

ACF WATER MANAGEMENT OPERATIONS UPDATE

James Hathorn
Chief of Water Management Section
Mobile District
Date: 13 November meeting w/
Partnership for a Resilient Apalachicola
Bay



"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."



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Buford Dam Sluice



Lake Lanier 2007



WF George L&D 2015

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ACF OPERATION WATER MANAGEMENT UPDATE



1. Basin update
 - a) Current hydrology
 - b) Reservoir Forecasts
 - c) Concerns
2. WP gate repair
3. Sustainable Rivers Program (SRP)
4. Stay agreement review status



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SAM -WATER MANAGEMENT STAFF



James Hathorn
Spv Eng, 34 years



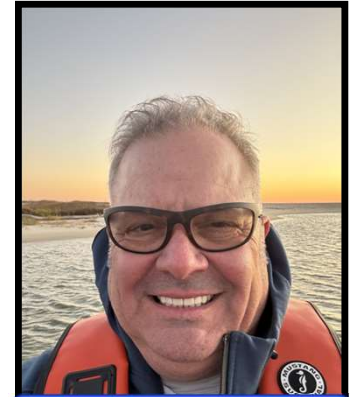
Scott Chodkiewicz
Hyd Eng, WCDSA , 29 years



Joe Stuart
Hydro Tech, 22 years



Cindy Donald
Senior Hdy Eng, 10 years



Scott West
Hydro Tech, 2.5 years



Richard Allen
Civil Engineer, 11 years



Troy Ephriam
Hyd Eng, 10 years



Breanna Riddle
Hyd Eng, 4 years



Jody Huang
Hyd Eng, 4 years



Chase Ferrell
Hydro Tech, 2.5 years



Carlin Sewer
Hydro Tech, 1.5 years



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PRECIPITATION SINCE HURRICANE HELENE

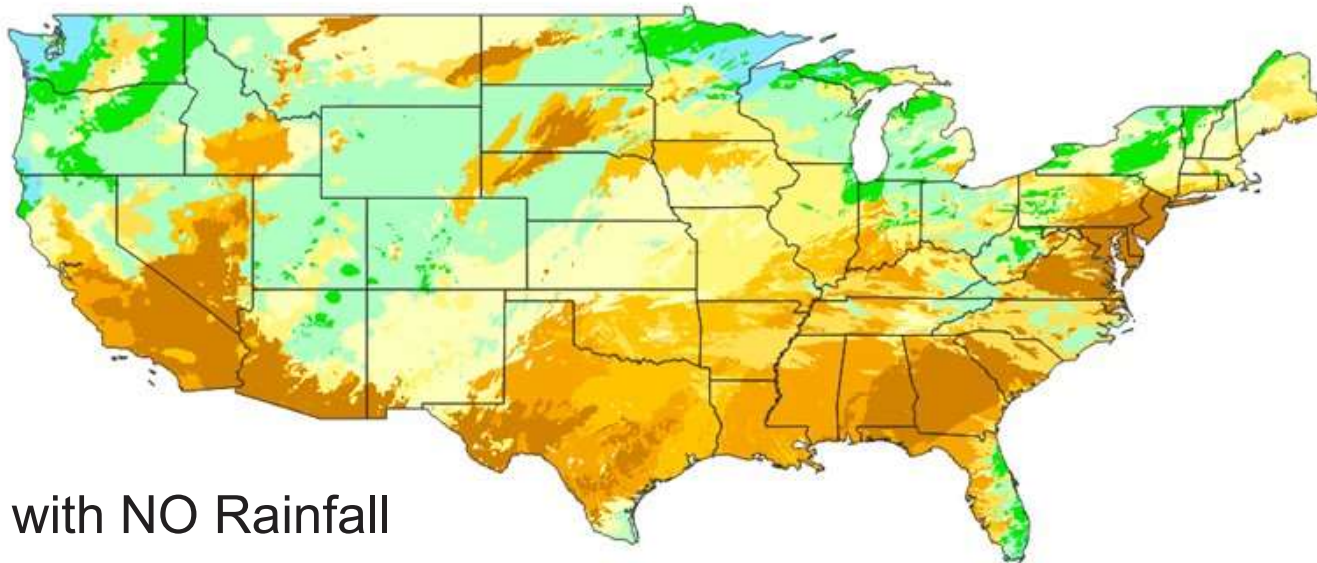


Maximum Consecutive Dry Days (CDD)*

in past 30 days, as of Nov 04, 2024

0-1 days

> 26 days



1st October with NO Rainfall



Map Produced by USGS/EROS

* Dry Day is rainfall < 0.04 in.





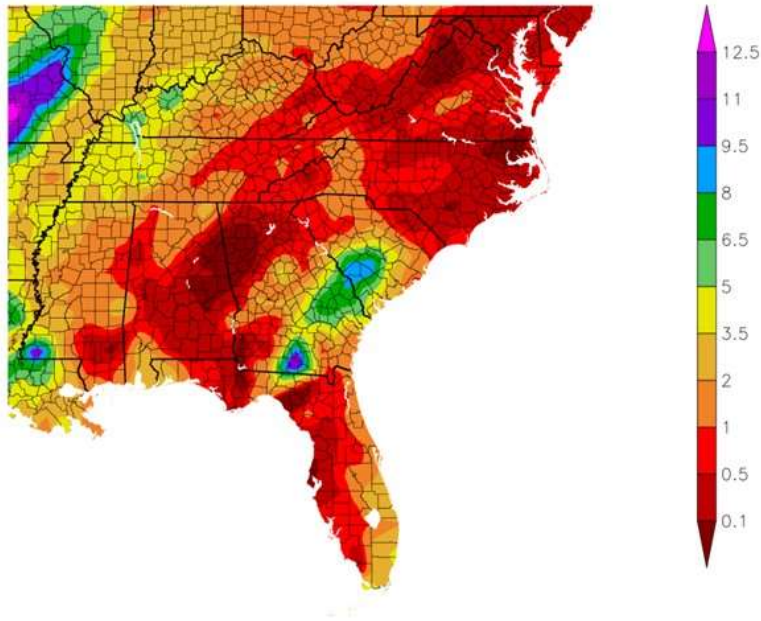
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RAINFALL IN LAST 30 DAYS



2nd driest October on record, over the past 130 years

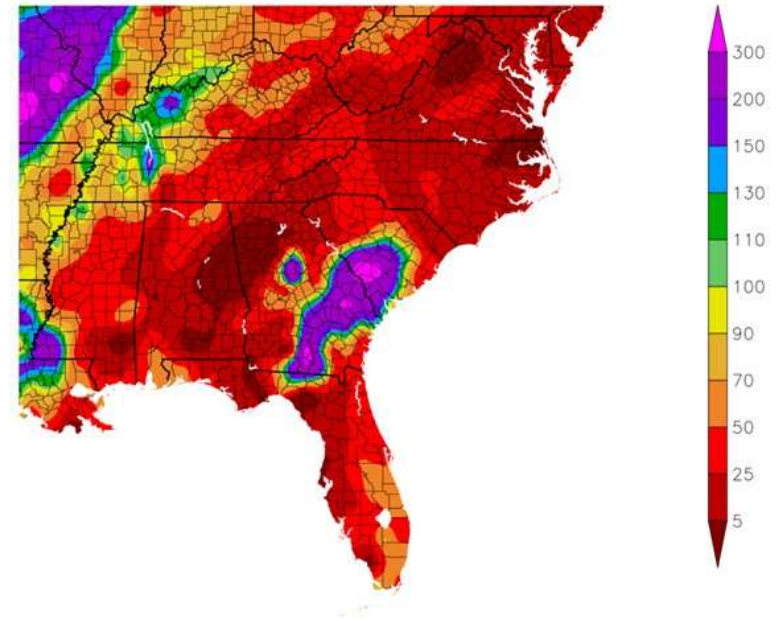
Precipitation (in)
10/13/2024 - 11/11/2024



Generated 11/12/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

Percent of Normal Precipitation (%)
10/13/2024 - 11/11/2024



Generated 11/12/2024 at HPRCC using provisional data.

