



Northeast Florida Regional Council  
Military Installation Readiness Review

# Technical Advisory Committee



November 20, 2025

**Jacobs**

# Agenda

<b>1:00 pm</b>	Welcome and Introductions
<b>1:10 pm</b>	Water resources in Duval and Clay counties - <i>Cori Hermle, SJRWMD</i>
<b>1:30 pm</b>	Wind-related impacts – <i>Angie Enyedi, NWS</i>
<b>1:50 pm</b>	Wildfire mitigation efforts – <i>Matt Corby Camp Blanding Joint Training Facility</i>
<b>2:10 pm</b>	Land management practices – <i>Clay County Staff</i>
<b>2:30 pm</b>	Mutual Aid Agreements – <i>Throwe Environmental</i>
<b>2:50 pm</b>	Next Steps & Questions

# Technical Advisory Committee Mission

- **Mission:** To discuss relevant topics, provide expert opinion, follow up questions on assessment and adaptation, review preliminary findings and foster the identified outcomes toward implementation.



# Today's Technical Advisory Committee Meeting Objectives

- To inform the vulnerability assessment with regional and professional insight, - discuss
  - wind related impacts within the region.
  - water resources in Duval and Clay County
  - Wildfire mitigation efforts and wildfire management in the region.
  - Task 5 – Mutual aid agreements



# Welcome & Introductions



# Introductions

# Water





# Key Water Challenges in NE Florida

## Northeast Florida Military Installation Readiness Review (MIRR) Technical Advisory Committee

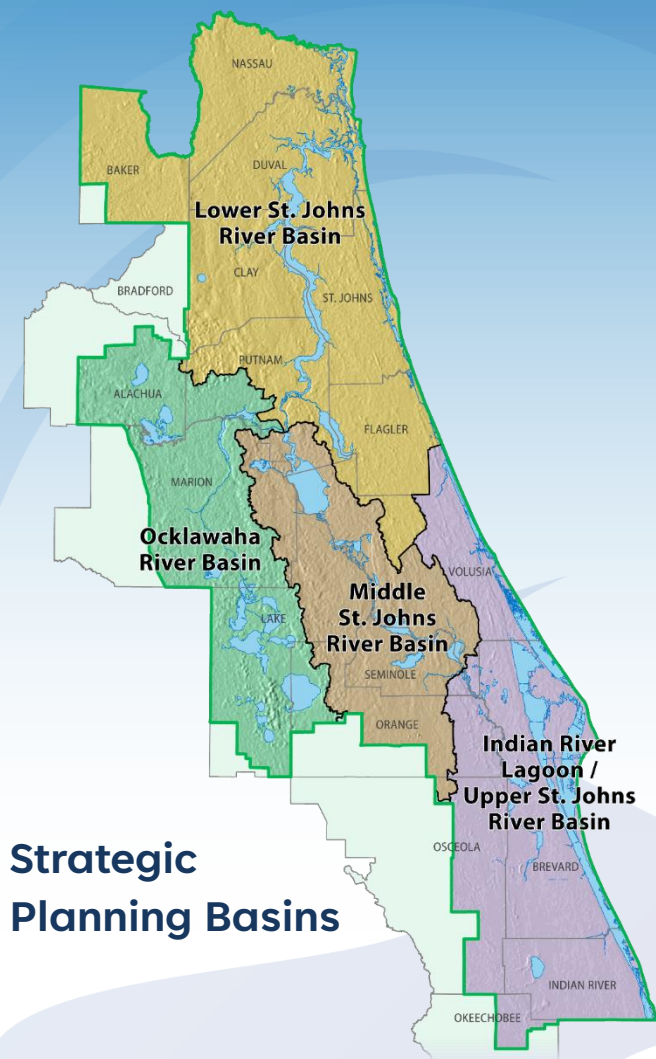
Cori Hermle, Strategic Planning Basin Coordinator  
Bureau of Basin Management and Project Development



