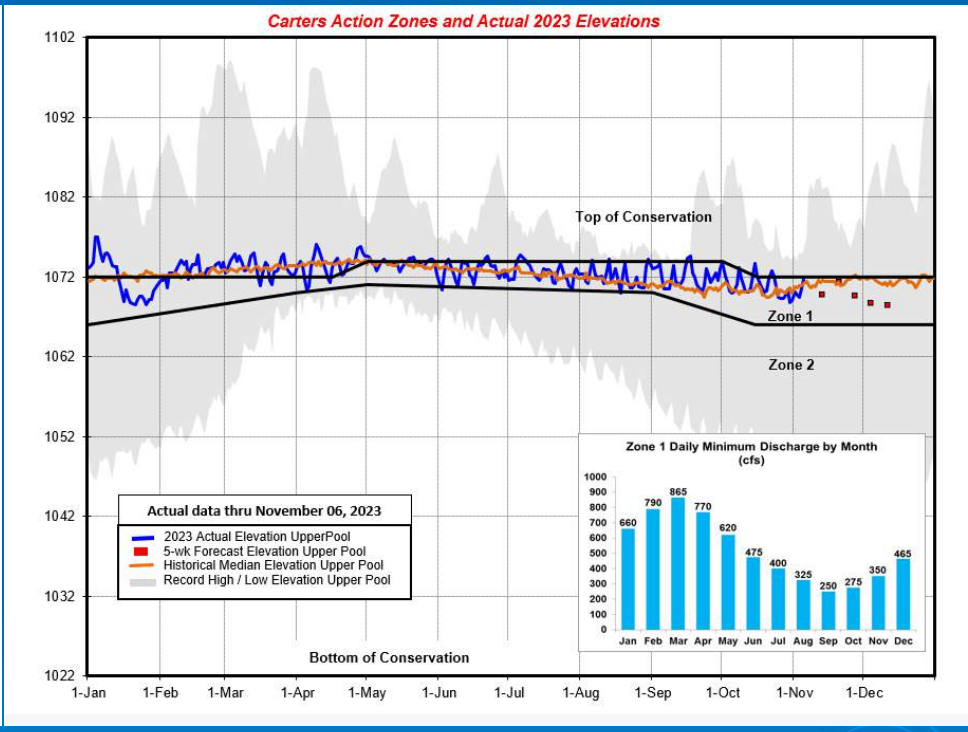
Alabama Drought Monitoring & Impact Group USACE Mobile

US Army Corps of Engineers®





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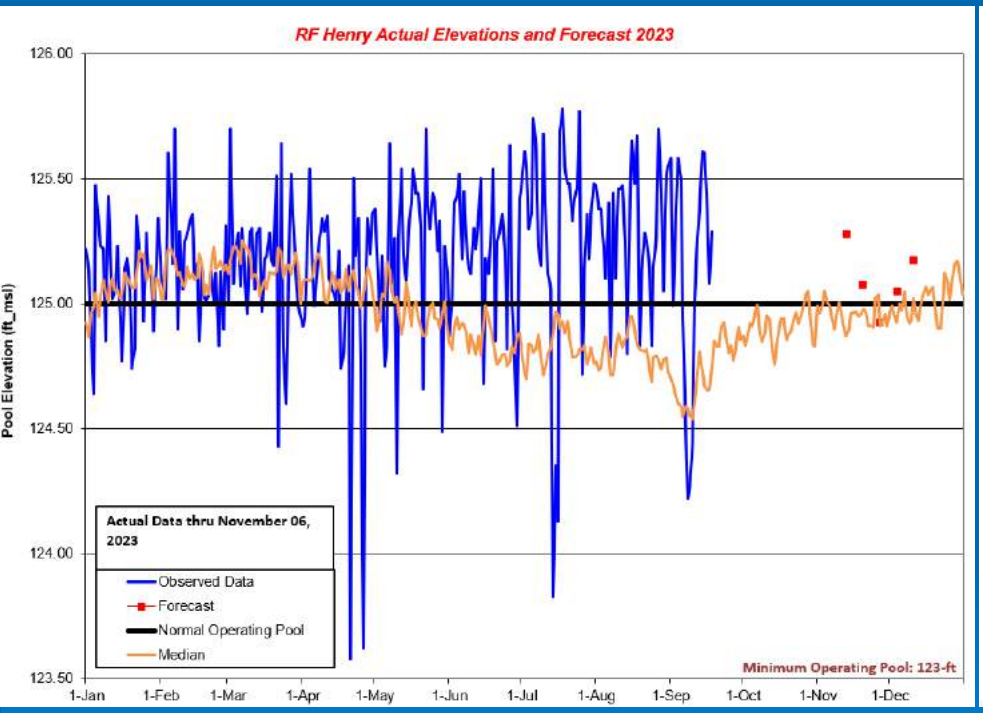

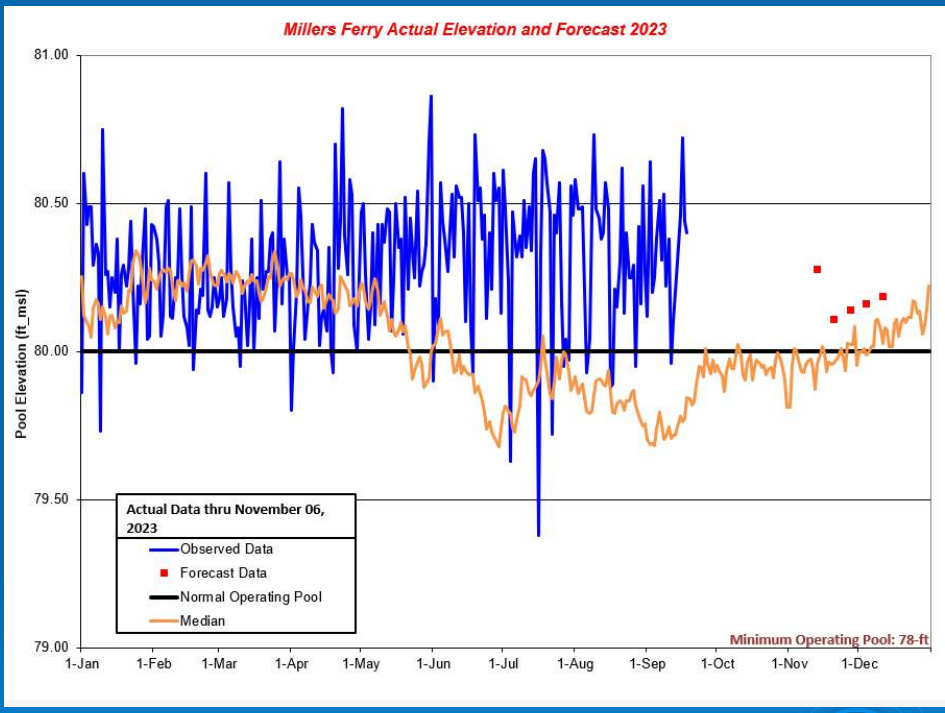

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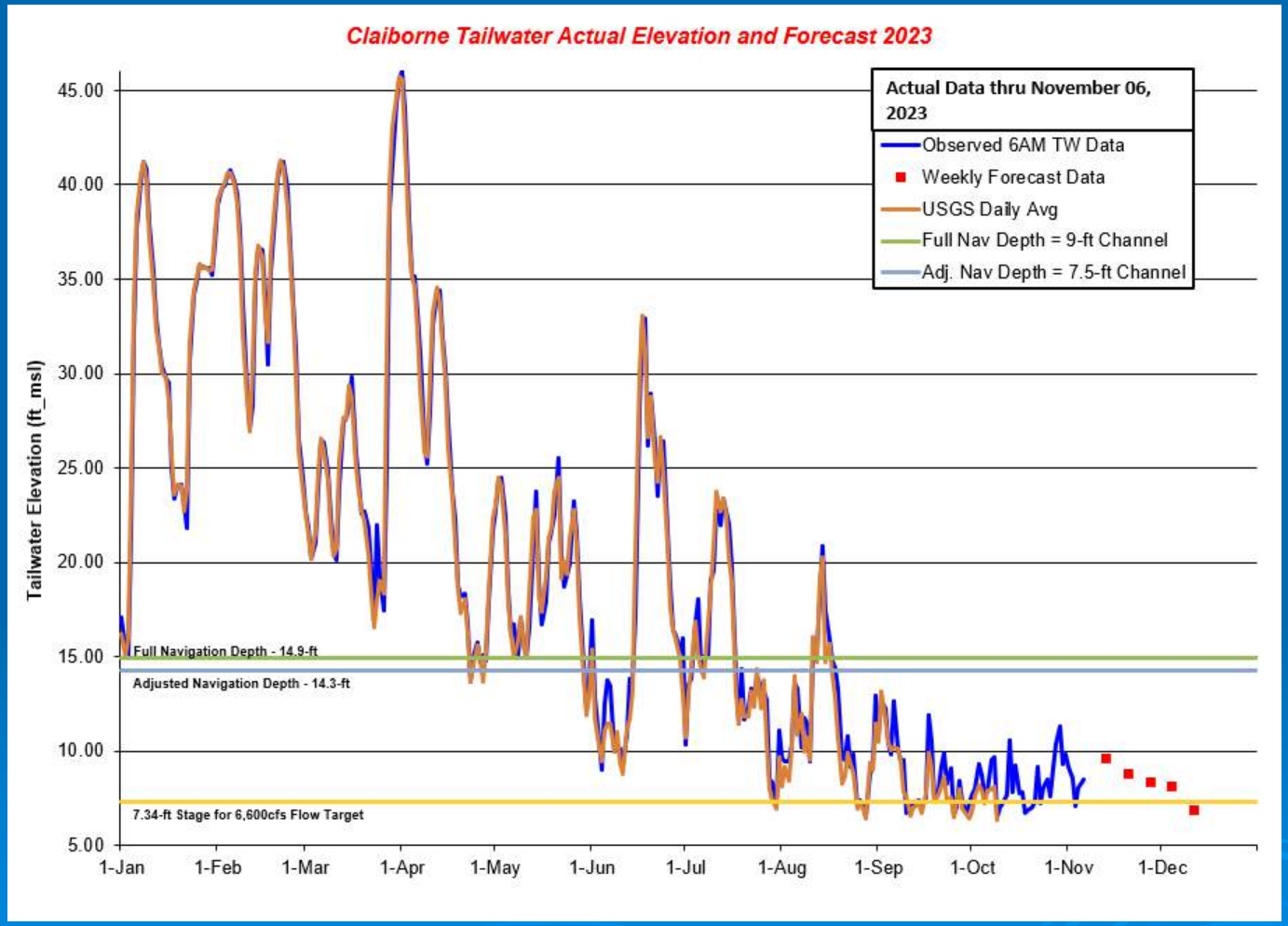

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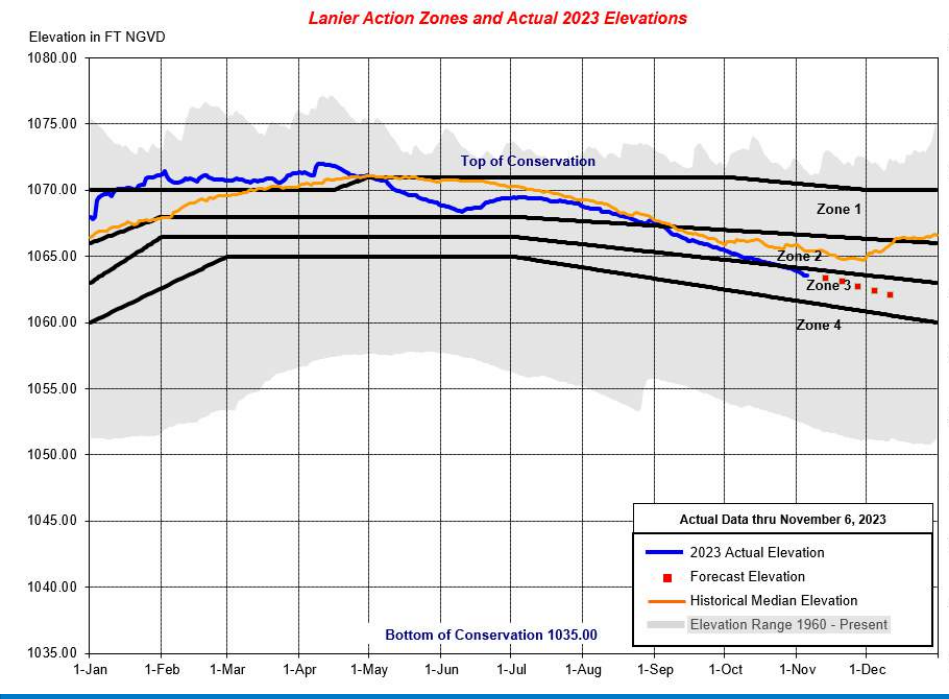