NOAA Regional Climate Centers

ACF Basin 1 inch or less

ACF Basin 25% or less of Normal

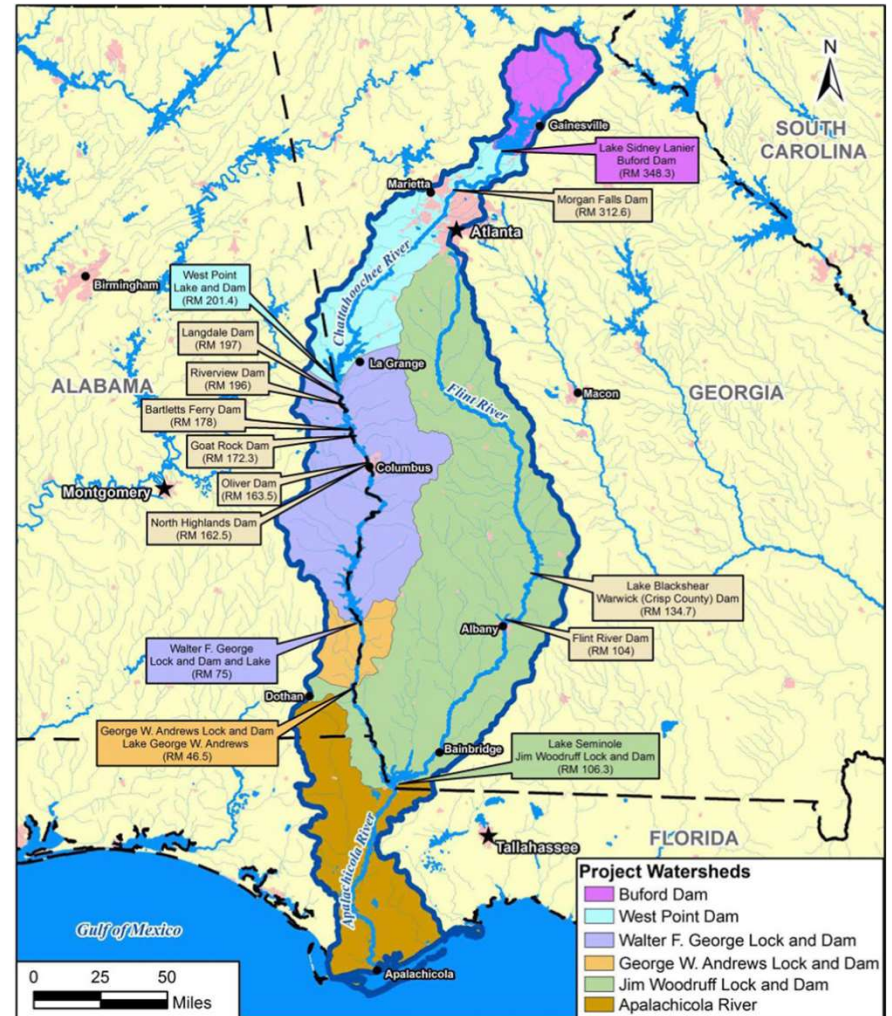
1st driest year to date over the past 130 years (January-October 2024)



BASIN LOCAL FLOWS

Unregulated Flows into the Reservoirs

- Buford local flow
- West Point local flow
- WF George local flow
- + Jim Woodruff local flow



LEGEND

- ACF Basin Boundary
- State Boundary
- ★ State Capital
- City
- Urban Area
- Surface Water
- Nonfederal Dam

Apalachicola, Chattahoochee, and Flint Rivers Basin Map

Figure 1.1-1





BASIN LOCAL FLOWS STATUS



AVG DAILY LOCALS SUMMARY

Average Daily Inflow to Lakes By Month

2024	BUFORD LOCALS			WEST POINT LOCALS			GEORGE LOCALS			WOODRUFF LOCALS			ACF TOTAL		
	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL (CFS)	2023 (CFS)	%
JAN	2,609	4,239	162%	4,092	5,789	141%	6,378	7,178	113%	15,140	10,976	72%	28,218	28,182	100%
FEB	2,938	2,679	91%	4,962	5,200	105%	7,705	11,254	146%	18,443	19,436	105%	34,049	38,569	113%
MAR	3,163	3,385	107%	5,460	7,461	137%	8,911	13,296	149%	20,018	22,907	114%	37,552	47,050	125%
APR	2,708	1,924	71%	4,220	3,249	77%	6,730	5,602	83%	17,271	17,531	102%	30,928	28,305	92%
MAY	2,091	2,279	109%	2,849	2,009	71%	3,262	6,345	195%	11,256	15,915	141%	19,458	26,548	136%
JUN	1,576	863	55%	1,975	430	22%	2,430	1,367	56%	8,979	7,773	87%	14,960	10,432	70%
JUL	1,359	1,107	81%	1,892	2,042	108%	2,569	2,022	79%	8,997	6,876	76%	14,818	12,047	81%
AUG	1,227	457	37%	1,320	143	11%	1,810	572	32%	7,393	6,743	91%	11,750	7,915	67%
SEP	1,058	2,268	214%	1,401	3,515	251%	1,462	8,681	594%	6,114	7,747	127%	10,035	22,211	221%
OCT	1,244	625	50%	1,424	495	35%	1,796	1,859	104%	6,411	12,118	189%	10,875	15,098	139%
NOV	1,489	660	44%	2,179	800	37%	2,459	908	37%	6,869	6,844	100%	12,996	9,212	71%
DEC	2,112			3,212			4,802			10,084			20,211		
YTD	1965	1862	95%	2916	2830	97%	4193	5371	128%	11415	12261	107%	20488	22324	109%
2023	BUFORD INFLOWS			WEST POINT INFLOWS			GEORGE INFLOWS			WOODRUFF INFLOWS			ACF TOTAL		
	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL AVG (CFS)	2024 AVG (CFS)	% NORMAL	HISTORICAL (CFS)	2023 (CFS)	%
JAN	2,609	4,239	162%	6,035	6,715	111%	12,842	13,920	108%	27,154	24,269	89%	48,640	49,143	101%
FEB	2,938	2,679	91%	7,070	7,321	104%	15,097	18,333	121%	33,044	38,513	117%	58,149	66,846	115%
MAR	3,163	3,385	107%	7,673	10,480	137%	16,590	23,171	140%	36,425	45,930	126%	63,850	82,967	130%
APR	2,708	1,924	71%	6,482	5,296	82%	13,168	10,366	79%	31,478	27,531	87%	53,836	45,116	84%
MAY	2,091	2,279	109%	4,954	4,085	82%	8,515	9,292	109%	19,647	25,097	128%	35,207	40,752	116%
JUN	1,576	863	55%	3,758	1,948	52%	6,553	3,400	52%	15,565	10,977	71%	27,452	17,188	63%
JUL	1,359	1,107	81%	3,670	3,130	85%	6,543	5,104	78%	15,430	11,689	76%	27,001	21,030	78%
AUG	1,227	457	37%	3,246	1,766	54%	5,803	3,923	68%	13,282	11,258	85%	23,558	17,403	74%
SEP	1,058	2,268	214%	3,132	4,755	152%	5,088	15,413	303%	11,346	21,944	193%	20,624	44,380	215%
OCT	1,244	625	50%	3,093	2,329	75%	5,216	4,261	82%	11,580	17,806	154%	21,132	25,020	118%
NOV	1,489	660	44%	3,763	2,124	56%	6,532	2,714	42%	13,277	9,352	70%	25,061	14,849	59%
DEC	2,112			4,864			10,126			19,902			37,005		
YTD	1965	1862	95%	4812	4541	94%	9339	9991	107%	20677	22215	107%	36793	38609	105%
2023	OKATIBBEE INFLOWS														



