

OVERVIEW OF THE U.S. ARMY CORPS OF ENGINEERS OPERATIONS DURING LOW FLOW CONDITIONS IN THE SOUTHEAST

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Working Today to Build a Better Tomorrow

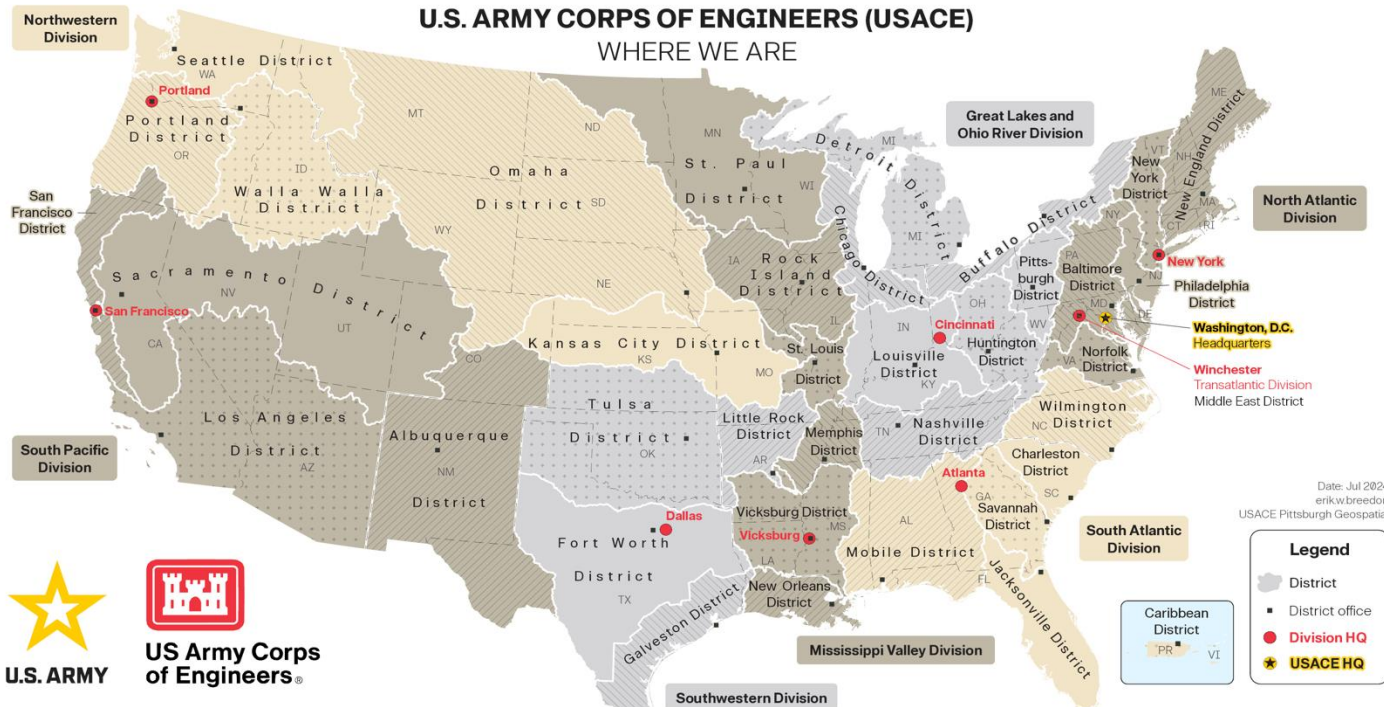


US Army Corps
of Engineers®





US ARMY CORPS OF ENGINEERS



- Other Organizations**
- 249th Engineer Battalion (Prime Power)
 - Army Geospatial Center (AGC)
 - Engineering and Support Center, Huntsville (HNC)
 - Engineer Research and Development Center (ERDC), 7 labs:
 - Coastal and Hydraulics Laboratory (CHL)
 - Cold Regions Research and Engineering Laboratory (CRREL)
 - Construction Engineering Research Laboratory (CERL)
 - Environmental Laboratory (EL)
 - Geospatial Research Laboratory (GRL)
 - Geotechnical and Structures Laboratory (GSL)
 - Information Technology Laboratory (ITL)
 - Humphreys Engineer Center Support Activity (HECSA)
 - Institute for Water Resources (IWR)
 - Marine Design Center (MDC)
 - USACE Finance Center (UFC)
 - USACE Logistics Activity (ULA)