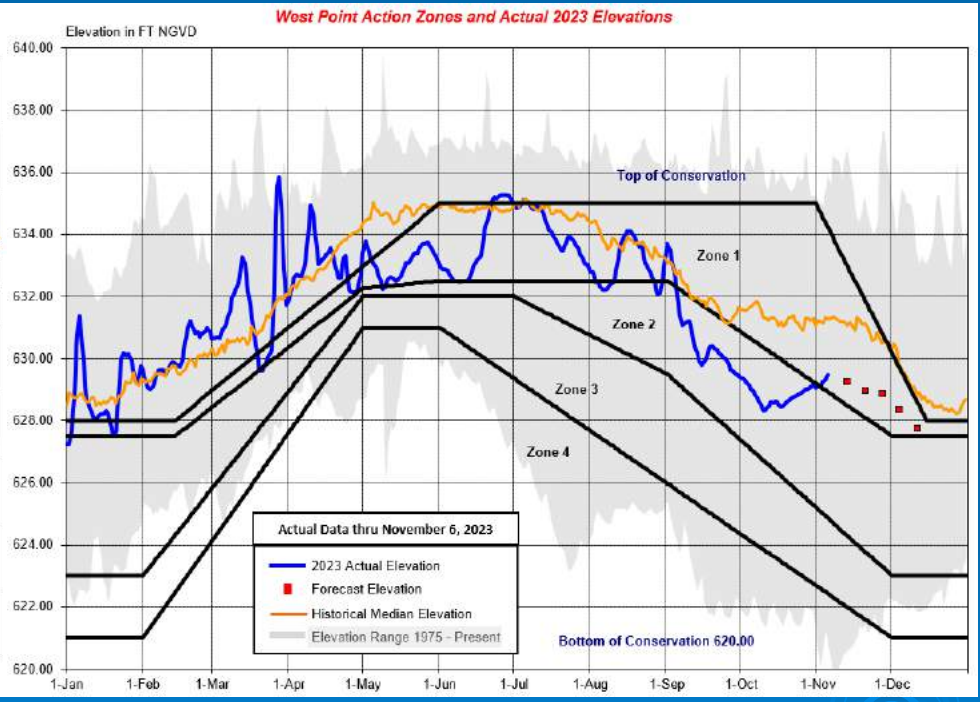

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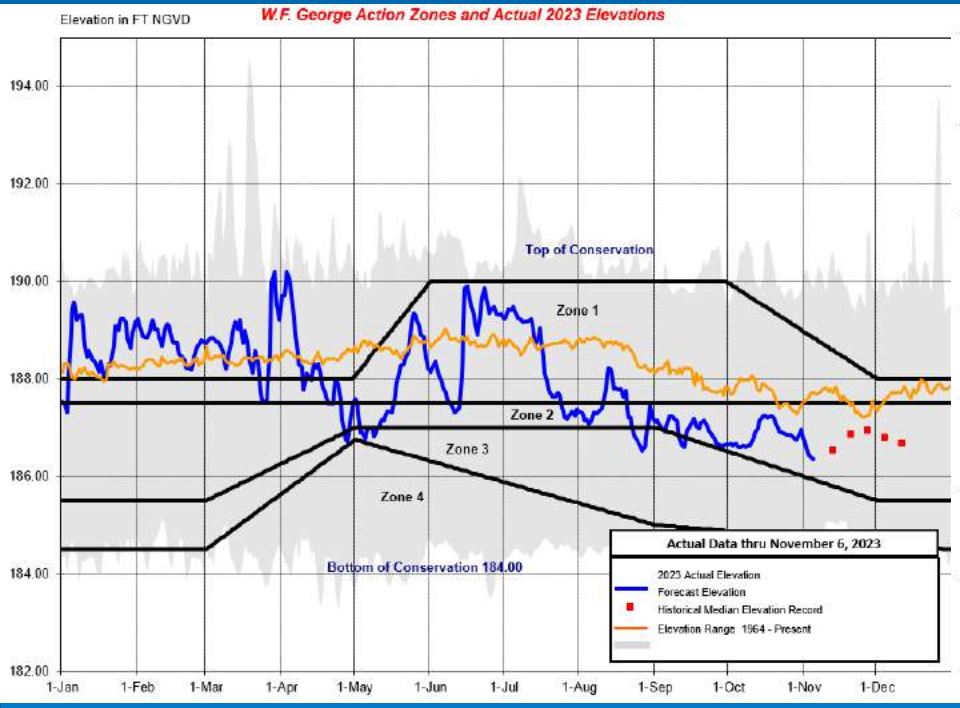

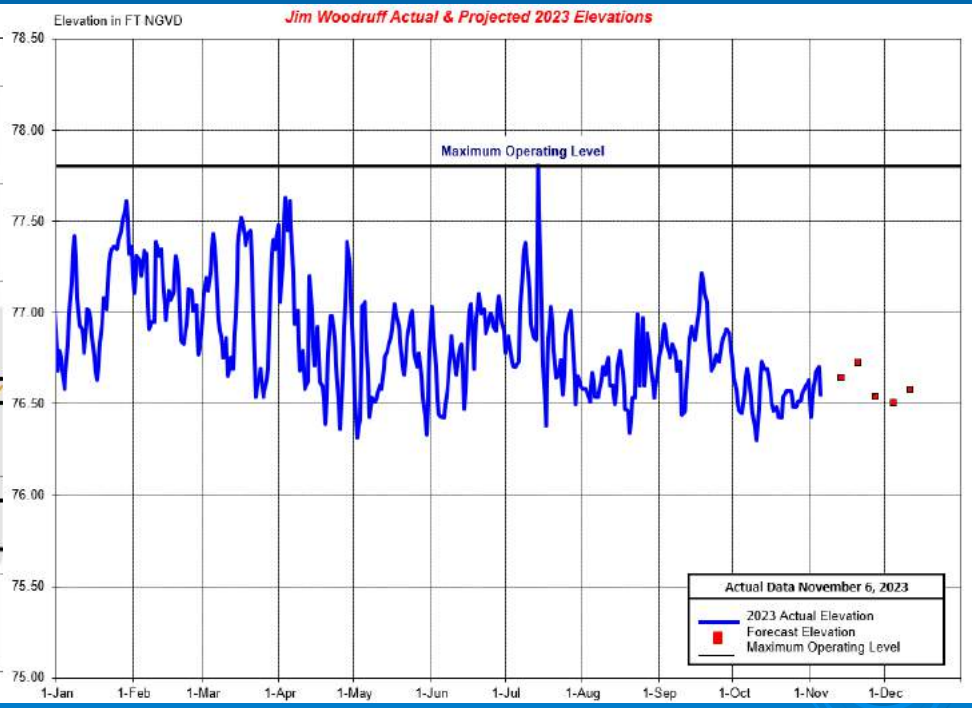

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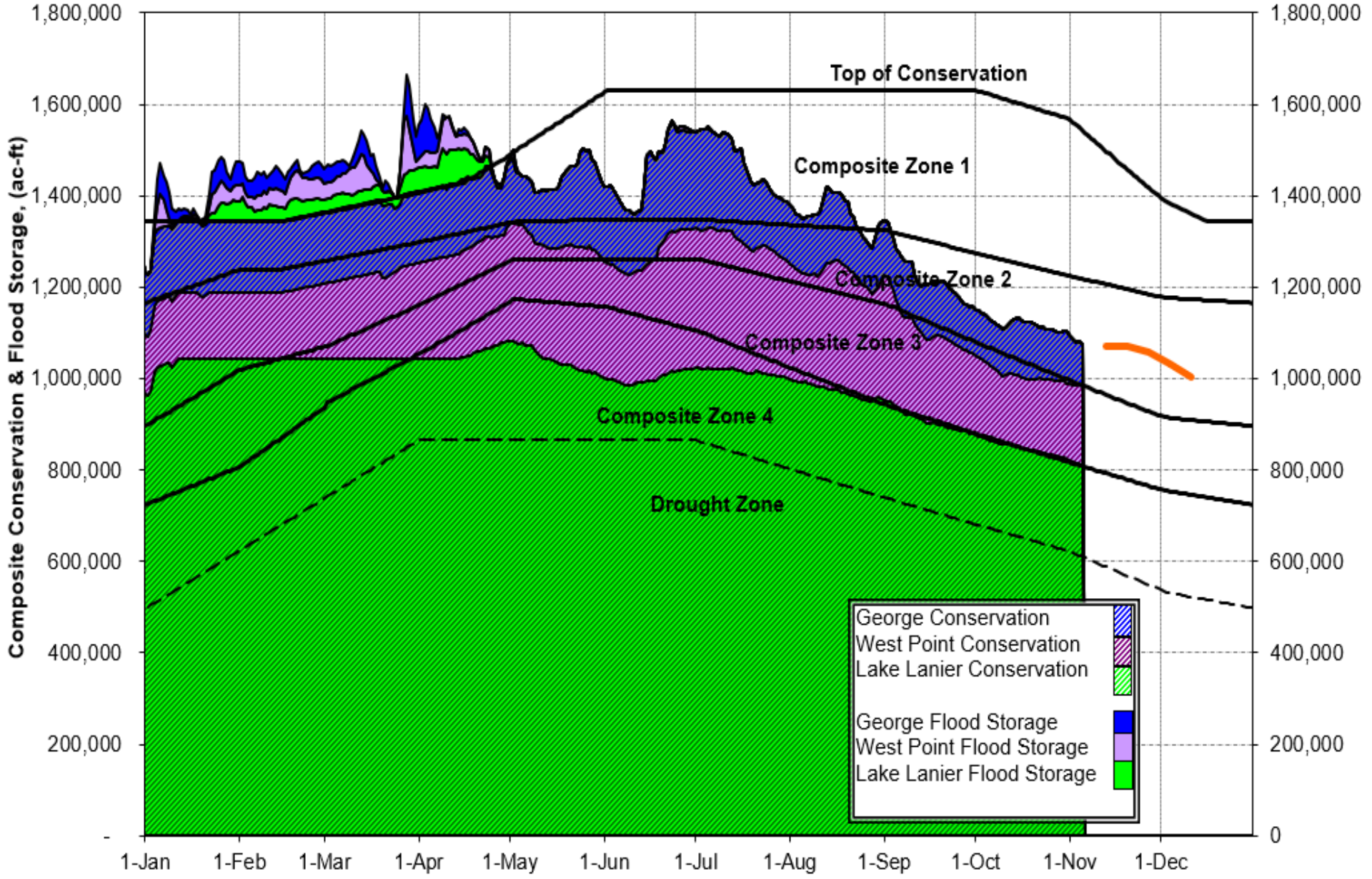
2023 ACF Basin Composite Conservation and Flood Storage



Actual data thru 11/06/2023

Add value of 1,856,000 acre-ft to include inactive storage.

APCO Reservoirs

ALABAMA POWER
A SOUTHERN COMPANY

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ADROP Results 11/07

	Triggered?
Low Basin Inflow:	FALSE
Low State Line Flow:	TRUE
Low Composite Storage:	FALSE
Total Number of Triggers:	1

Operations: Drought Response

Montgomery Flow Target: 4,200 CFS

Next ADROP Run – 11/21

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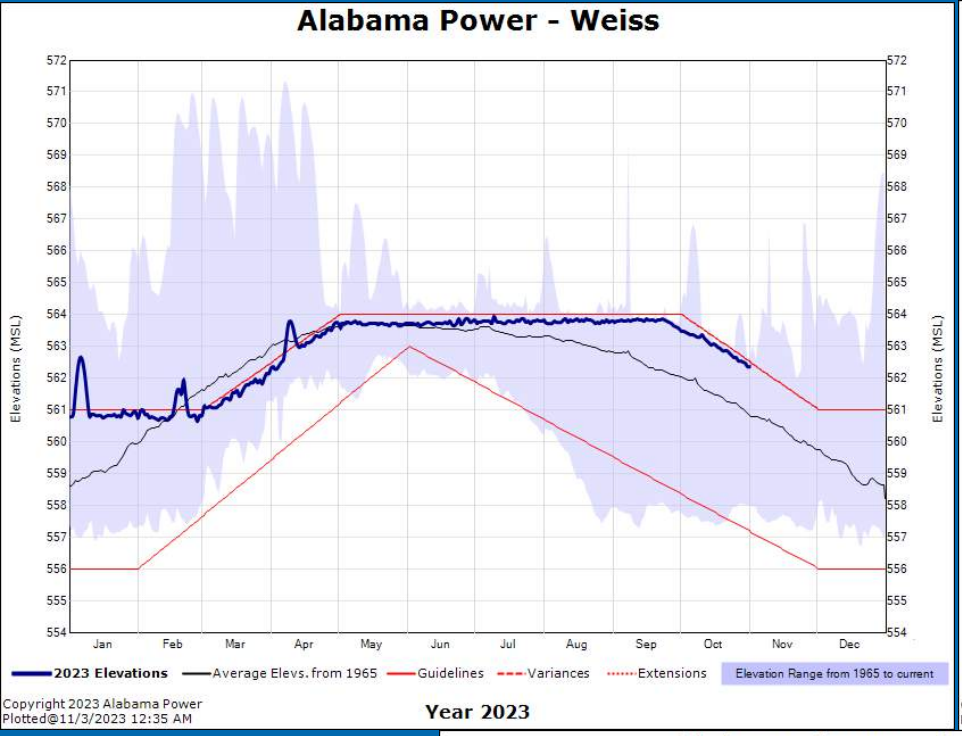