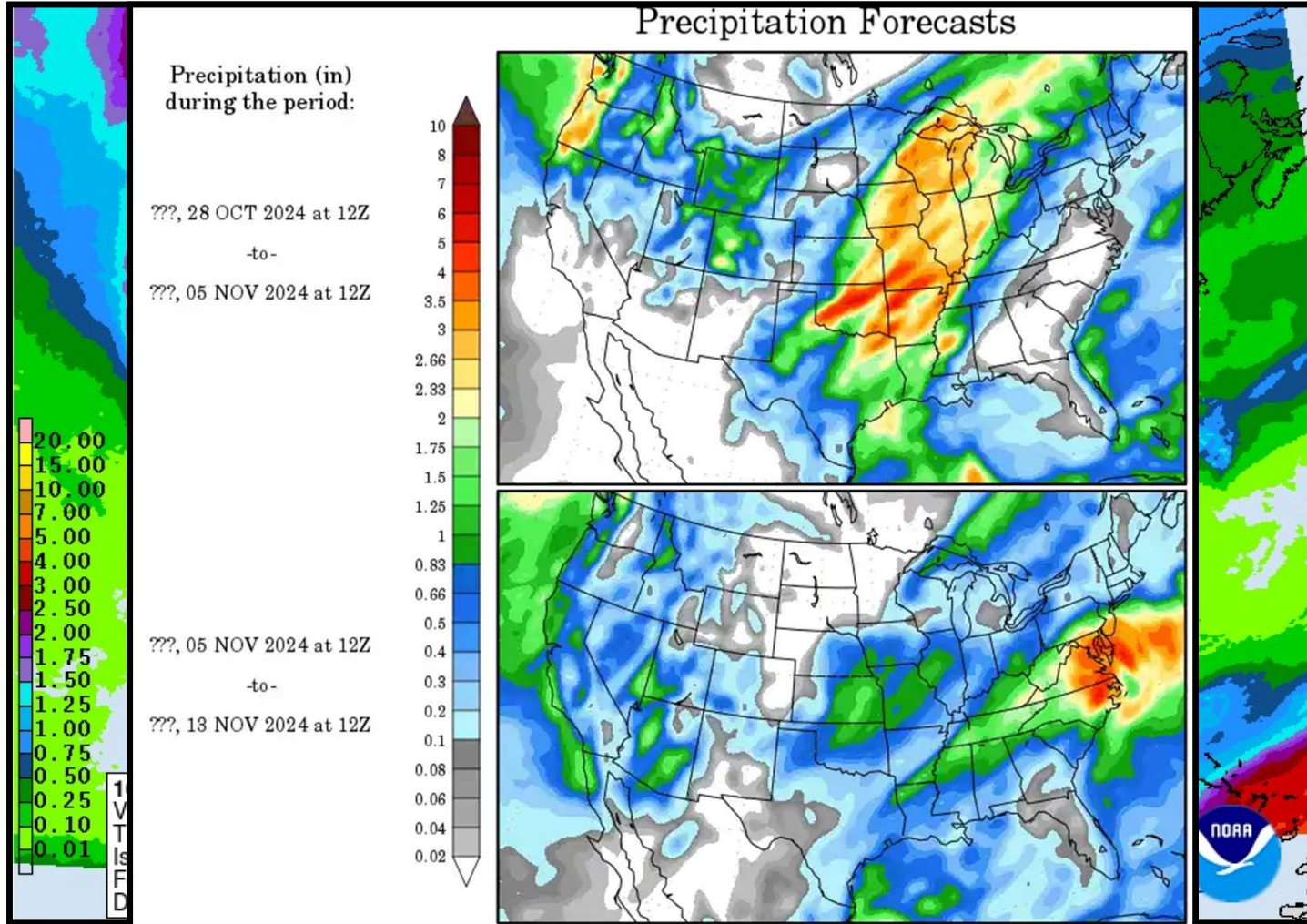
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PRECIPITATION FORECAST



7-day
0 inches

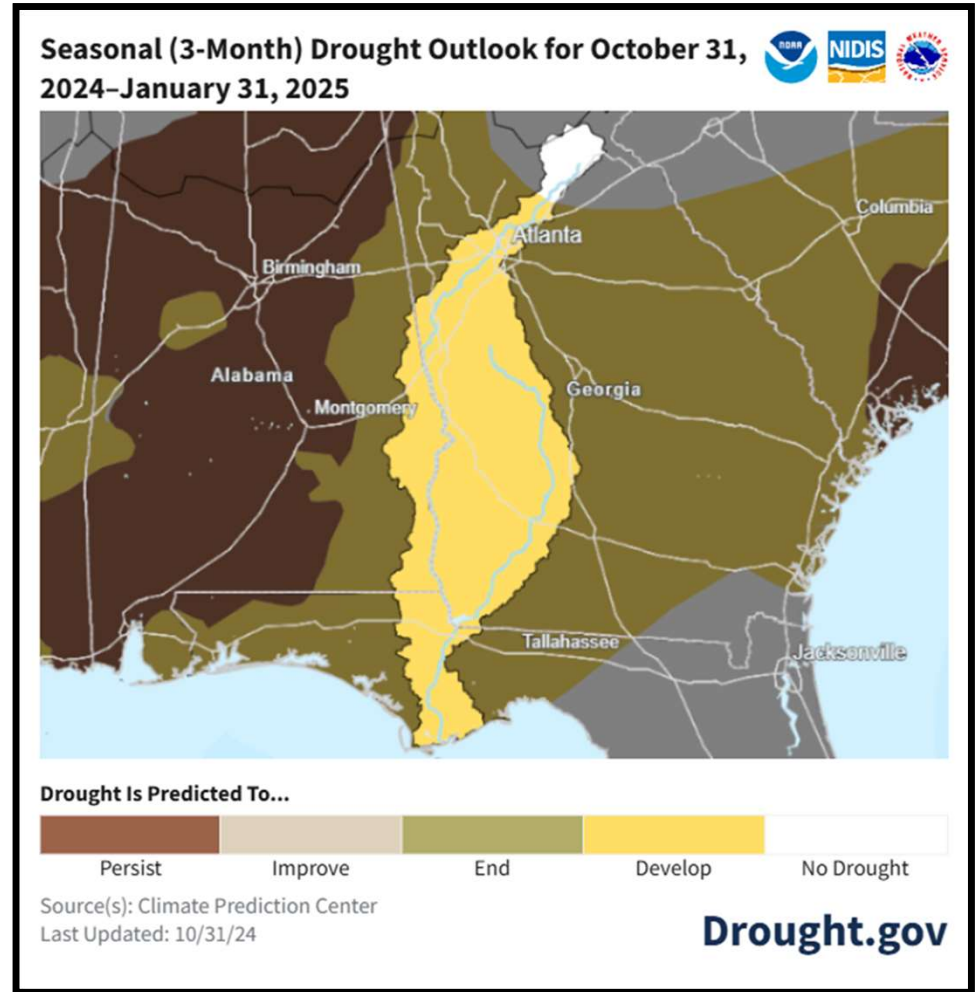
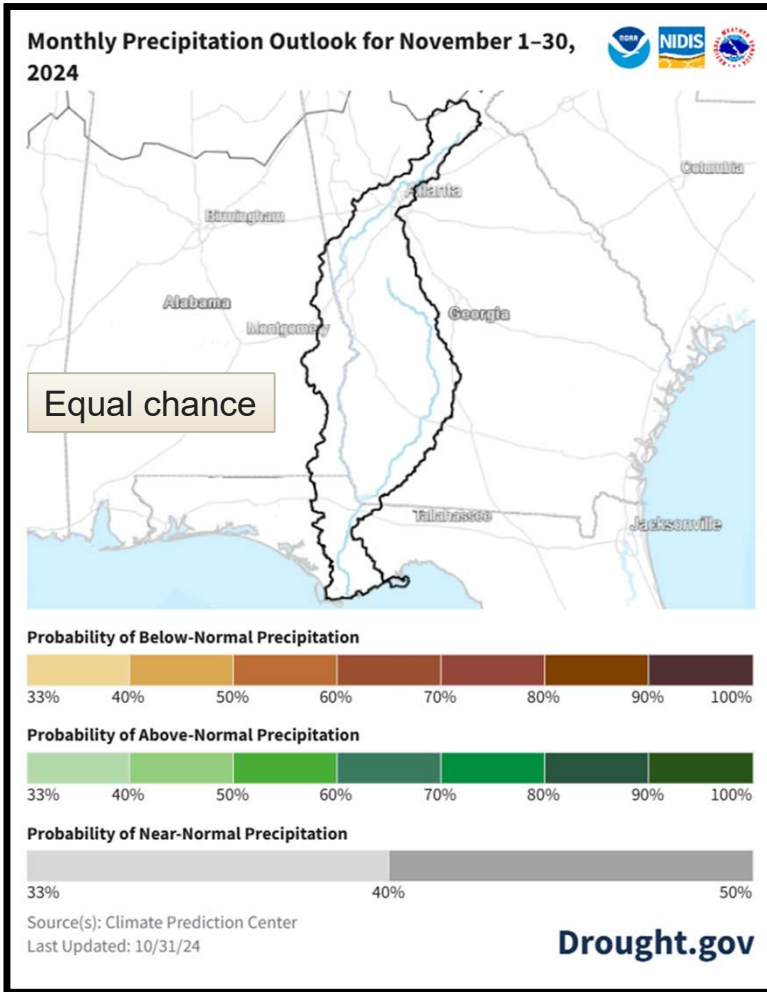
10-day
0.5 inches