- Primary Missions
 - Civil Works
 - Military
 - Organization:
 - 9 DIVISIONS
 - 44 DISTRICTS (?)
 - 7 RESEARCH LABORATORIES (ERDC)
- Fast Facts:**
- 37,000 Civilian and Soldiers
 - Working in 130 Countries

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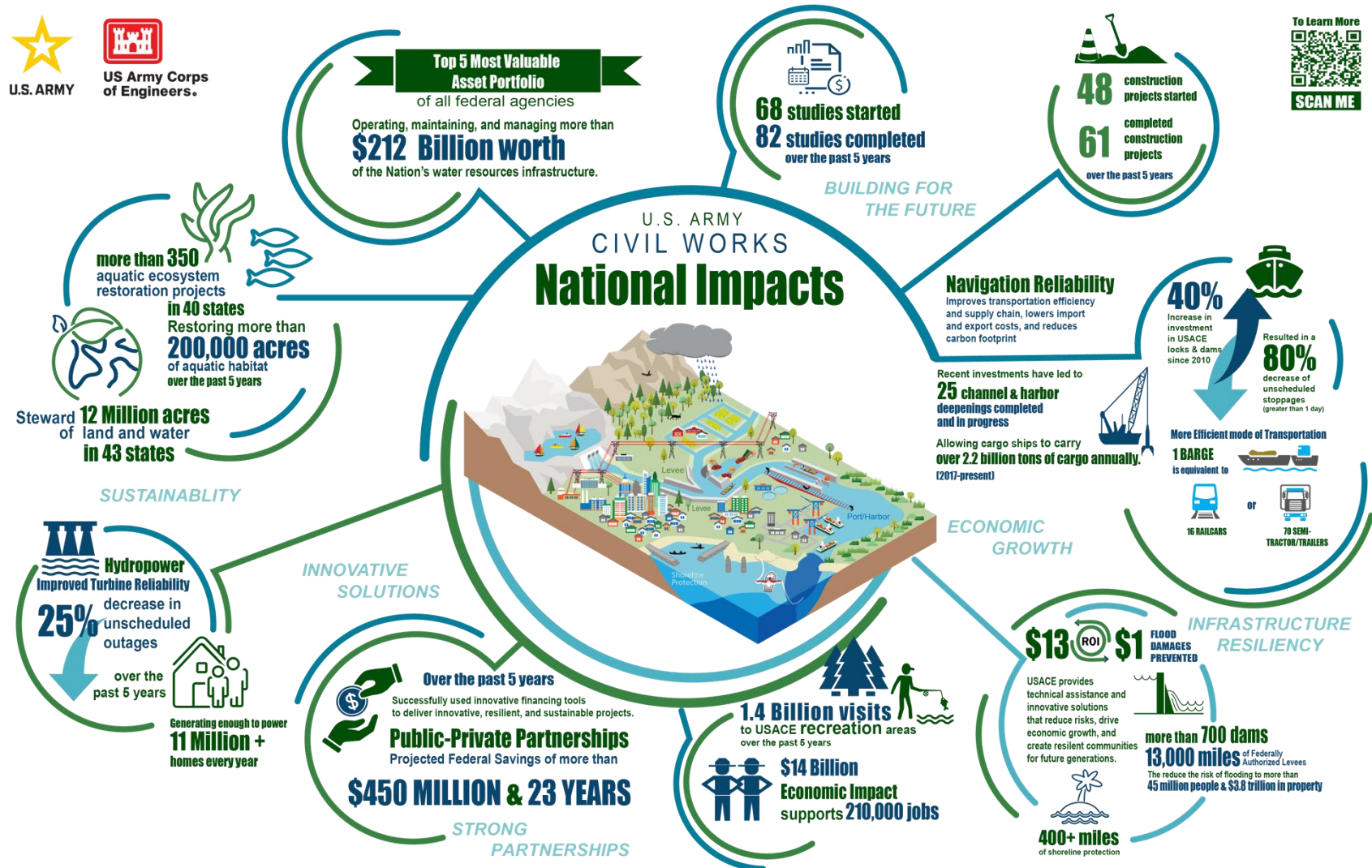
USACE, CIVIL WORKS PROGRAM