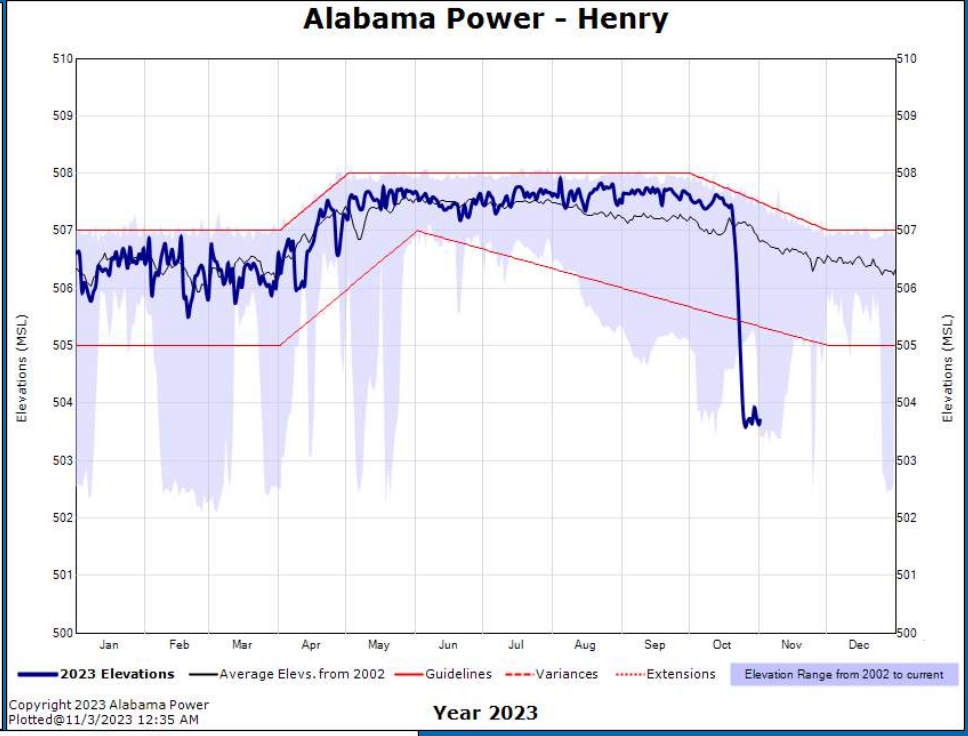

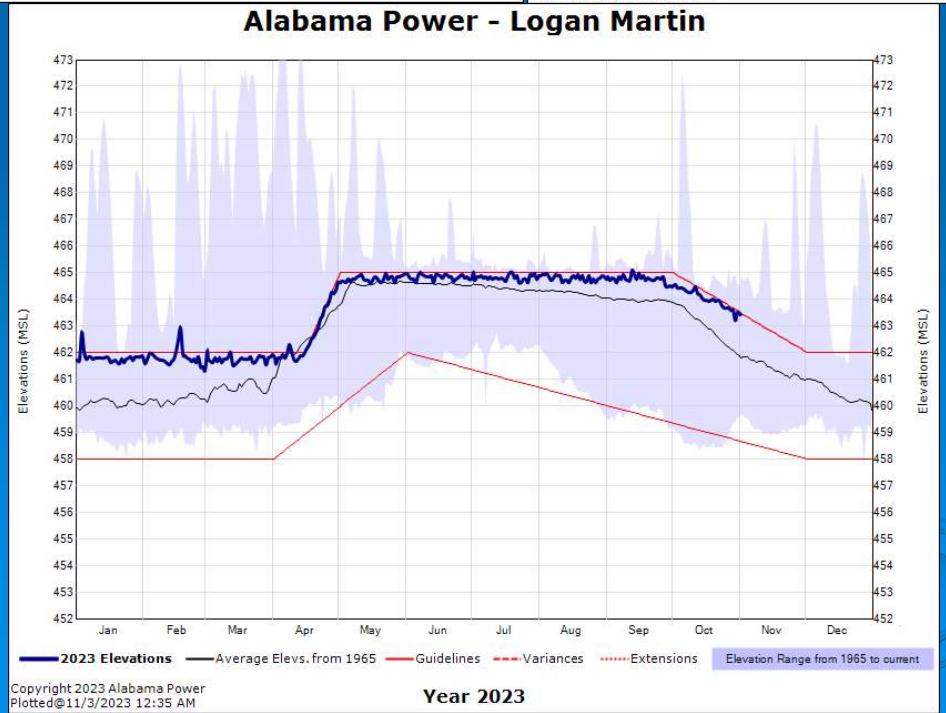

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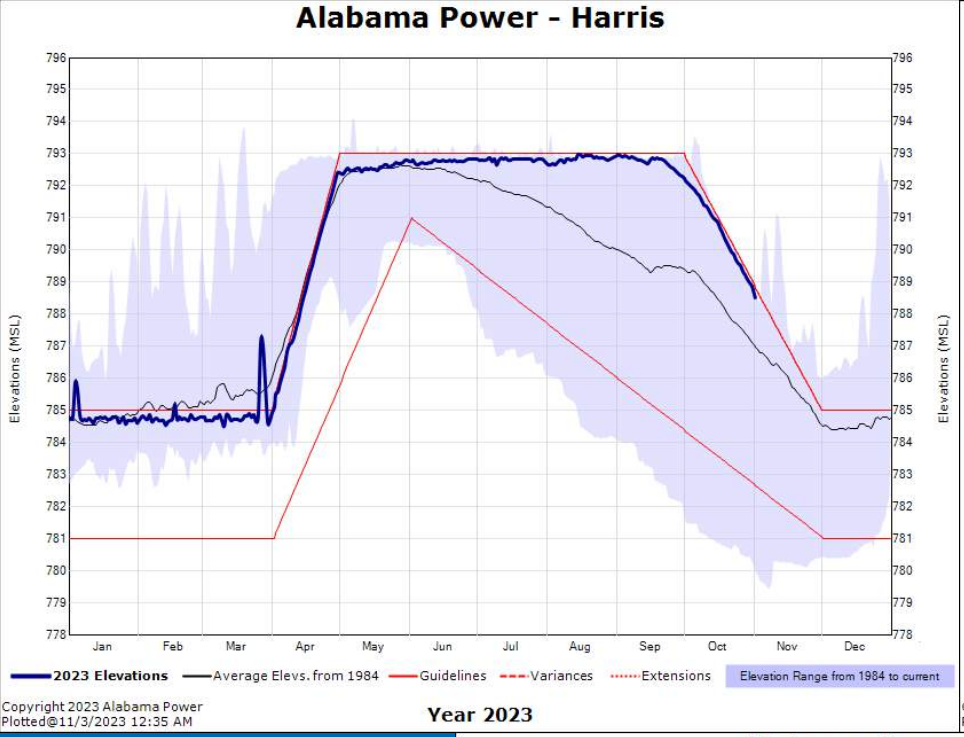

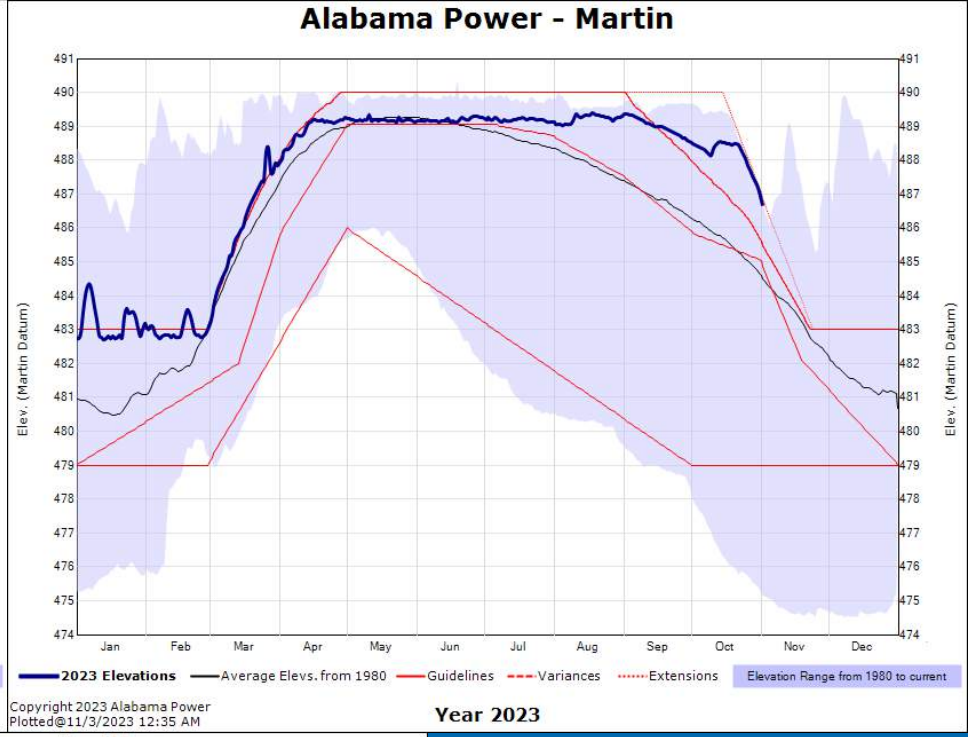

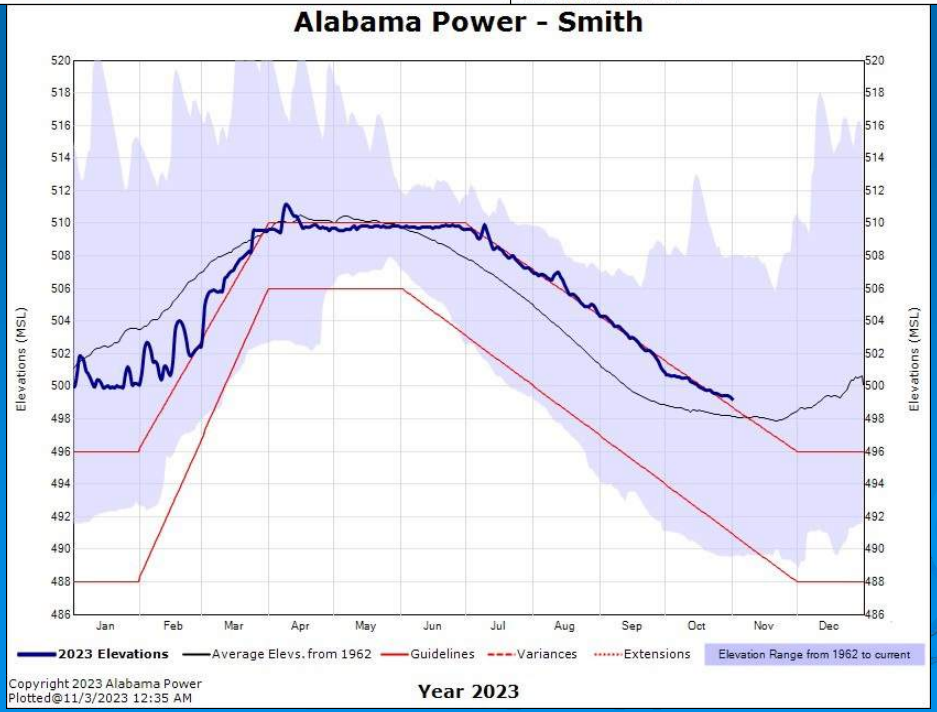

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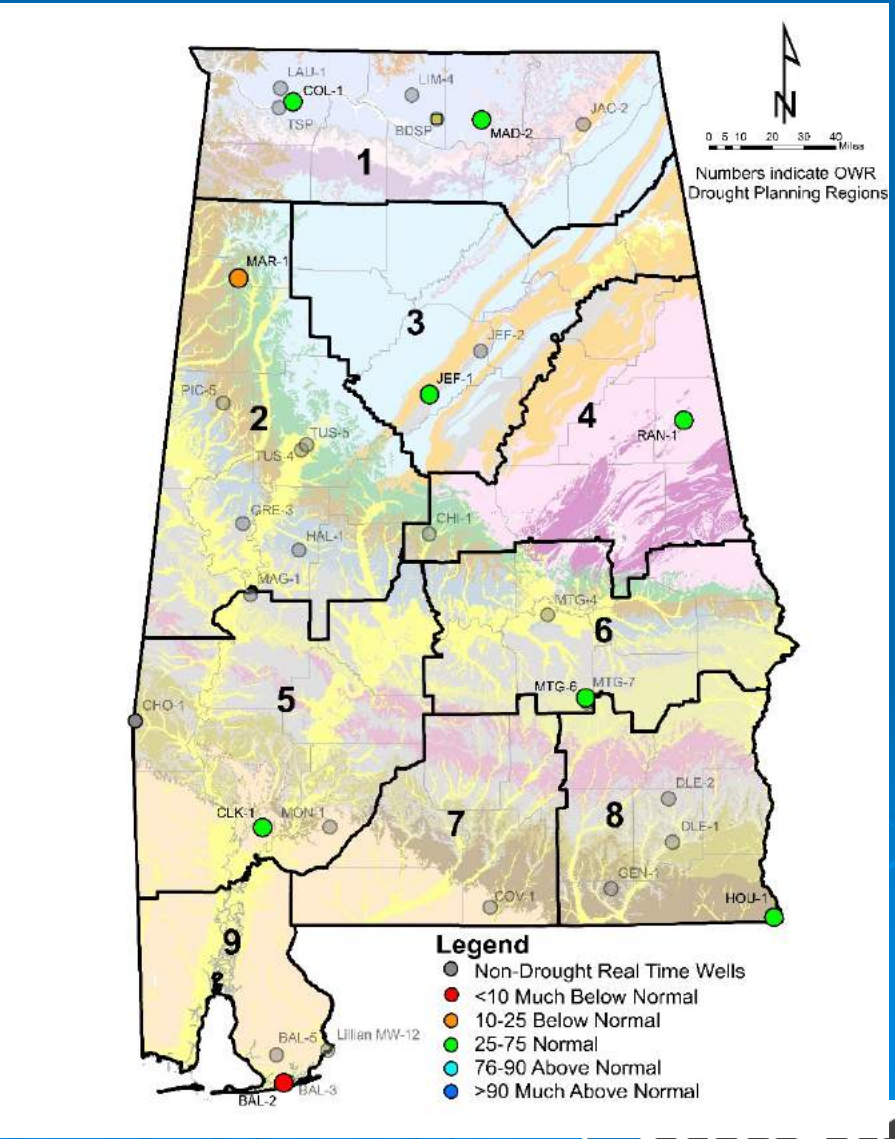
Geological Survey of Alabama