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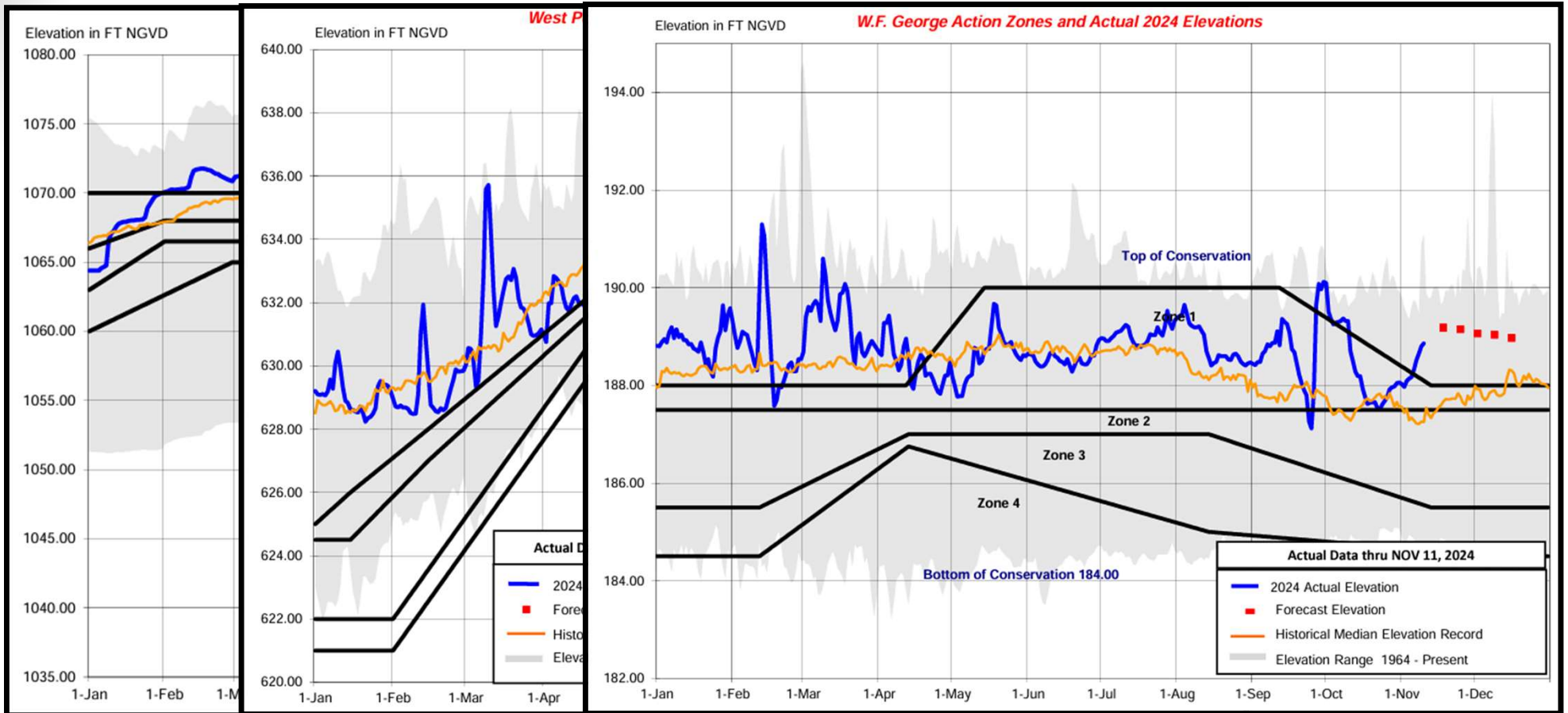
OUTLOOK





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RESERVOIR 5 WEEK FORECAST





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JIM WOODRUFF DISCHARGE

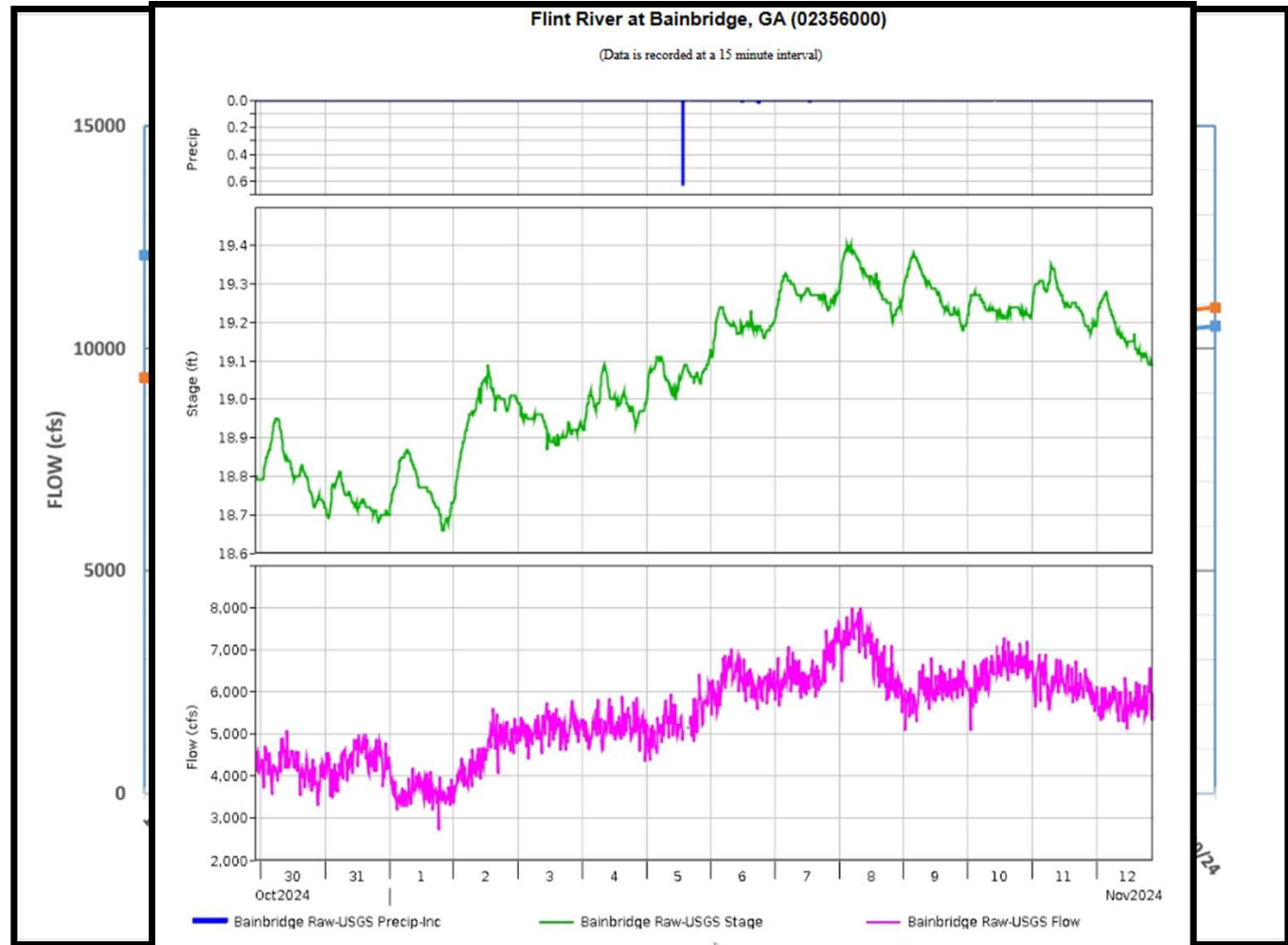


Jim Woodruff discharge currently ramping down (blue) to match Basin Inflow (orange)

No storage within reservoirs occurring at this time

Flint River providing 5,700 cfs of required 10,500 cfs (**54%**)