- Over 700 Dams
- 13,000 Miles of Federally Authorized Levees
- Over 400 Miles of Shoreline Protection
- Over 25,000 Miles of Channel
- 926 Harbors Maintained
- Largest Generator of Hydropower
- 5th Largest Electric Supplier
- Over 260 Million Visitors Annually to USACE Projects
- Over \$202 Billion Annually in Flood Damages Prevented (10 yr average)



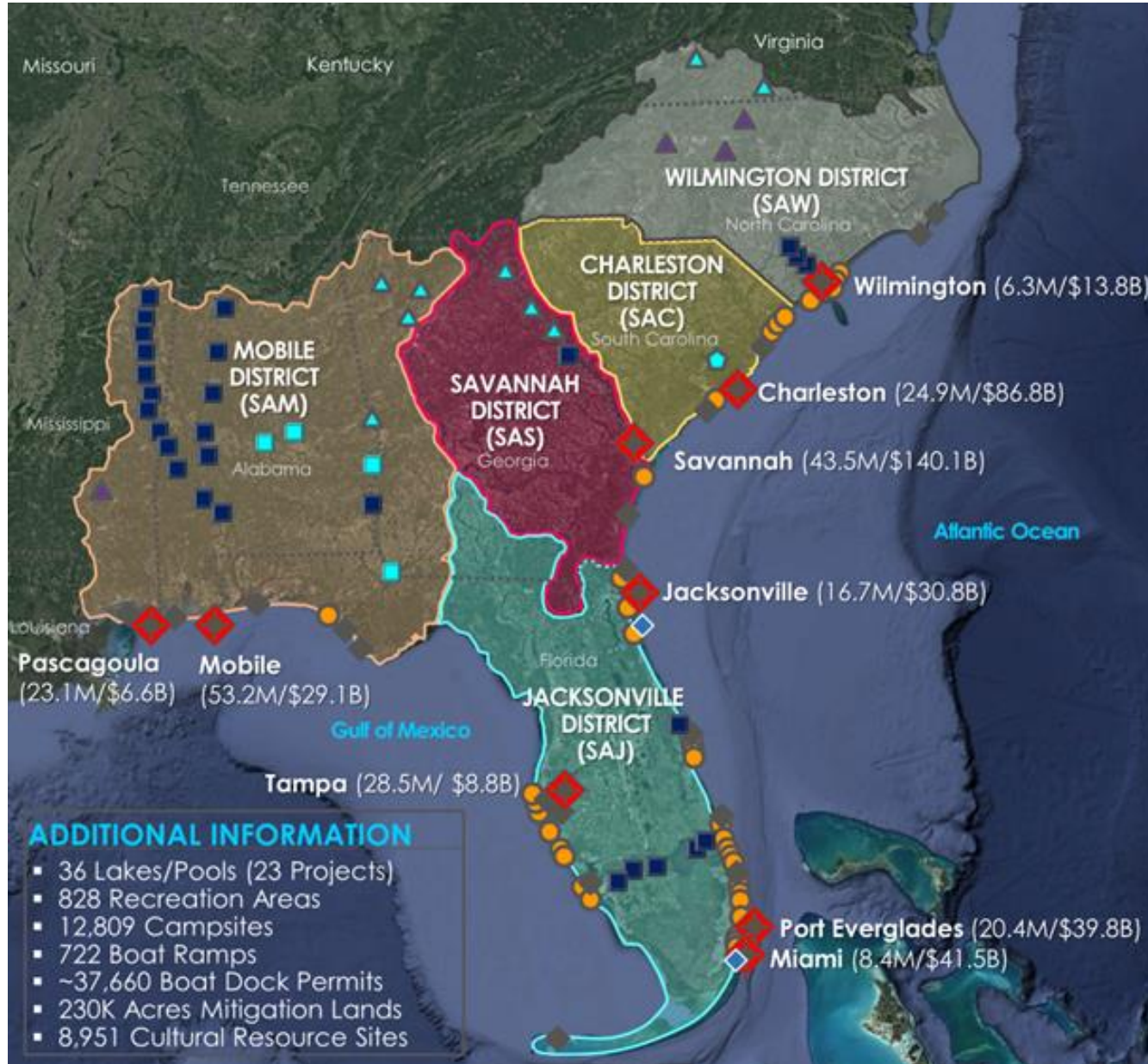
US Army Corps of Engineers.