Groundwater Status

November 7, 2023

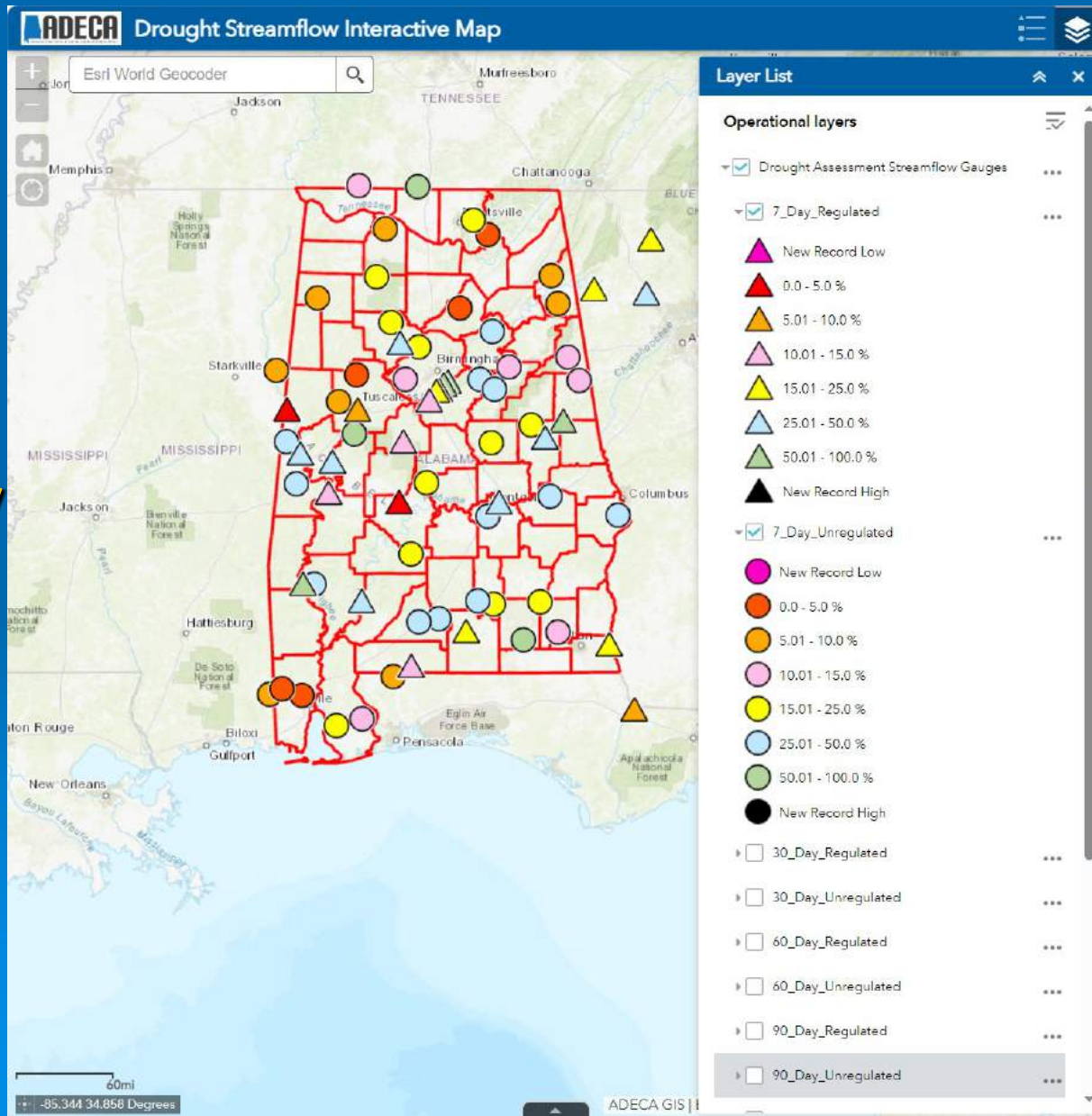
Drought Monitoring Wells

- Current Conditions
  - 6 wells at normal levels
  - 1 wells at below normal
  - 1 well at much below normal



OWR GIS Drought Data Portal

(http://adecagis.alabama.gov/DroughtMap/)



Drought Flow Assessment Tool

- Total of 72 gages tracked weekly
  - Unregulated USGS gages - 47 gages
  - Regulated USGS gages – 25 gages
- 7, 30, 60, and 90-day rear looking average streamflow based on period of record for each gage up to the previous Sunday
- Shows graphical summary of flows, exceedance statistics, and monthly flow characteristics

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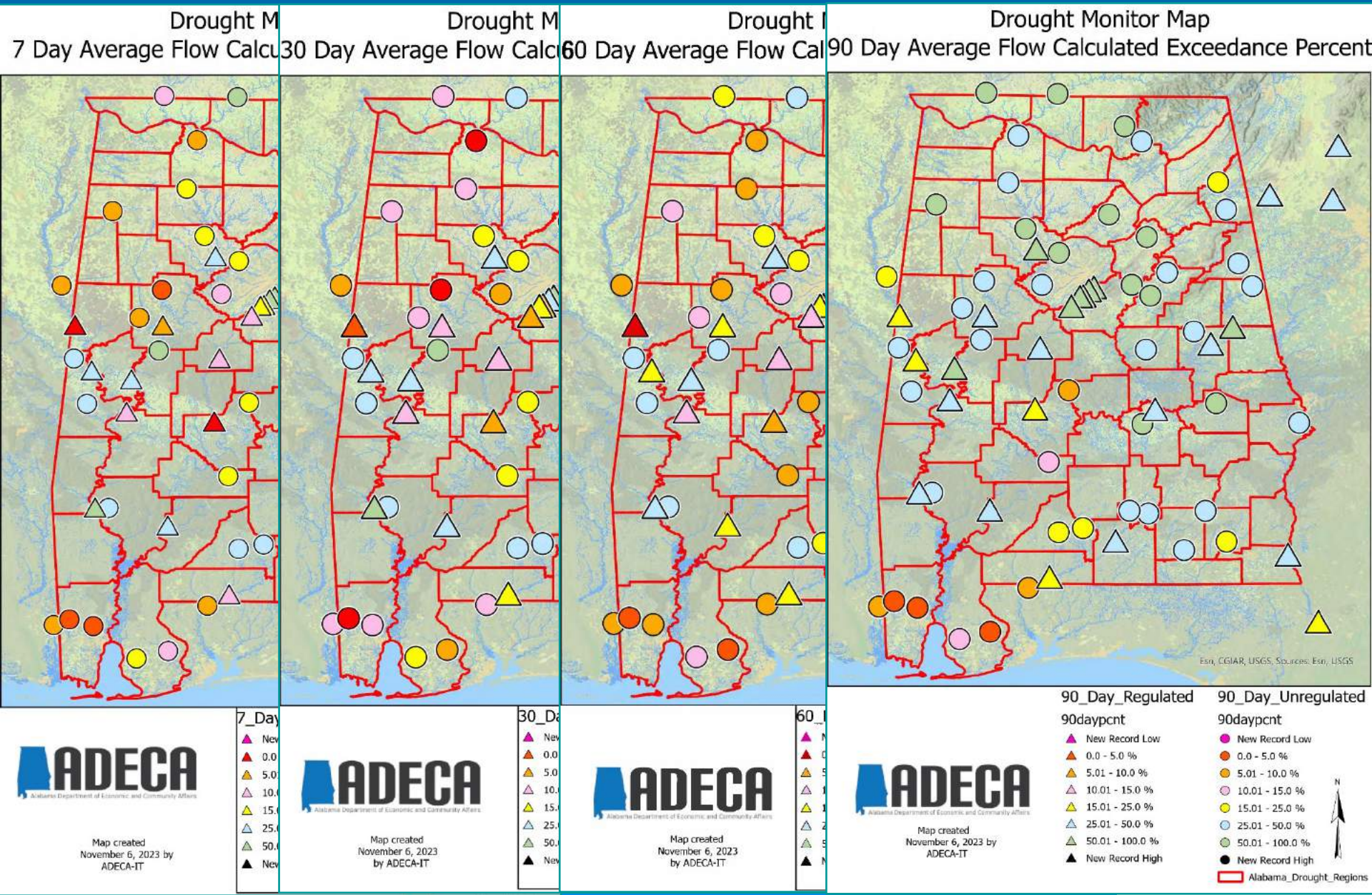
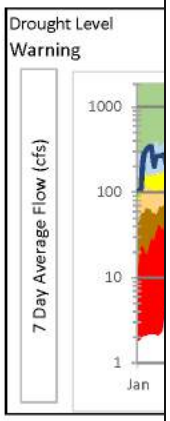
OWR GIS Drought Streamflows Portal



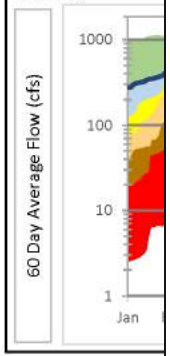
GIS Drought Data Portal (http://adecagis.alabama.gov/Drought)

Gage #: 03586
Period of Record:

Drought Level
Warning



Drought Level
Warning

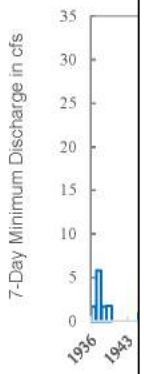


Legend:

*Disclaimer: USGS

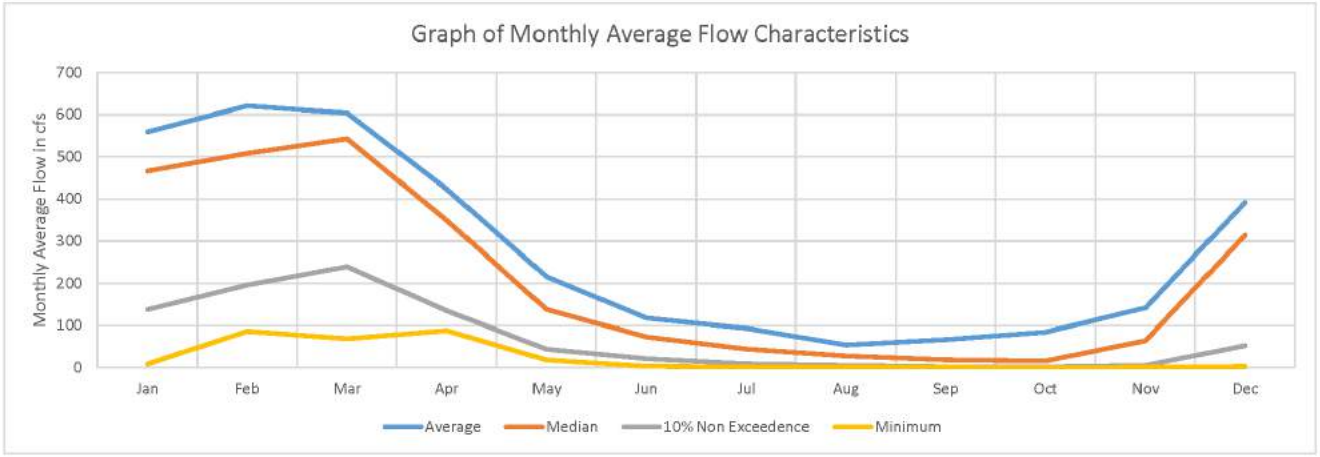
Gage #: 0358650
Period of Record:
Average Flov

Percent
Discharge 1,25



	Jan
Monthly 7Q2	166
Monthly 7Q10	32

Gage #: 03586500 Name: BIG NANCE CREEK AT COURTLAND AL Monthly Analysis
Period of Record: 9/1/1935 - 11/5/2023 Statistics of Monthly Average Flows



MONTHLY STATISTICS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average	559	621	604	423	216	118	93	54	67	85	142	392
100%	1,702	1,711	1,775	1,548	1,123	1,202	744	460	569	1,481	1,170	1,704
98%	1,316	1,572	1,582	1,118	821	758	551	303	405	682	673	1,386
95%	1,242	1,407	1,202	930	571	326	381	192	328	344	411	1,159
90%	1,092	1,156	1,015	781	495	196	169	113	180	193	347	784
75%	786	878	787	555	293	119	120	59	76	94	194	521
50%	466	508	543	350	138	73	45	28	19	16	64	314
25%	289	337	346	250	72	37	17	14	7	4	18	139
10%	137	196	240	135	44	21	9	6	2	2	5	52
5%	57	150	176	124	37	16	7	4	2	1	2	25
2%	21	115	97	101	24	7	4	3	1	1	2	8
0%	9	87	69	88	18	4	2	2	1	1	2	3