Base flow trending downward





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ACF COMPOSITE STORAGE



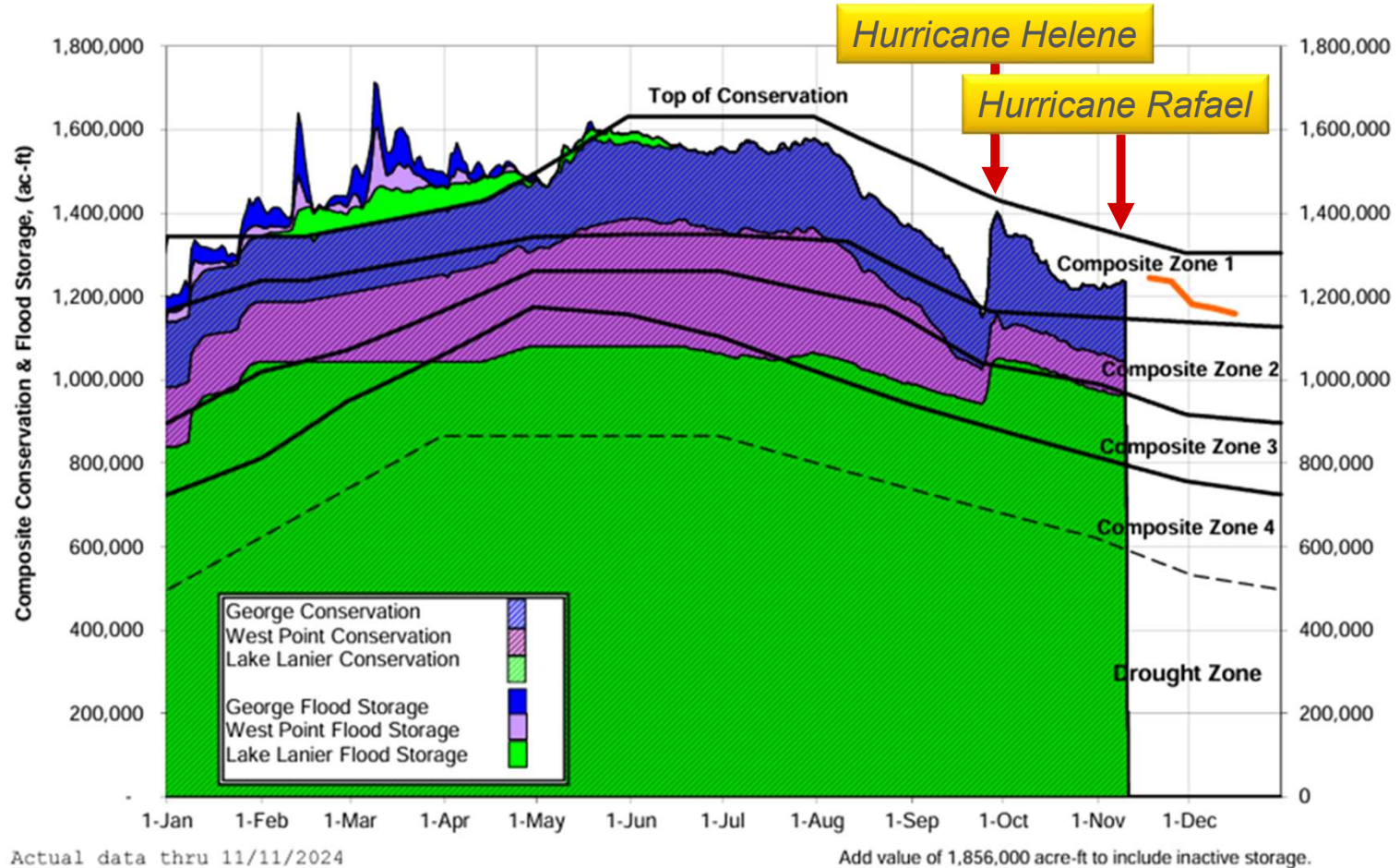
2024 ACF Basin Composite Conservation and Flood Storage

Impact of Hurricane Helene

- Buford + 2.9 ft
- West Point +1.4 ft
- WF George +3.0 ft

Our concern, if not for the Tropical system, drought operations may been trigger 01Nov2024

(composite zone 3)