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SOUTH ATLANTIC DIVISION



OPERATIONS DIVISION SOUTH ATLANTIC DIVISION (SAD) U.S. ARMY CORPS OF ENGINEERS

Area of Responsibility

- 1.5M Acres Land/Water | 10,852 Miles of Shoreline
- 6,630 Miles of Boundary

Hydropower

(14 Plants/5 States/3 Systems/64 Units/3,131 MW Capacity)

- ◆ Hydropower Only

Flood Risk Management

(14 Dams / 1,562 Miles of Levees)

- ▲ Flood Control
- ▲ Flood Control with Hydropower

Coastal Flood Risk Management

- Constructed Beach Segments (36)

Navigation

- ◆ Shallow Draft Harbors (121) – Not Illustrated
- ◆ Deep Draft Harbors (34)
- ◆ Top 10 Harbors (Tonnage/Cargo Value)
- Lock and Dams (32, 28 Active)
- Locks with Hydropower (4)

ADDITIONAL INFORMATION

- 36 Lakes/Pools (23 Projects)
- 828 Recreation Areas
- 12,809 Campsites
- 722 Boat Ramps
- ~37,660 Boat Dock Permits
- 230K Acres Mitigation Lands
- 8,951 Cultural Resource Sites



NOT TO SCALE



AUTHORIZED PURPOSES



- **Primary Purpose: The purpose for which the project was authorized by Congress**
 - 1.) Laws initially authorizing construction of the project*
 - 2.) Laws specific to the project passed subsequent to construction

**Typically, the specific information is contained in the Chief's Report*

- **General (Secondary) Purpose: Laws that apply generally to all USACE reservoirs**
 - PL 78-534, Flood Control Act of 1944 – provides authority to add recreation as a purpose and to contract for use of surplus water for domestic purposes
 - PL85-500, Title III, Water Supply Act of 1958 – provides authority to include storage for municipal and industrial water supply
 - PL 85-624, Fish and Wildlife Coordination Act of 1958 – provides authority to modify projects to conserve fish and wildlife
 - PL 92-500, Federal Water Pollution Control Act Amendments of 1972 – establishes goal to restore and maintain the quality of the Nation's waters
 - PL 93-205, Endangered Species Act of 1973 – provides authority for operating projects to protect threatened or endangered fish/wildlife