USGS Streamflow Analysis

USGS
science for a changing world

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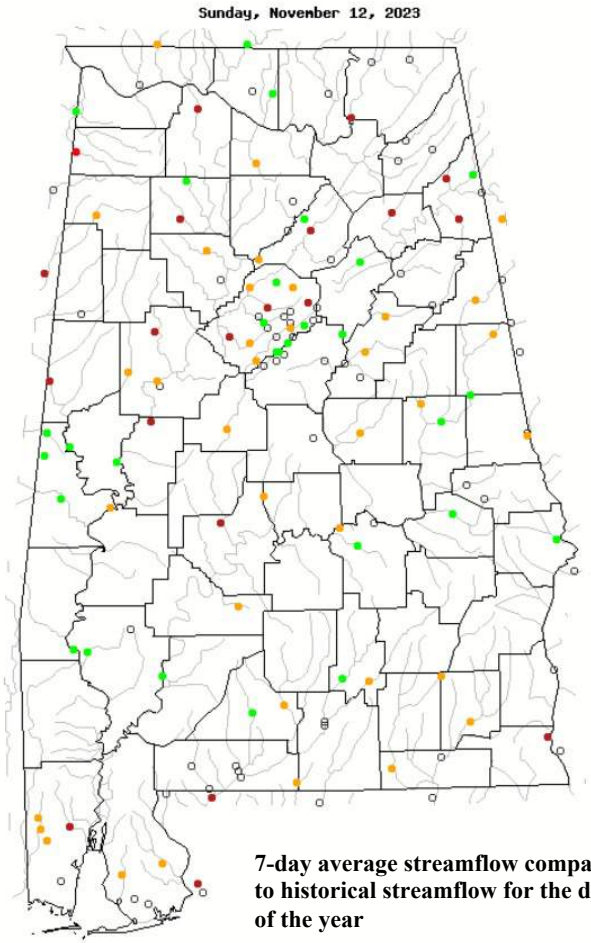
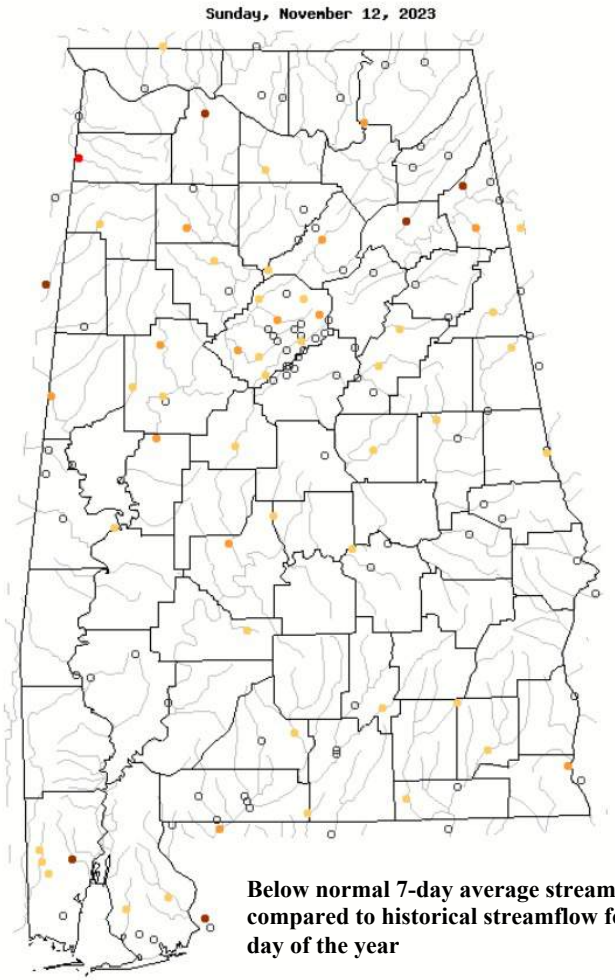
USGS 7-Day Streamflows - Alabama



7-day average streamflow compared to historical streamflow for the day of the year

USGS

Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked



Below normal 7-day average streamflow compared to historical streamflow for the day of the year

USGS

Explanation - Percentile classes				
New low Extreme hydrologic drought	<=5 Severe hydrologic drought	6-9 Moderate hydrologic drought	10-24 Below normal	Not ranked

OFFICE OF WATER RESOURCES

US Department of Agriculture

NASS

Alabama Crop Progress & Condition Report (Date: November 6, 2023)

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.

November 6, 2023 *Media Contact: Charmaine Wilson*

General

According to the National Agricultural Statistics Service, there were 7.0 days suitable for fieldwork in Alabama for the week ending Sunday, November 5, 2023. Precipitation ranged from no rain to 0.2 inches. Average high temperatures ranged from the low 60s to the mid 70s. Average low temperatures ranged from the high 20s to the mid 40s.

Crops

It was another extremely dry week for the entire state, with only isolated areas in the northwestern and southwestern regions of the state receiving any precipitation. Temperatures fell throughout the week, leading some areas to experience their first freeze of the year. The lack of rain allowed operators to conduct a significant amount of field work, with cotton, peanut, and soybean harvest remaining ahead of historical progress. Reporters noted that some operators continued to not plant winter wheat due to unfavorable soil conditions.

Livestock and Pastures

Cattle were reported to be in good to fair condition, while pastures were reported to be in poor to fair condition. Pasture conditions continued to deteriorate after another dry week. Freezing temperatures in some areas also negatively impacted pastures. Reporters noted that water sources in some areas were very low. There were some fears of hay shortages due to the lack of a third harvest of hay by some operators due to the extended dry weather.

Crop Progress for Week Ending 11/5/23

Crop stage	Prev year	Prev week	This week	5 Year avg
	(percent)	(percent)	(percent)	(percent)
Cotton - Harvested	68	53	68	61
Peanuts - Dug	93	88	94	92
Peanuts - Harvested	86	79	85	82
Soybeans - Harvested	82	68	80	70
Winter Wheat - Planted	41	34	45	31
Winter Wheat - Emerged	10	1	6	9

Conditions for Week Ending 11/5/23

Crop	Very poor	Poor	Fair	Good	Excellent
	(percent)	(percent)	(percent)	(percent)	(percent)
Cattle	1	7	33	56	1
Pasture and range	24	42	30	4	0

Soil Moisture for Week Ending 11/5/23

Topsoil	Previous week	This week
	(percent)	(percent)
Very short	35	43
Short	50	47
Adequate	15	10
Surplus	0	0
Subsoil	**Previous week**	**This week**
	(percent)	(percent)
Very short	32	38
Short	58	53
Adequate	10	9
Surplus	0	0

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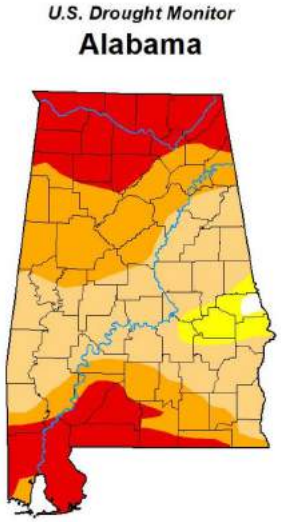
http://mrcc.purdue.edu/CLIMATE/

http://mrcc.purdue.edu/CLIMATE/



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Forestry Update

ADECA
OFFICE OF WATER RESOURCES

Alabama Forestry Commission
www.forestry.alabama.gov

FOR IMMEDIATE RELEASE

Contact: Elishia Ballentine: (334) 315-8019
elishia.ballentine@forestry.alabama.gov
or Michelle Barnett (334) 315-9314
michelle.barnett@forestry.alabama.gov

8 November 2023

Governor Ivey Prohibits Burning Statewide

Governor Kay Ivey on Wednesday issued a statewide 'No Burn Order.' Today, she signed a statewide Drought Emergency Declaration which prohibits **all** outdoor burning in Alabama. This order is effective November 9, 2023, at 8:00 a.m. Central Standard Time.

"Alabama is currently experiencing extremely dry conditions, which greatly increases the potential for dangerous wildfire activity. State Forester Rick Oates and his team have been working around-the-clock to keep our forests safe and fires contained, and I commend them for their efforts to protect Alabamians, our homes, and our wildlife," said Governor Ivey. "This declaration is meant to prevent unnecessary burning, reducing the chance of avoidable fires. I urge Alabamians to heed this warning."

Since the statewide Fire Alert was issued on October 24, AFC firefighters have responded to 352 wildfires that have burned 3,199 acres across the state.

"These burning restrictions are a necessary result of the ongoing lack of precipitation and high probability of fuel ignition," said State Forester Rick Oates. "During the last month we've seen an increase not only in the number of wildfires, but also in the size of those fires." Oates continued, "With this prolonged drought, conditions are such that any outdoor fire can rapidly spread out of control, taking longer – and more firefighting resources – to contain and ultimately control. Even though we are predicted to get a small amount of rain this weekend, it will not be enough to lessen the wildfire danger."

The Drought Emergency Declaration order will remain in effect until rescinded by the State Forester, at which time conditions will have changed sufficiently to reduce the occurrence and frequency of wildfires. To report persons burning in violation of this law, contact your local law enforcement. For more information on the current wildfire situation in the state, visit Alabama Forestry Commission's website at www.forestry.alabama.gov.

###

Ala Forestry Commission

Drought Emergency Declaration

Nov 8, 2023

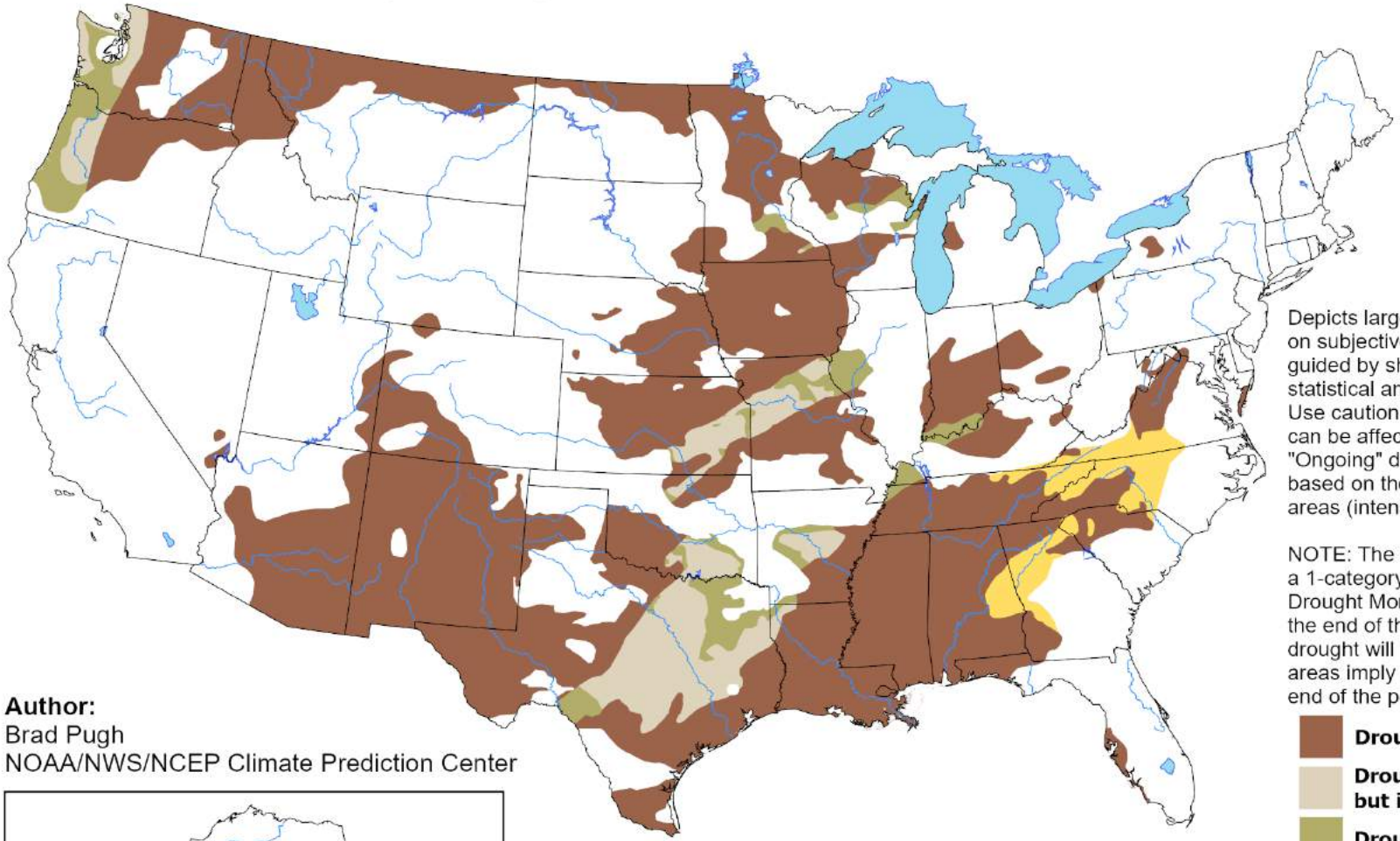
ADECA
OFFICE OF WATER RESOURCES

Other Inputs

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for November 2023
Released October 31, 2023