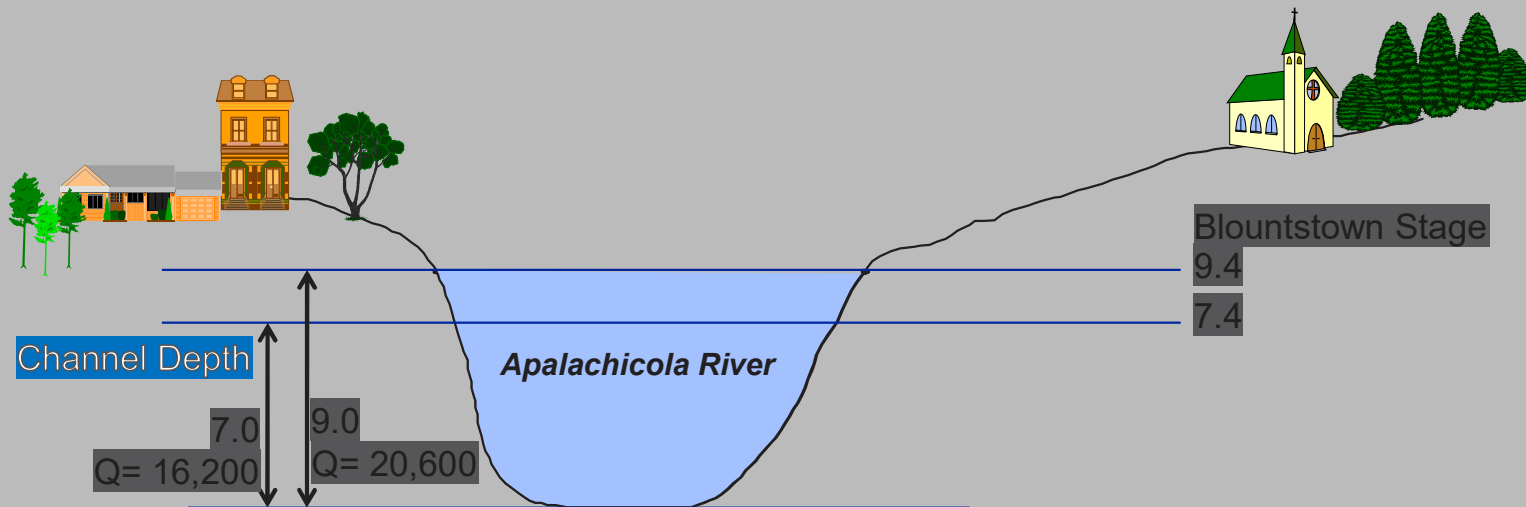
UPDATED APALACHICOLA CHANNEL SURVEY

Operation Memo 29Jun2010: Analysis of ACF Surveys

Blountstown Gage reading requirement for 7 and 9 foot channel

9 foot channel depth required gage of 9.4

7 foot channel depth required gage of 7.4



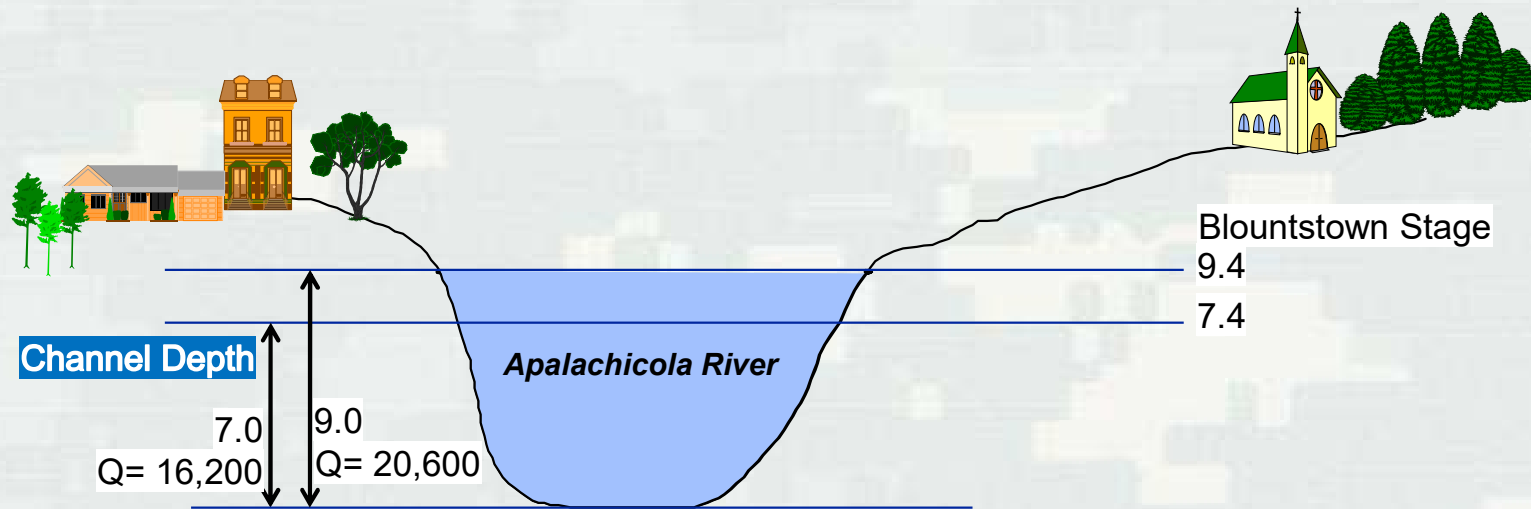
Updated Apalachicola Channel Survey

Operation Memo 29Jun2010: Analysis of ACF Surveys

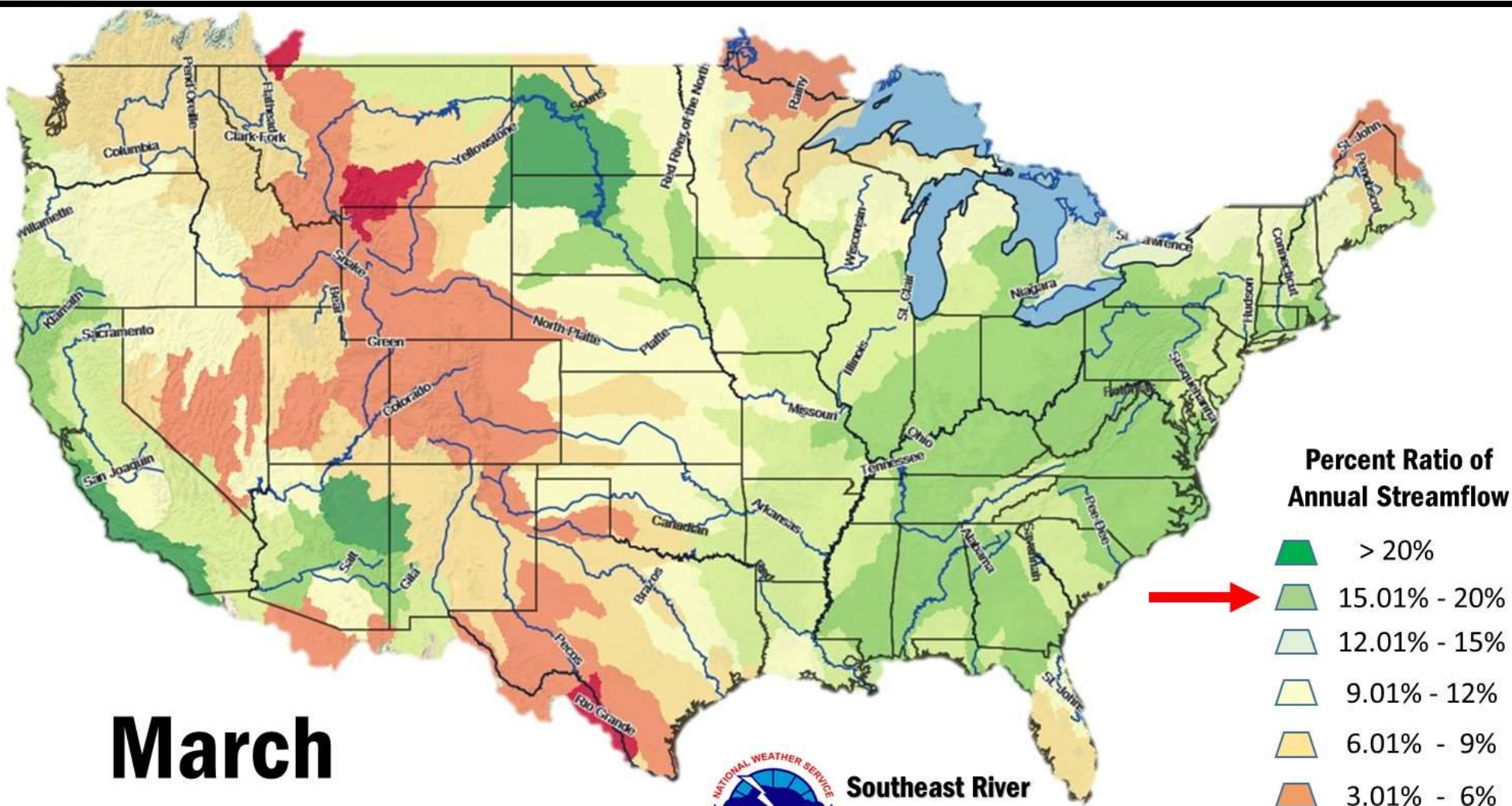
Blountstown Gage reading requirement for 7 and 9 foot channel

9 foot channel depth required gage of 9.4

7 foot channel depth required gage of 7.4



BUILDING STRONG®



Percent Ratio of Annual Streamflow

-  > 20%
-  15.01% - 20%
-  12.01% - 15%
-  9.01% - 12%
-  6.01% - 9%
-  3.01% - 6%
-  0% - 3%