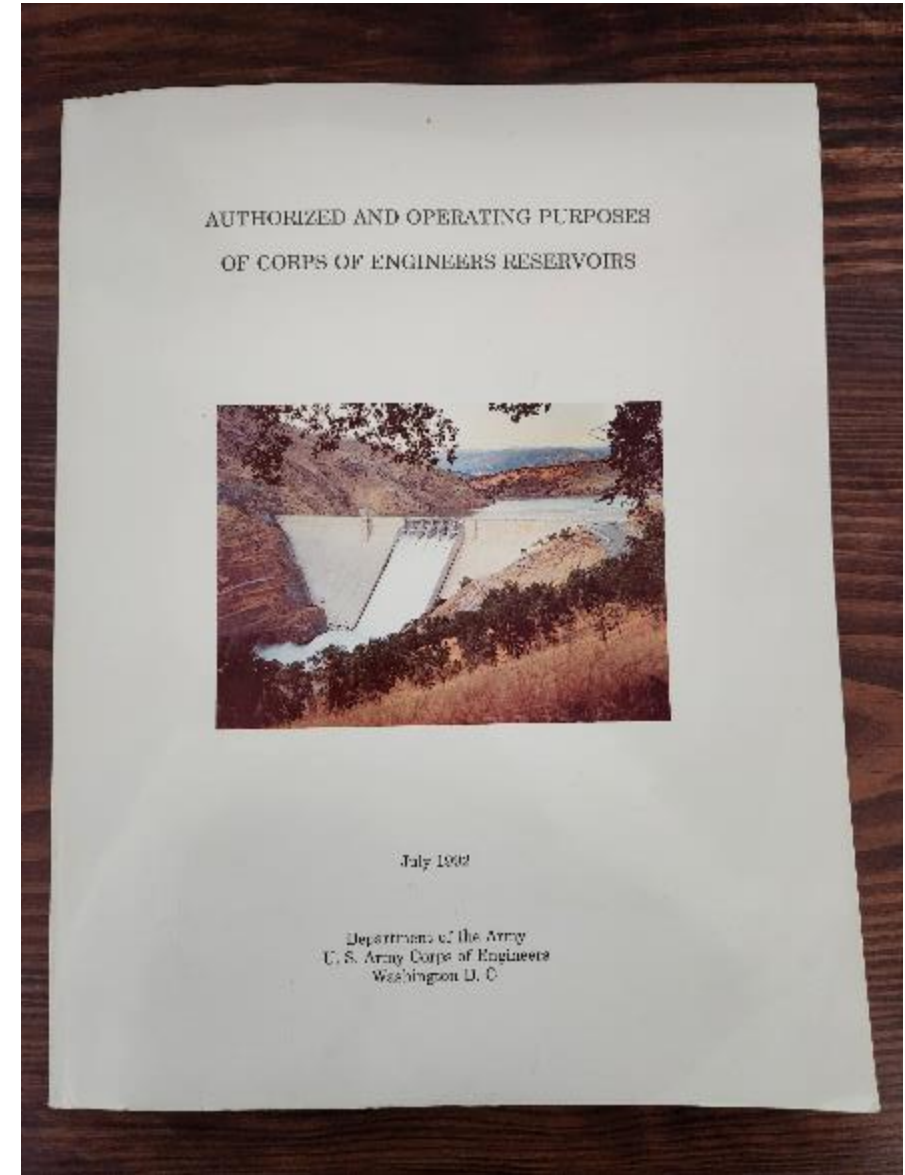


AUTHORIZED PURPOSES



8 General Categories:

- Flood Risk Management (formerly Flood Control)
- Navigation
- Hydropower
- Irrigation
- Municipal/Industrial Water Supply
- Water Quality
- Fish and Wildlife
- Recreation