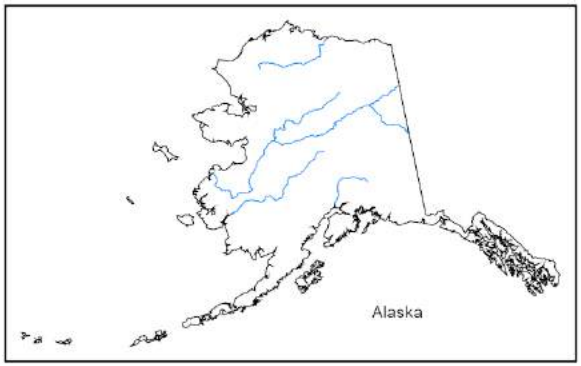


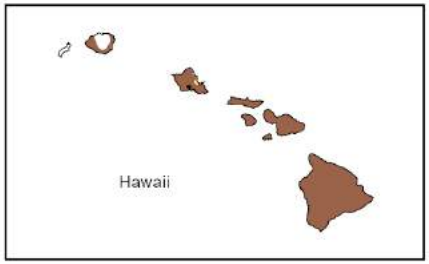
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

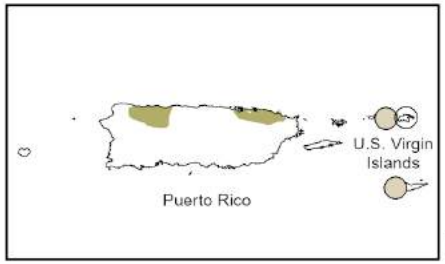
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- **Drought persists**
- **Drought remains, but improves**
- **Drought removal likely**
- **Drought development likely**
- **No drought**

Author:
Brad Pugh
NOAA/NWS/NCEP Climate Prediction Center





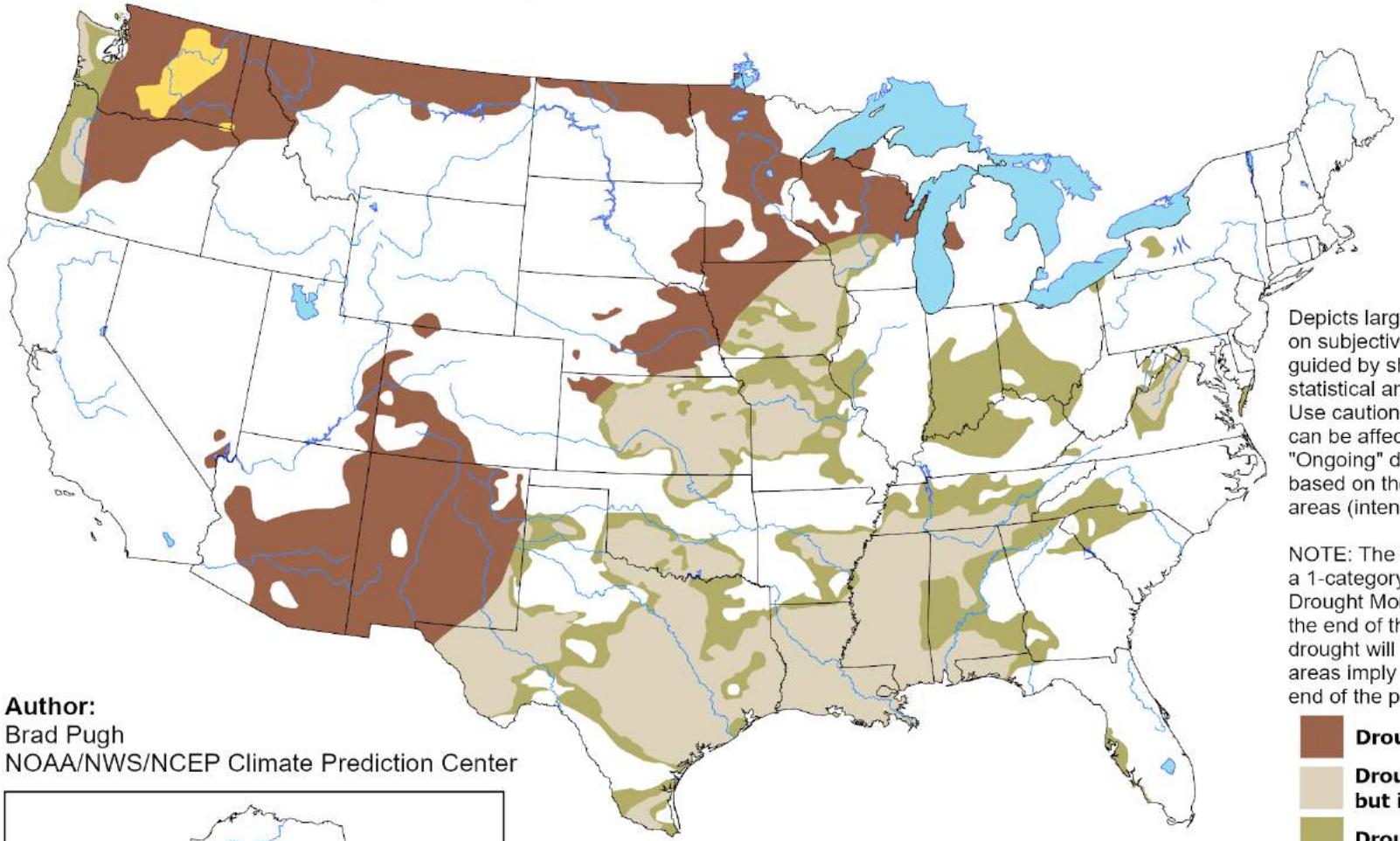


https://go.usa.gov/3eZGd

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for October 19, 2023 - January 31, 2024
Released October 19, 2023

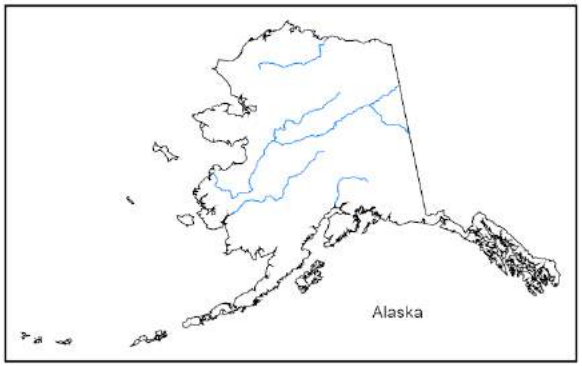


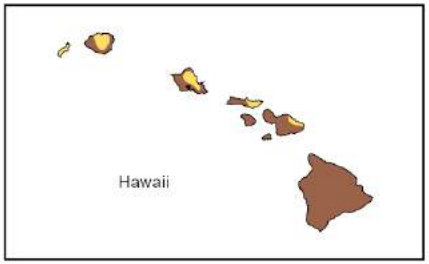
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

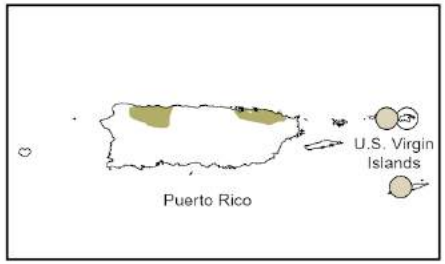
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- **Drought persists**
- **Drought remains, but improves**
- **Drought removal likely**
- **Drought development likely**
- **No drought**

Author:
Brad Pugh
NOAA/NWS/NCEP Climate Prediction Center







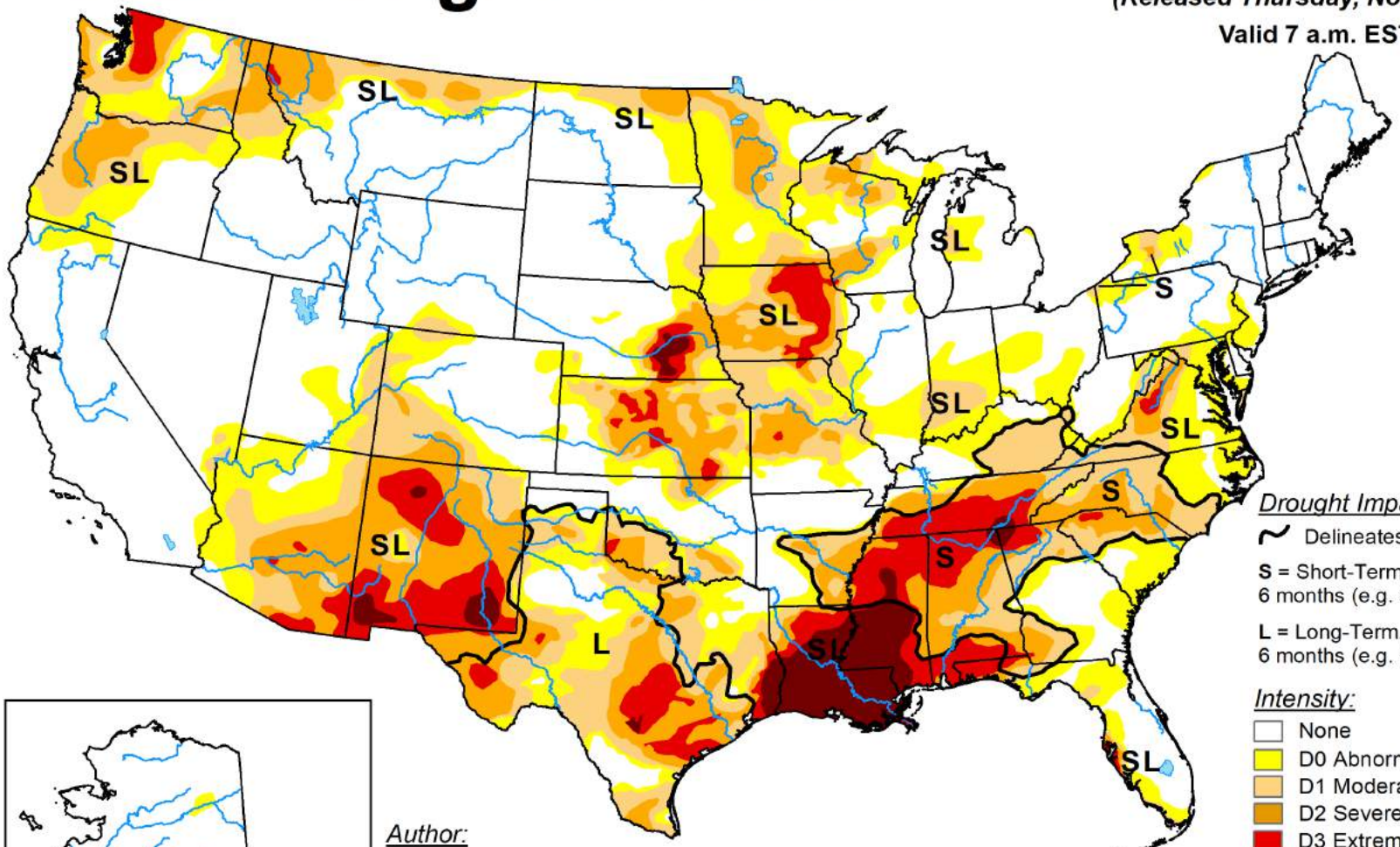
https://go.usa.gov/3eZ73

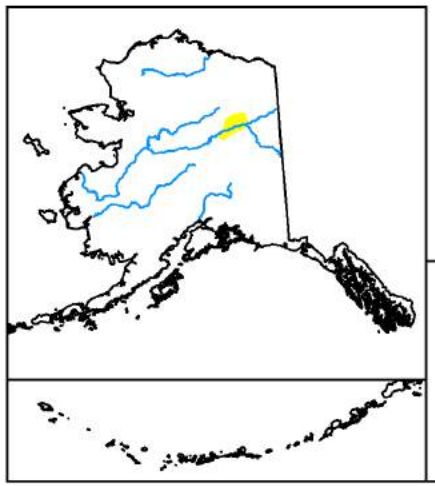
U.S. Drought Monitor

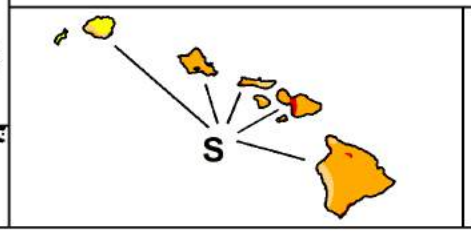
November 7, 2023

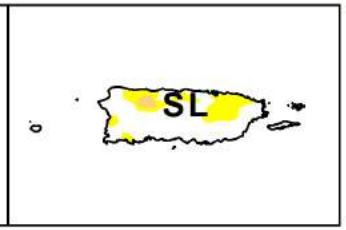
(Released Thursday, Nov. 9, 2023)

Valid 7 a.m. EST









Drought Impact Types:

Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Author:

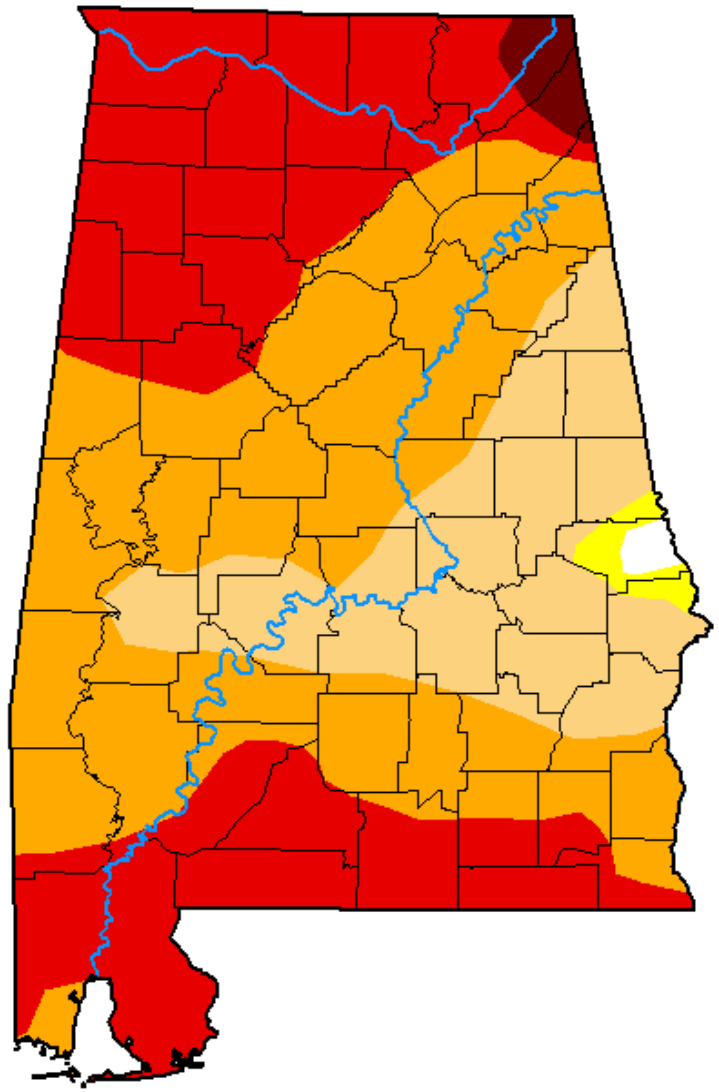
Lindsay Johnson

National Drought Mitigation Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

droughtmonitor.unl.edu

U.S. Drought Monitor
Alabama



November 7, 2023
(Released Thursday, Nov. 9, 2023)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	0.44	1.04	19.95	41.03	36.16	1.38
Last Week *10-31-2023*	0.43	4.18	37.02	29.67	28.70	0.00
3 Months Ago *08-08-2023*	92.74	7.26	0.00	0.00	0.00	0.00
Start of Calendar Year *01-03-2023*	55.18	26.85	17.06	0.91	0.00	0.00
Start of Water Year *09-26-2023*	21.58	47.82	14.55	13.74	2.30	0.00
One Year Ago *11-08-2022*	11.27	47.17	36.64	4.92	0.00	0.00

Intensity:

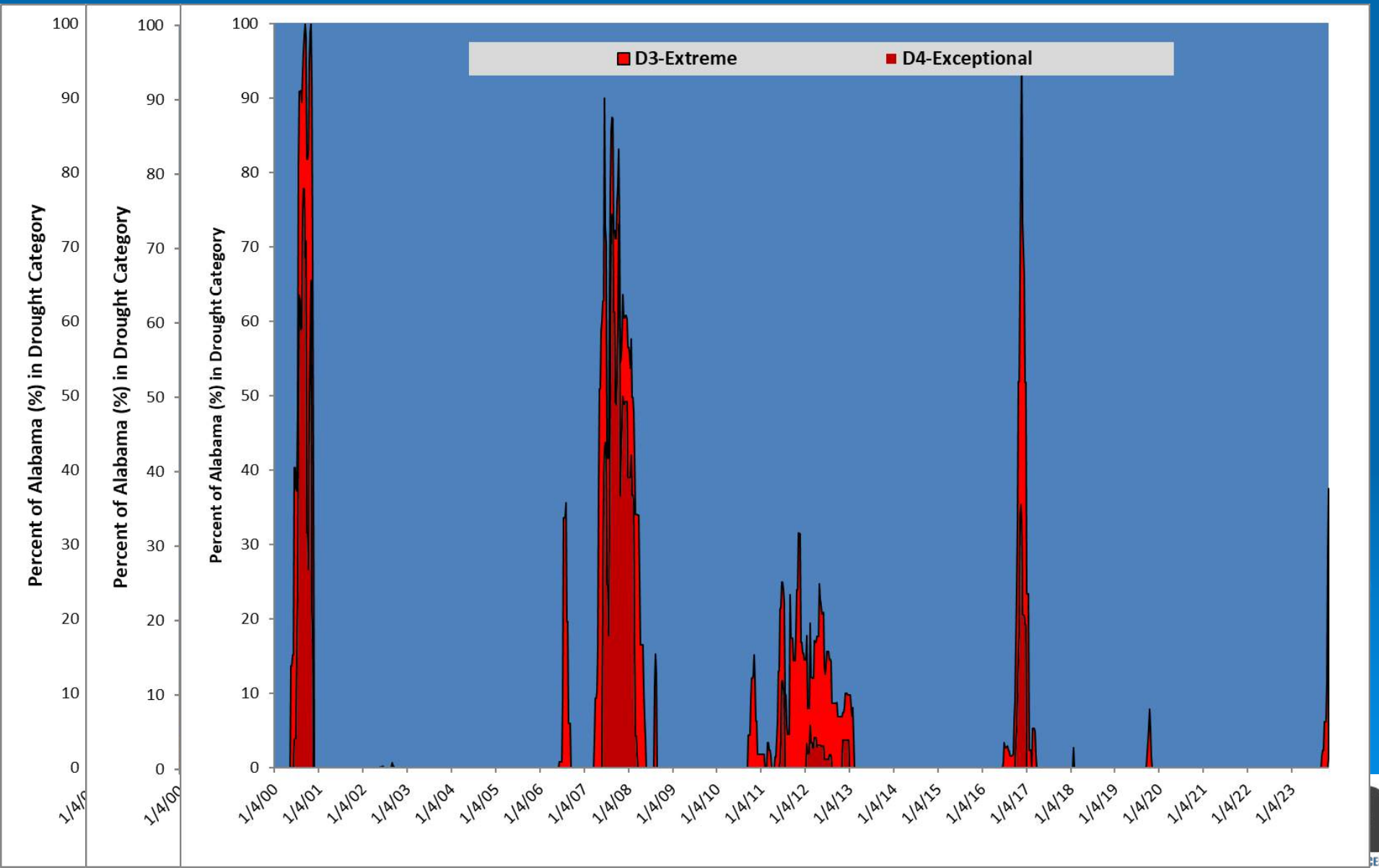
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:
Lindsay Johnson
National Drought Mitigation Center

droughtmonitor.unl.edu

US Drought Monitor – Alabama (2000 – 2023)



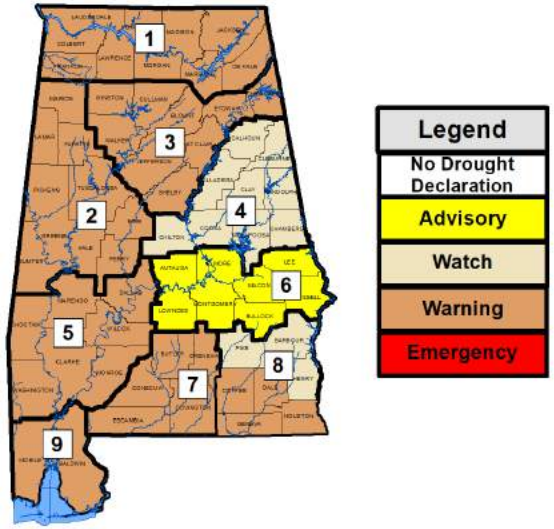
Release Date: November 8, 2023

For Public Dissemination

Alabama Drought Declaration

In accordance with the Alabama Drought Planning and Response Act (Code of Ala. 1975, §9-10C-1, et seq.) and the Alabama Drought Management Plan, the ADECA Office of Water Resources (OWR), based on a review of current and anticipated conditions, has declared the following portions of Alabama to be under the specified drought declaration levels.

Declaration Level	
Emergency	None
Warning	**Drought Regions 1, 2, 3, 5, 7, 9, and a portion of 8 which include the counties of:** Baldwin, Bibb, Blount, Butler, Cherokee, Choctaw, Clarke, Coffee, Colbert, Conecuh, Covington, Crenshaw, Cullman, Dale, Dallas, DeKalb, Escambia, Etowah, Fayette, Franklin, Geneva, Greene, Hale, Houston, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Madison, Marengo, Marion, Marshall, Mobile, Monroe, Morgan, Perry, Pickens, Shelby, St. Clair, Sumter, Tuscaloosa, Walker, Washington, Wilcox, and Winston
Watch	**Drought Region 4 and a portion of 8 which include the counties of:** Barbour, Calhoun, Chambers, Chilton, Clay, Cleburne, Coosa, Henry, Pike, Randolph, Talladega, and Tallapoosa
Advisory	**Drought Region 6 which include the counties of:** Autauga, Bullock, Elmore, Lee, Lowndes, Macon, Montgomery, and Russell
None	None



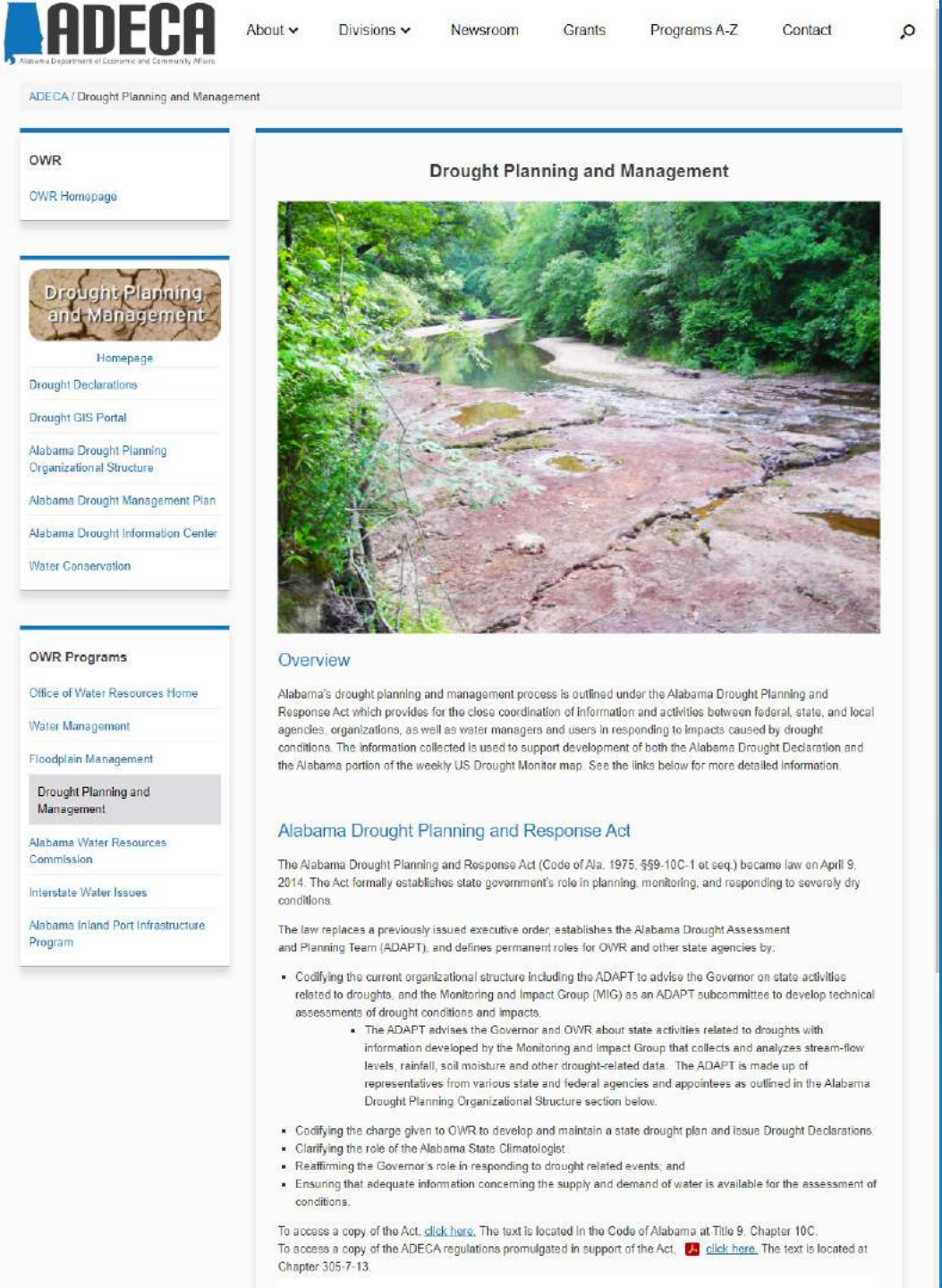
Drought conditions are increasing in severity in Alabama as precipitation deficits continue to climb. Drought Regions 1, 2, 3, 5, 7, 9, and a portion of Region 8 have been declared in the Drought Warning status. The Drought Watch status includes Region 4 and a portion of Region 8. Drought Region 6 is still classified as Drought Advisory. OWR will continue monitoring our water resources and update this Declaration as needed.