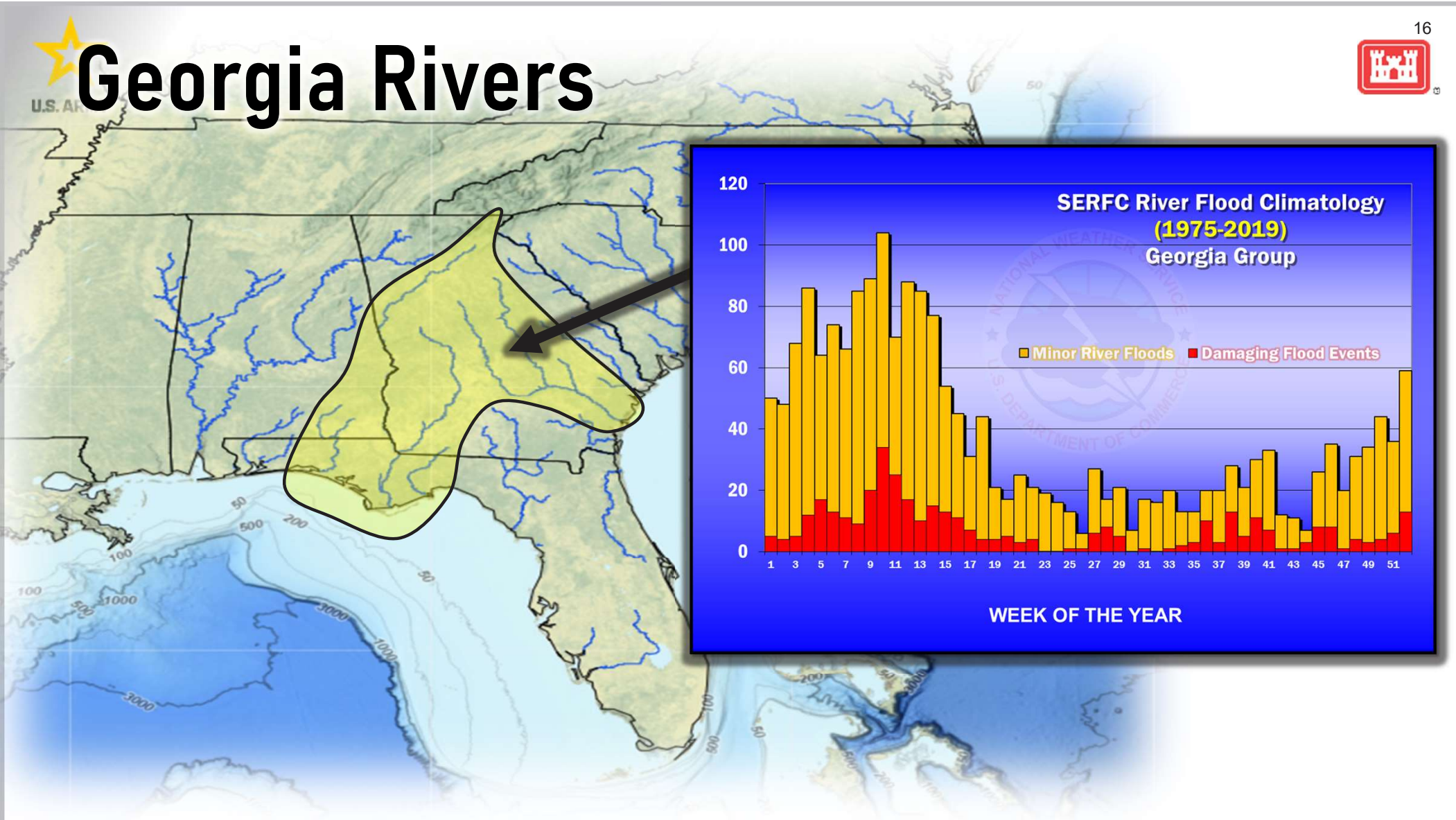


March



Southeast River Forecast Center

Georgia Rivers

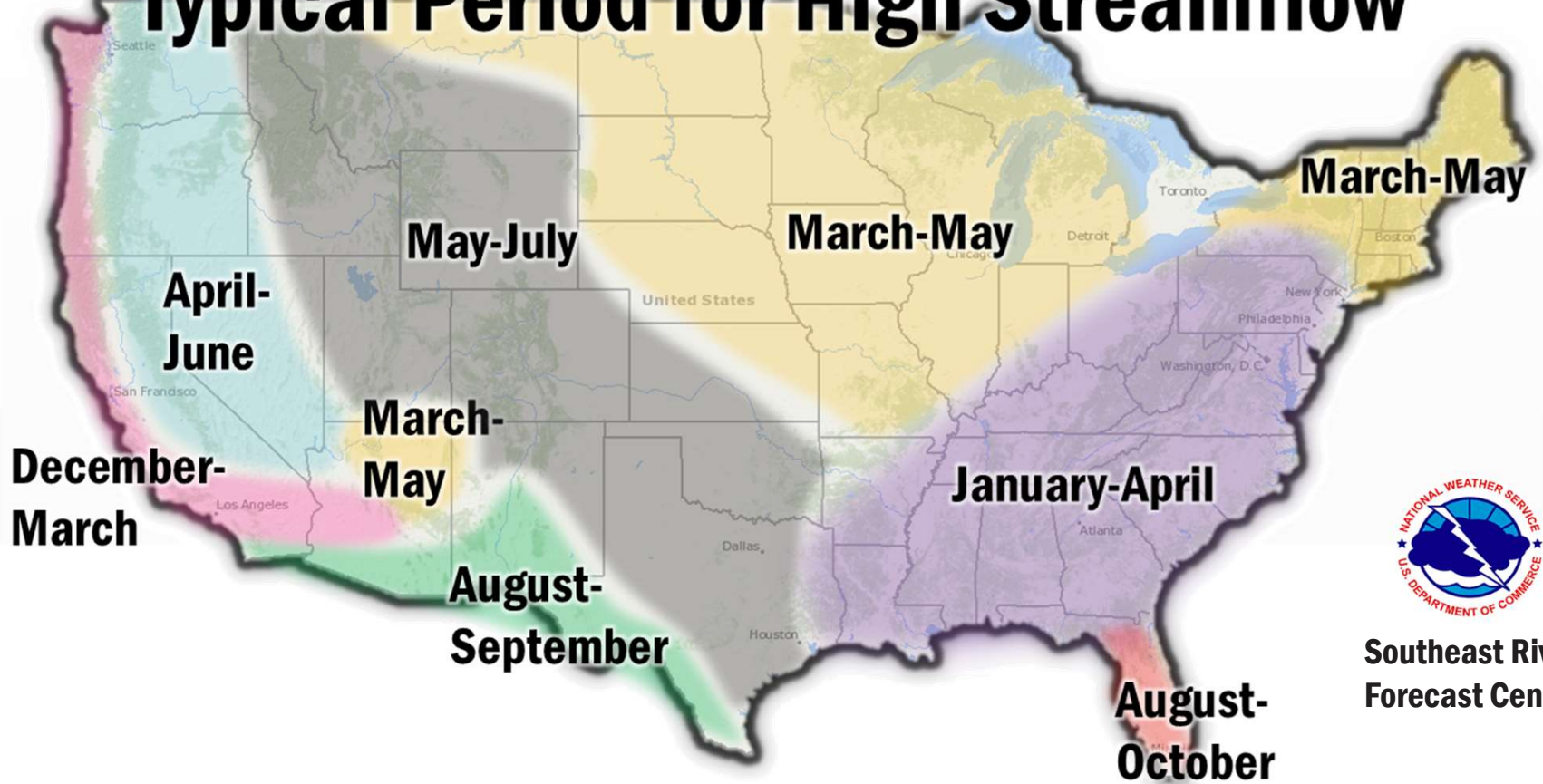




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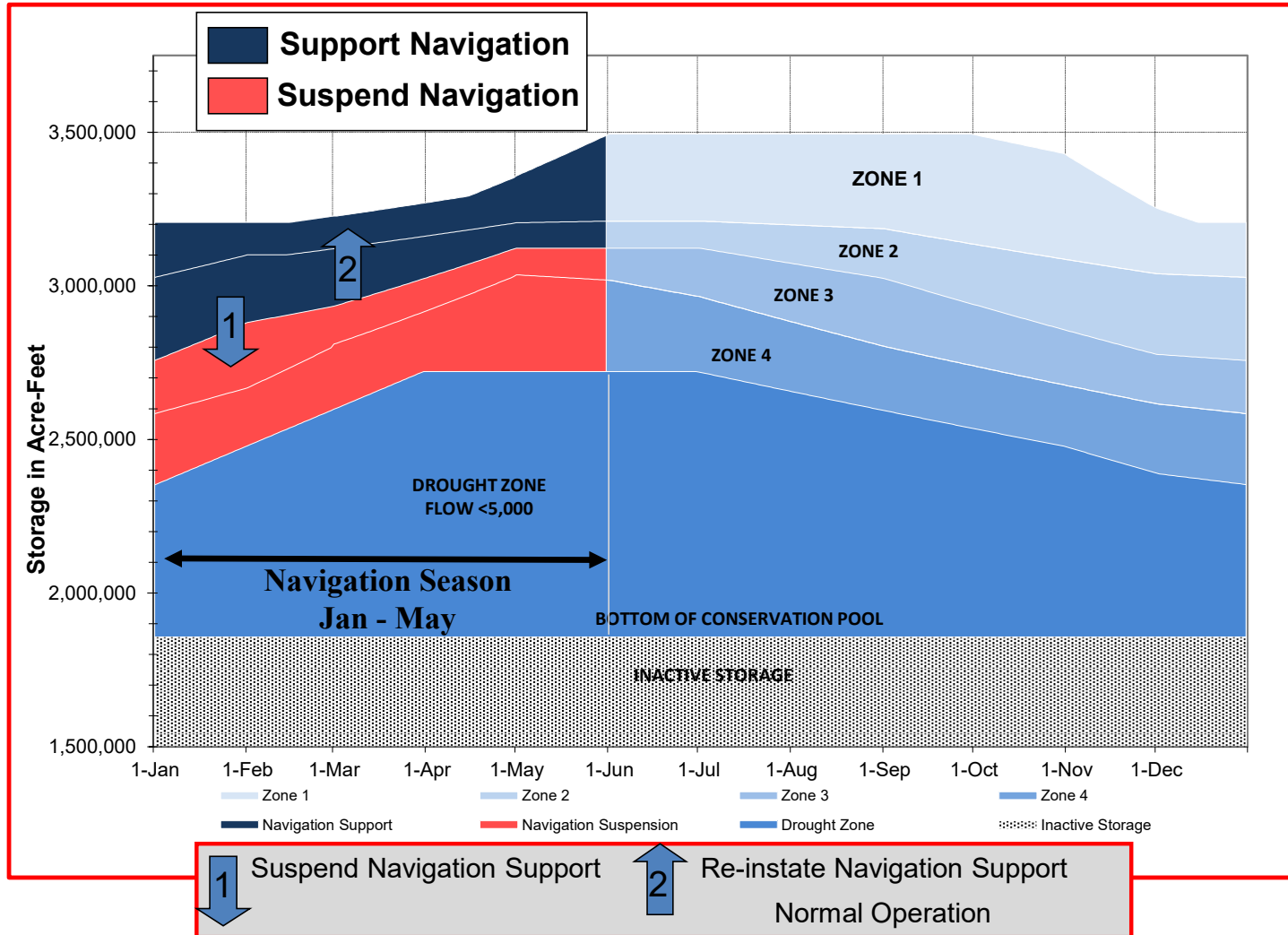
Typical Period for High Streamflow



Southeast River
Forecast Center



NAVIGATION SEASON COMPOSITE STORAGE





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WEST SPILLWAY GATE REPAIR OVERVIEW



- During repairs, the spillway gates being worked on will not be operational.
 - Normal Top of Flood Pool: **641.0 ft**
 - Top of stoplogs elevation : **637.0 ft**
 - Top of gate in closed position : **638.0 ft**
- Drawdown criteria to maintain flood control & routine operations
 - 2 Gate closed – Lower reservoir to elevation **625.0 ft**
 - Reservoir refill period – January through May