ENGINEERING REGULATIONS



Water Management Related Official Policies and Procedures

ER – 1110-2-240 – Water Control Management

ER – 1110-2-249 – Management of Water Control Data Systems

ER – 1110-2-1400 – Reservoir/Water Control Management

ER – 1110-2-1941 – Drought Contingency Plans

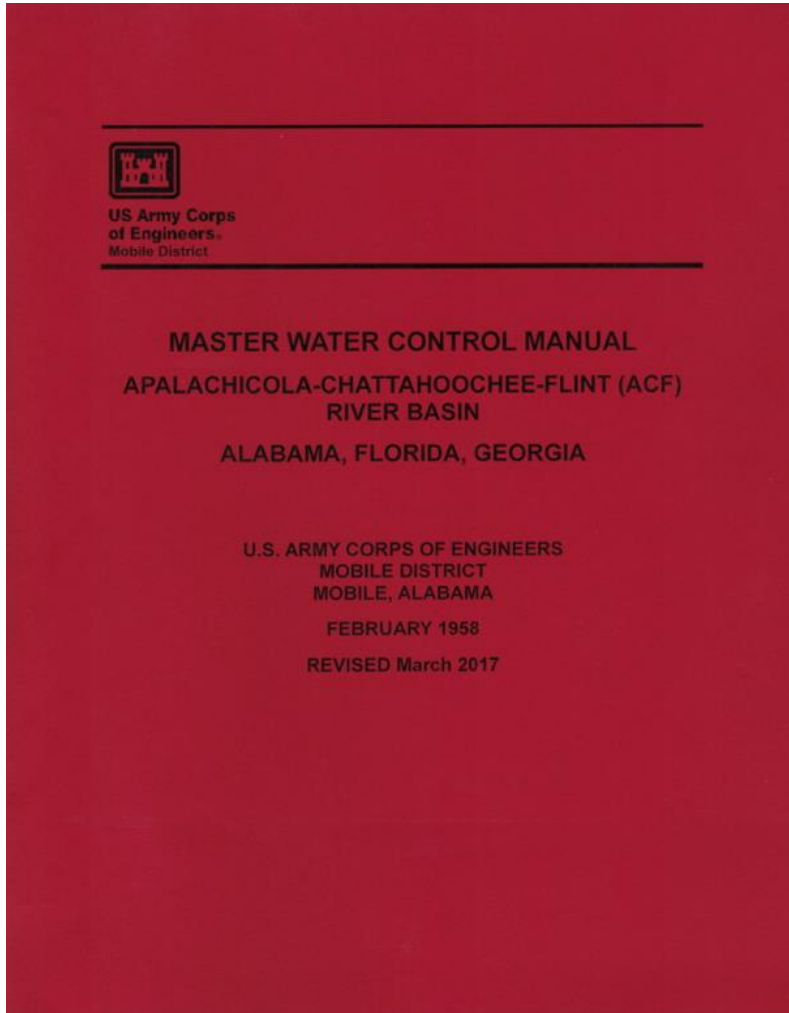
ER – 1110-2-8154 – Water Quality Management

ER – 1110-2-8156 – Preparation of Water Control Manuals

ER – 1165-2-119 – Modifications to Completed Projects



HOW DOES USACE OPERATE THESE PROJECTS?



Projects are operated by approved water control plans/manuals.

3 Basic Objectives:

- 1.) Operate in accordance with authorized purposes and applicable law
- 2.) Maintain the structural and operational integrity of the project
- 3.) Avoid risk to the public health and safety, life and property