Water managers are urged to carefully monitor conditions and encourage the wise and efficient use of our water resources. Public water system customers are encouraged to follow their local water system's recommendations regarding water use. All other water users should make prudent decisions on their water use to protect available resources.

For further information, please visit our web site at water.alabama.gov and follow the links for Drought Planning and Management. You may also reach our office at (334) 242-5499, fax at (334) 242-0776, or e-mail at water@adeca.alabama.gov.

Current Alabama Drought Declaration

Last Revised: November 8, 2023

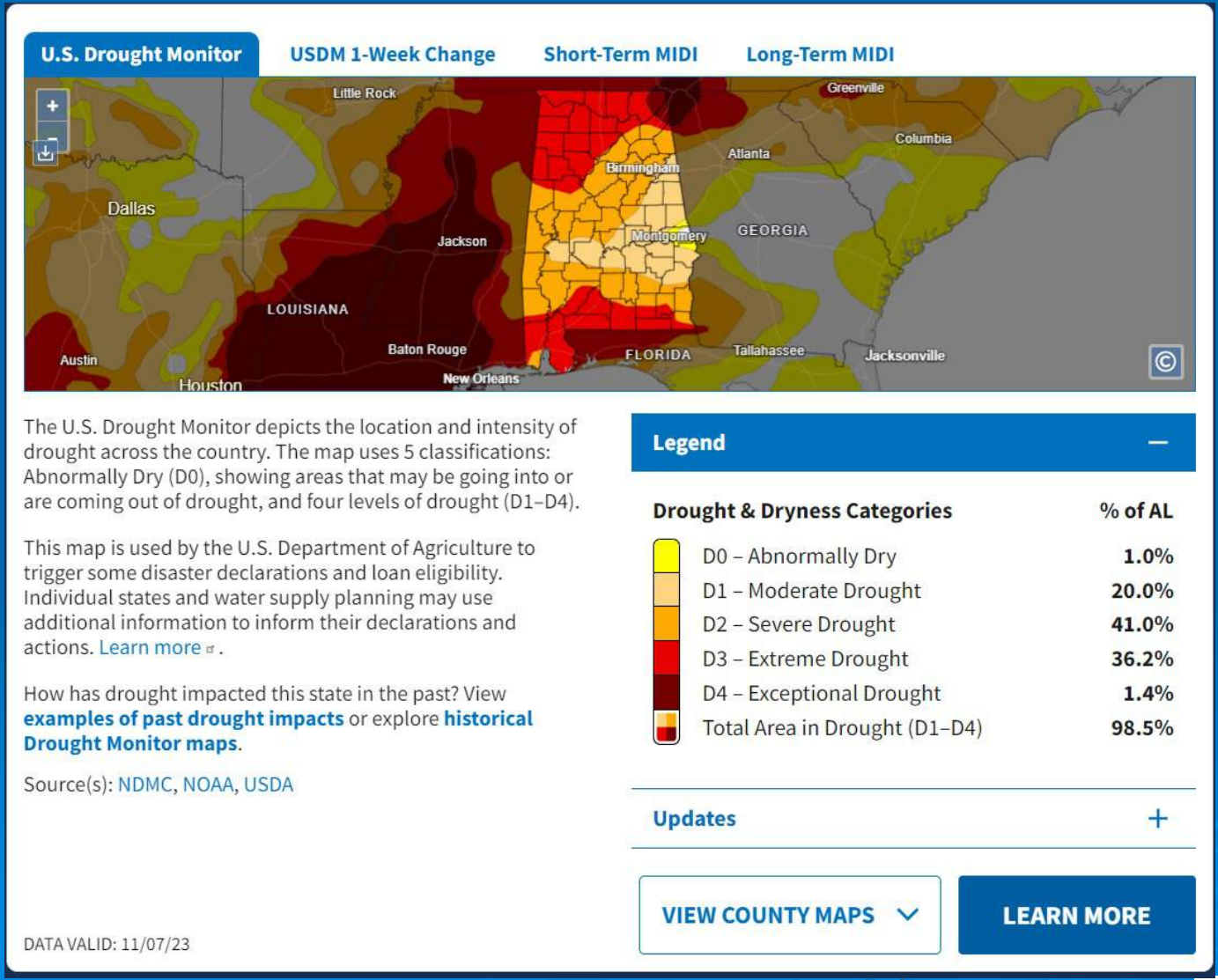


OWR Drought Planning & Management Web Site

(www.water.alabama.gov)

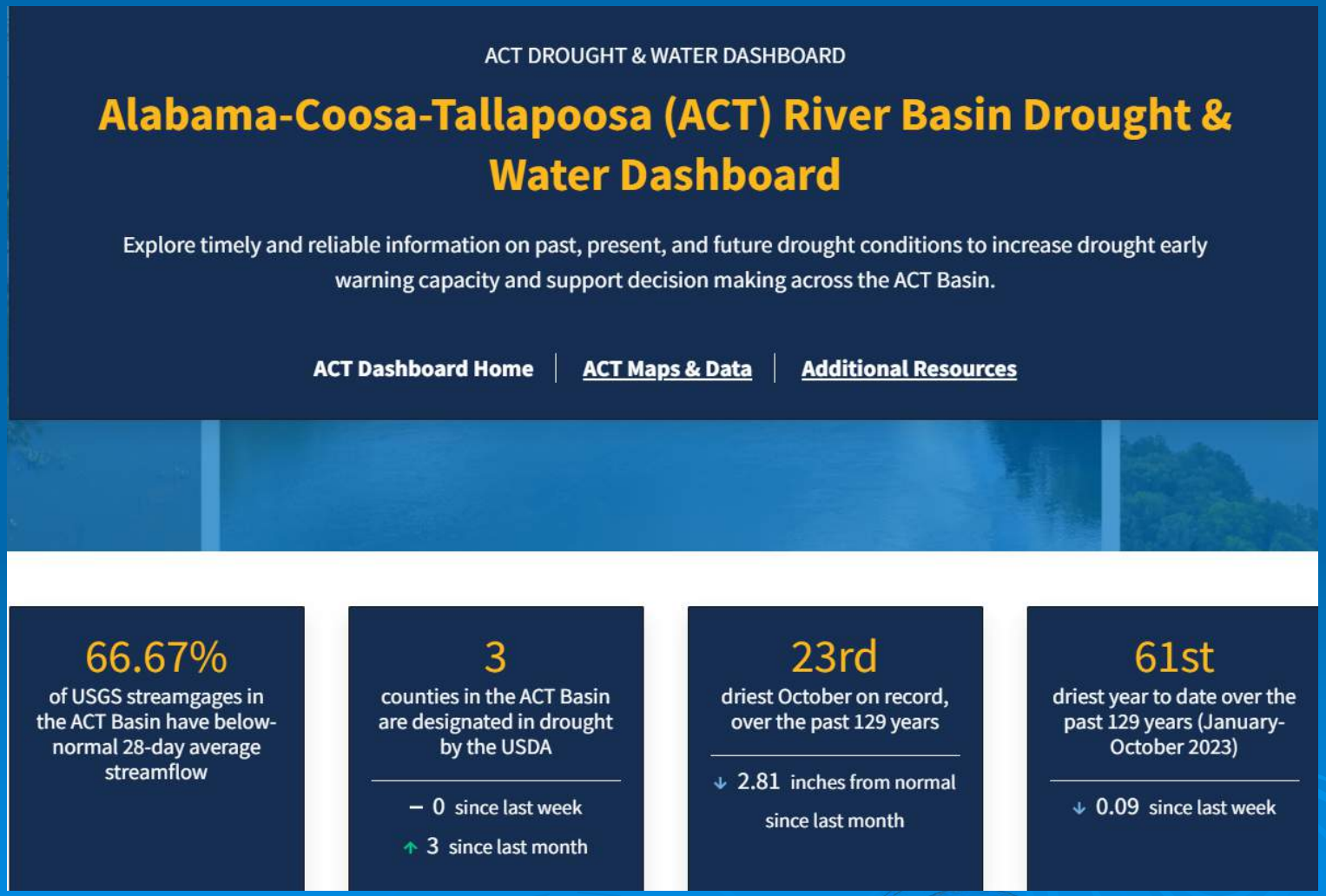
ADECA
OFFICE OF WATER RESOURCES

NIDIS Drought Webpage - Alabama



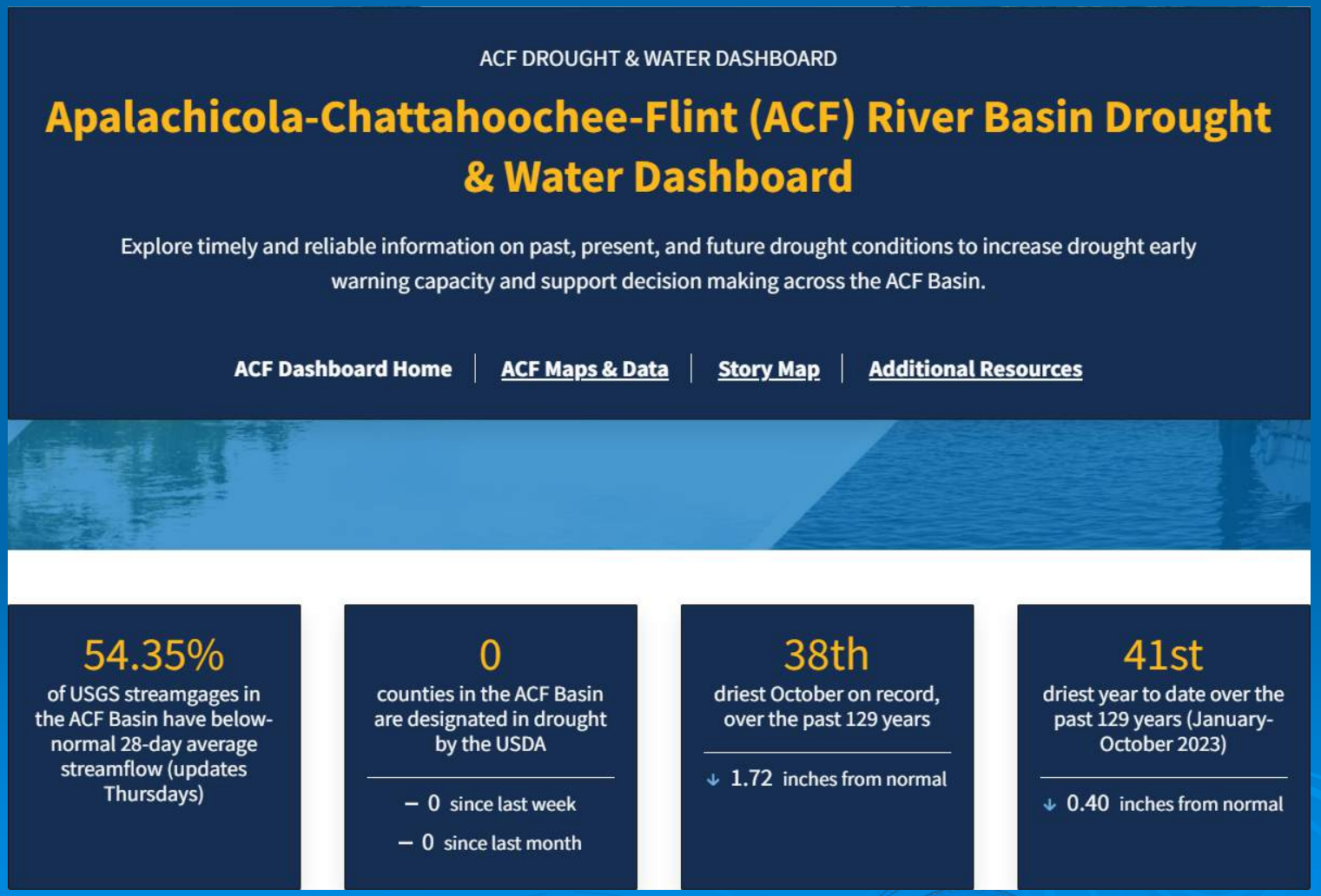
https://www.drought.gov/states/alabama

Alabama-Coosa-Tallapoosa (ACT) Drought Dashboard



https://www.drought.gov/watersheds/act-dashboard

Apalachicola-Chattahoochee-Flint (ACF) Drought Dashboard



https://www.drought.gov/watersheds/acf-dashboard

Summary

- Alabama has a successful and robust drought planning and response program
- Focus is on communication and coordination of conditions, impacts, and forecasts
- Current focus is on the review of the Alabama Drought Management Plan. Comments are welcome
- OWR website maintains updated drought information
- Next MIG December 12 and is open to the public

ADECA
OFFICE OF WATER RESOURCES

Questions?

Tom Littlepage

Alabama Office of Water Resources

Email: water@adeca.alabama.gov

Web: water.alabama.gov

Phone: Toll Free 1-877-ALAWATER

(1-877-252-9283) or (334) 242-5499

FAX: (334) 242-0776