Stoplog

STOPLOG TEST, FY 2023

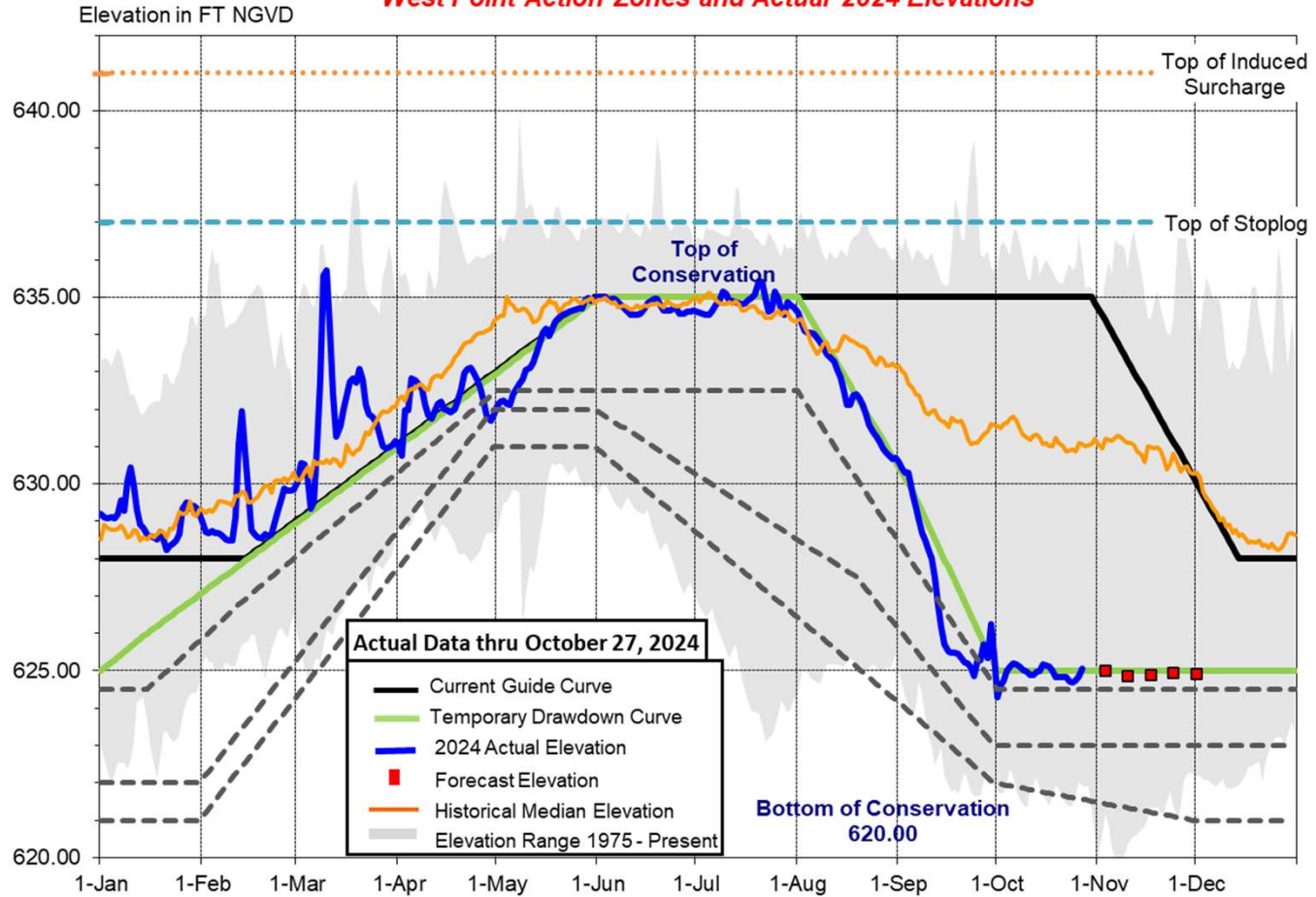
Spillway gate



WEST POINT TEMPORARY DRAWDOWN



West Point Action Zones and Actual 2024 Elevations





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WHAT IS THE SUSTAINABLE RIVER PROGRAM

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The goal and mission of the Sustainable Rivers Program (SRP) is to improve the health and life of rivers by changing operations of U.S. Army Corps of Engineers (USCAE) water resource infrastructure to restore and protect ecosystems, while maintaining or enhancing other project benefits (USACE/ TNC, 2021).



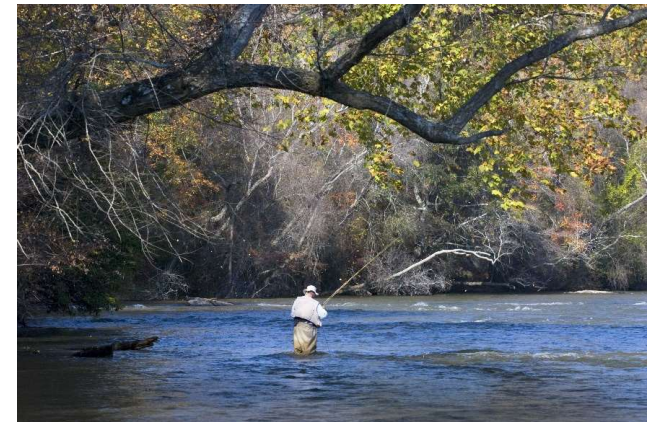
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BUFORD DAM (LAKE LANIER)

22



- Periodic Low water quality in late summer and fall
- Lanier Tailwater is designated as a secondary trout stream and supports a unique cold-water fishery for wild Brown and Rainbow Trout.
- Sustainable Rivers Program experimenting with house generating unit and sluice valves in unison to increased DO in the Lanier Tailwater.
- USACE will do a hydropower analysis to capture any net changes to generation.





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WOODRUFF LOCK & DAM (LAKE SEMINOLE)

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In addition to providing for minimum flow releases into the Apalachicola River, the Corps operates the system to provide favorable conditions for annual fish spawning, both in the reservoirs and the Apalachicola River. In most water years, it is not possible to hold elevation at Lake Seminole at steady or rising level for the entire spawning period.

Operating under the current SOPs at Lake Seminole has been difficult due to the lakes “Run of the River” nature. Currently USACE, Mobile Water Management and Environmental Teams work to avoid drops of no more than half a foot during the spawning season, as the reservoir rises and fall very quickly and often during the day.

This year the District experimented with a new goal to maintain the pool in the upper half of the operating range was agreed upon. An elevation minimum goal of 76.8 NGVD was set for the normal fish spawn period of 1 March – 1 May. This did not change net flow through the project.

These operations resulted in additional durations of appropriate spawning depths at identified spawning beds in the Flint Arm, the Chattahoochee Arm, and at the Dam Site.

The District is analyzing if permanent incorporation is appropriate.



ACF STAY AGREEMENT - FLOW OBJECTIVES



- **Flow Objective 1**

- ▶ maintain a minimum average daily flow of 1,350 cfs over any 7-day period at the gage located on the Chattahoochee River at 14th Street at Columbus, Georgia (Gage No. 02341460) when the ACF Basin is not in “Drought Zone Operations” as that term is defined in the 2017 ACF Master Manual

- **Flow Objective 2**

- ▶ maintain a minimum average weekday flow of 2,000 cfs at the gage located on the Chattahoochee River near Columbia, Alabama (Gage No. 02343801) when the ACF Basin is in “Drought Zone Operations” as that term is defined in the 2017 ACF Master Manual



- **Flow Objective 3**

- ▶ maintain the minimum average flows at Columbus, Georgia and Columbia, Alabama described in items (1) and (2) above, on two days each calendar week starting each Monday when the ACF Basin is in “Drought Zone Operations” as that term is defined in the 2017 ACF Master Manual

- **Flow Objective 4**

- ▶ maintain Lake Seminole at or above an elevation of 76 feet NVGD in the same manner and to the same extent as provided in the 2017 ACF Master Manual, and in particular the following paragraphs from Appendix A

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Ongoing Public Review of Draft ACF Operational Analysis and EA 18 Oct – 19 Nov 24

Integrated Letter Report and Tiered Environmental Assessment (ILR / TEA)

Water Control Manual Revisions

Public meeting 05 Dec 24 (Columbus, GA or Facebook Live)

Completed by 12 Dec 24

The screenshot displays a webpage for the ACF Document Library. The main content is a report titled "INTEGRATED LETTER REPORT AND TIERED ENVIRONMENTAL ASSESSMENT OF THE OPERATIONAL ANALYSIS AND TARGETED WATER CONTROL PLAN UPDATES FOR THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER BASIN IN ALABAMA, FLORIDA, AND GEORGIA". Below the title is the project ID: "EAXX-202-00-K5P-1727867613". The page features a large map of the river basin with numerous dams and locks labeled, including Lake Lanier, Lake Lanier (Old Dam), Lake Lanier (New Dam), Langdale Dam, Folsom Dam, Bartlett Ferry Dam, Goat Rock Dam, Oliver Dam, North Highlands Dam, Walter F. George Lock and Dam and Lake, and Georgia W. Andrews Lock and Dam. The map also shows major cities like Atlanta, Columbus, Albany, Tallahassee, and Jacksonville. A sidebar on the left contains navigation icons and a list of documents. At the top right, there is a navigation menu with options for "Home", "Documents", "News", "ACF", "Water Control Manual Updates", and "ACF Document Library". A QR code is visible in the bottom right corner of the screenshot.

<https://www.sam.usace.>

December 2024

[Control-Manual-Update/ACF-Document-Library/">Control-Manual-Update/ACF-Document-Library/](#)





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DRAFT EA RECOMMENDATION

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- ILR/TEA determine that there is de minimis difference on environmental, engineering, operational and economic considerations between the NAA and SAA.
 - Analyses conclude that the implementation of the SAA would meet the authorized purposes in the same manner as the NAA
 - It is recommended that the Stay Agreement Alternative is adopted and the appropriate corresponding updates to the water control manuals are conducted
-
- NAA – No Action Alternative
 - SAA – Stay Agreement Alternative



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