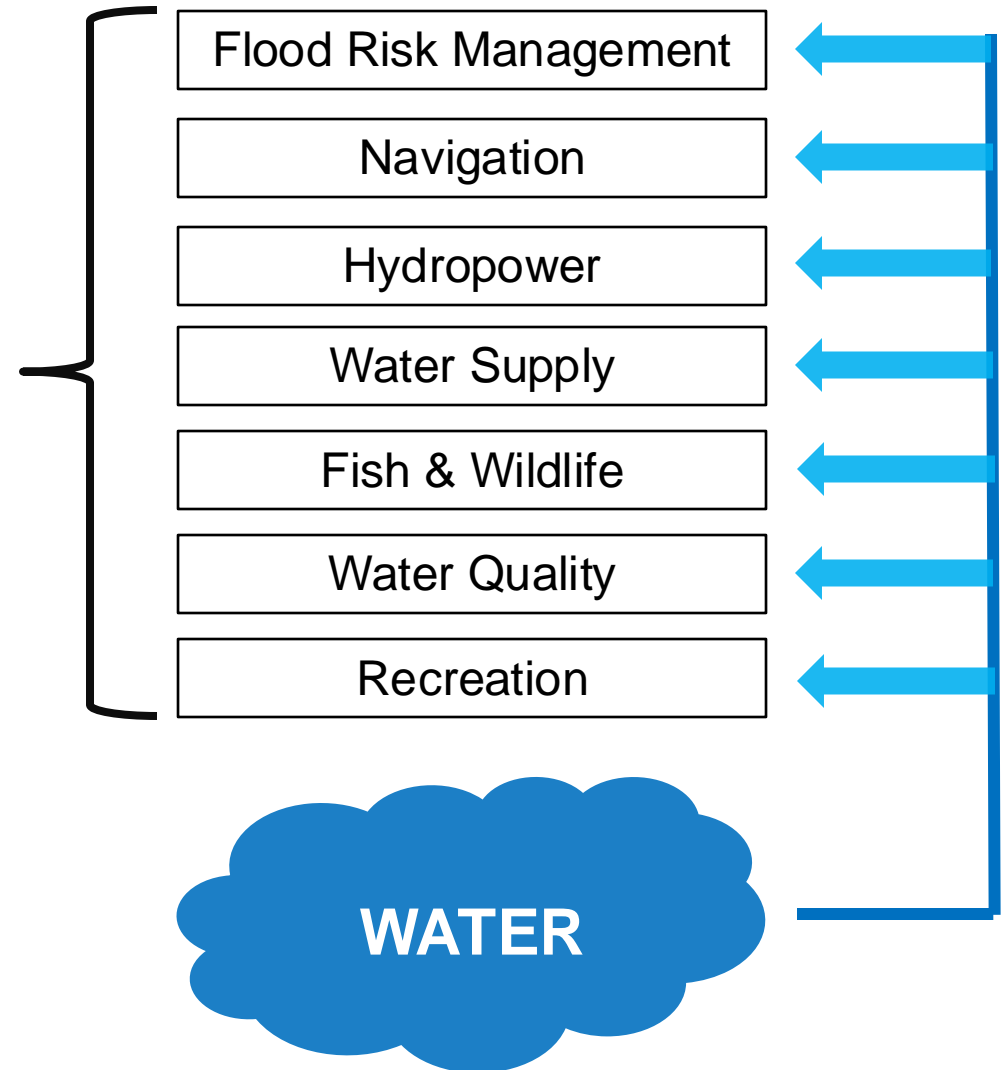


WATER CONTROL PLANS & MANUALS



- The main purpose of the water control manual is to direct the day-to-day operation of the project/system.
- The plan should address foreseeable conditions affecting the operation of a project or system. (Flood & Drought Operations)
- The goal of the water control plan to conform project operation to authorizing legislation.
- If a project is authorized for multiple purposes, the water control plan will need to strike a balance among the project purposes.

Competing Priorities



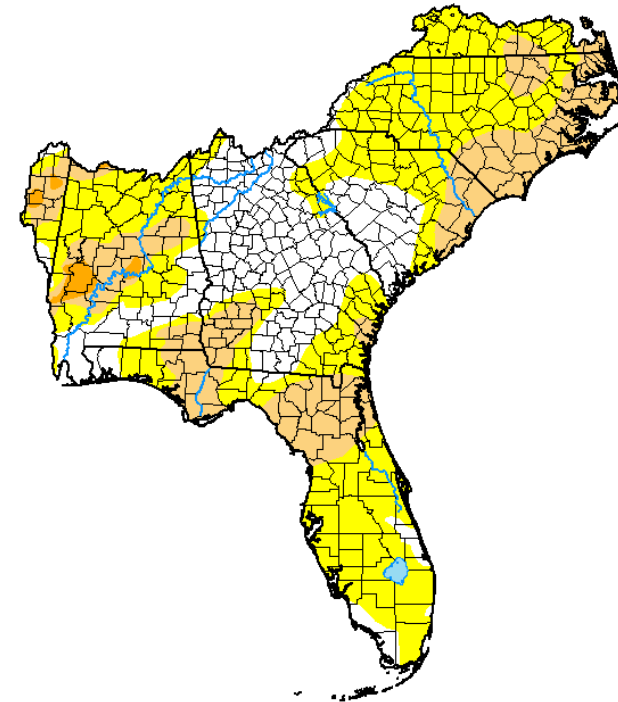


DROUGHT CONTINGENCY PLANS



- Required by ER 1110-2-1941 – Drought Contingency Plans
- Drought Contingency Plans identify potential modifications to operations that increase the projects capability to respond to drought under current *authorities*, regulations and policies.
- Drought Contingency Plans are integrated into the water control plans.
- Drought Contingency Plans are based upon best available science at that time.

U.S. Drought Monitor Southeast RFC



December 31, 2024
(Released Wednesday, Jan. 1, 2025)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	27.65	72.35	25.09	1.20	0.00	0.00
Last Week 12-24-2024	18.66	81.34	26.04	1.57	0.00	0.00
3 Months Ago 10-01-2024	80.96	19.04	5.87	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	50.42	49.58	26.44	12.57	3.26	0.44
Start of Water Year 10-01-2024	80.96	19.04	5.87	0.00	0.00	0.00
One Year Ago 01-02-2024	50.42	49.58	26.44	12.57	3.26	0.44

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate 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>

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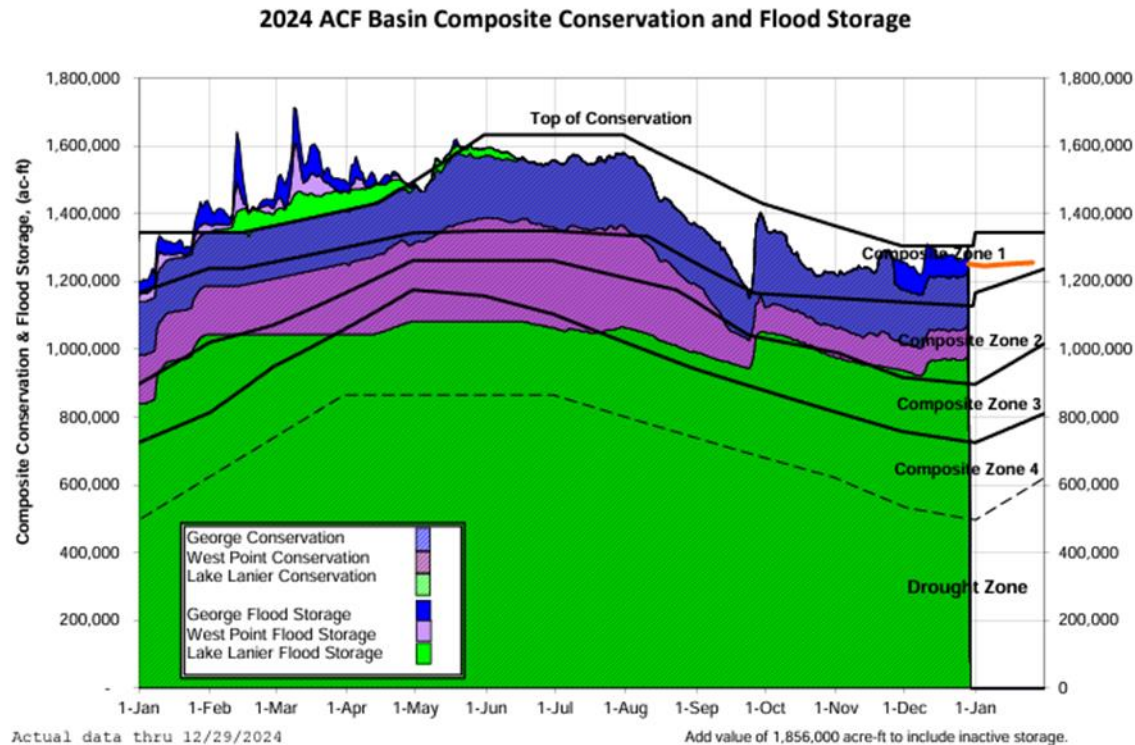
droughtmonitor.unl.edu



DROUGHT CONTINGENCY PLANS



- Plans have metrics or triggers to identify drought conditions and end of drought conditions, such as:
 - Reservoir Pool Level
 - Basin Composite Storage
 - Reservoir Inflow percentages
 - Combination of above
- Typical response is to modify or reduce reservoir releases
- Plans usually include some coordination component
- Drought Contingency Plans are to be within authorities of the project





OPERATIONS TO SUPPORT ECOLOGY



Pulse Releases

Downstream ramping rates

Releases to support fish spawn

Split releases (being studied) – turbines and sluice

Quasi-Run of River (QRR)

*Measures listed are unique operations to individual projects.

**Measures listed are not implemented or implementable at every project.

Sustainable Rivers Program





Questions?

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