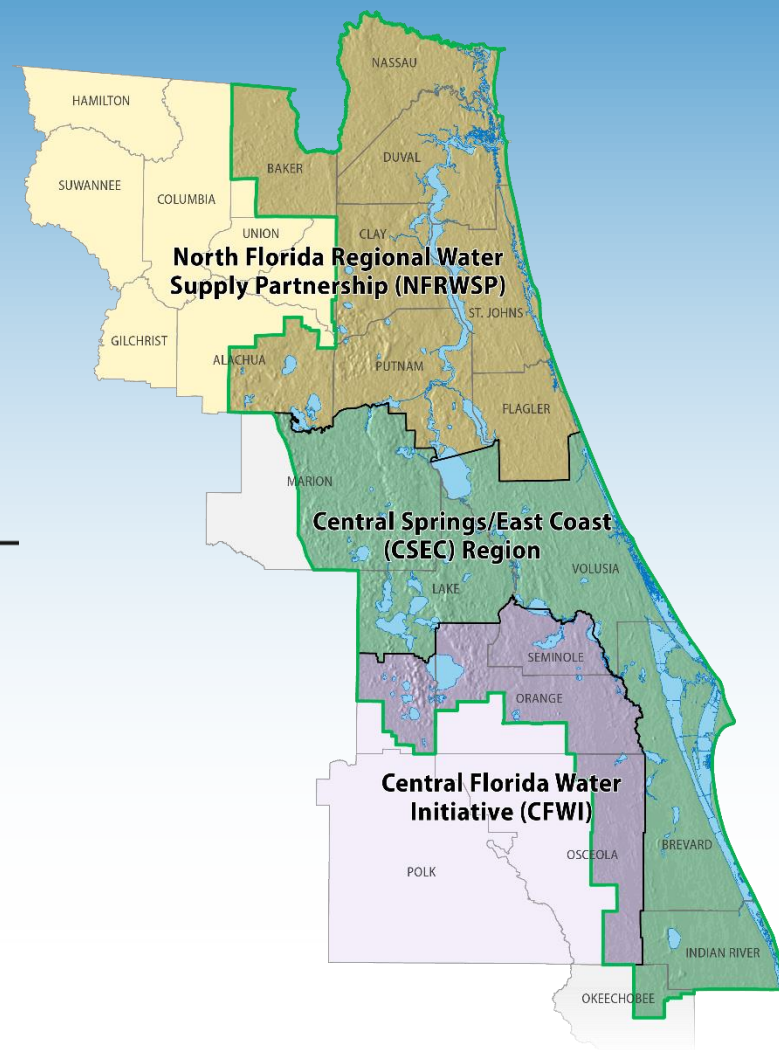
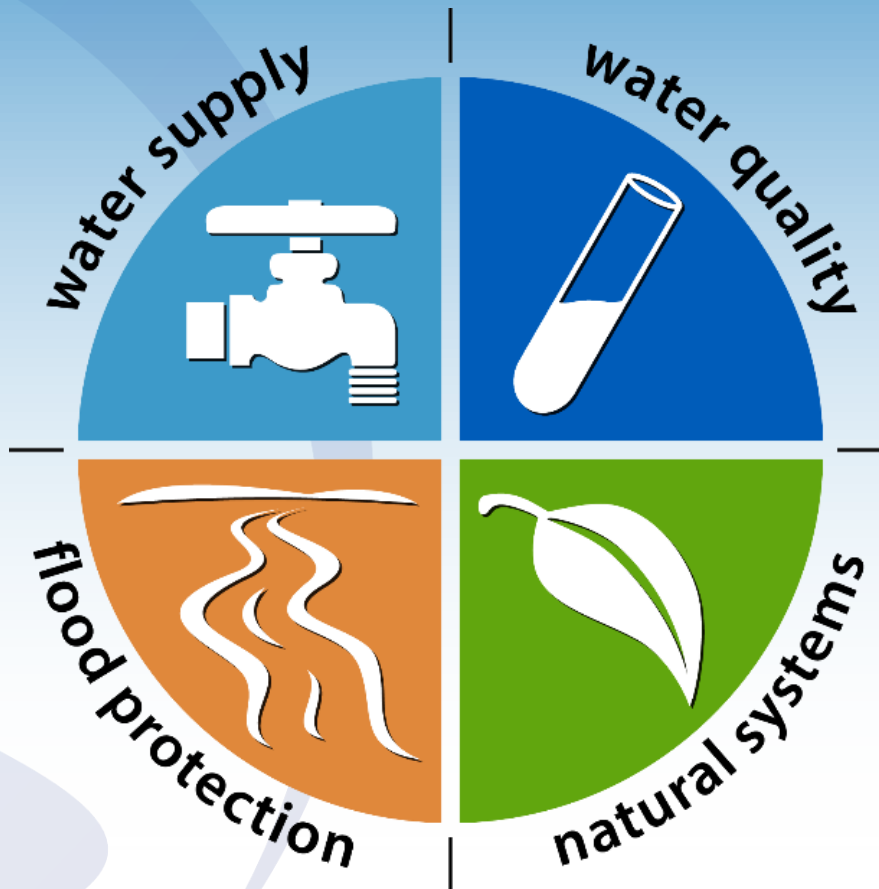
**St. Johns River**  
Water Management District



# Resource Focused Organization



Strategic  
Planning Basins

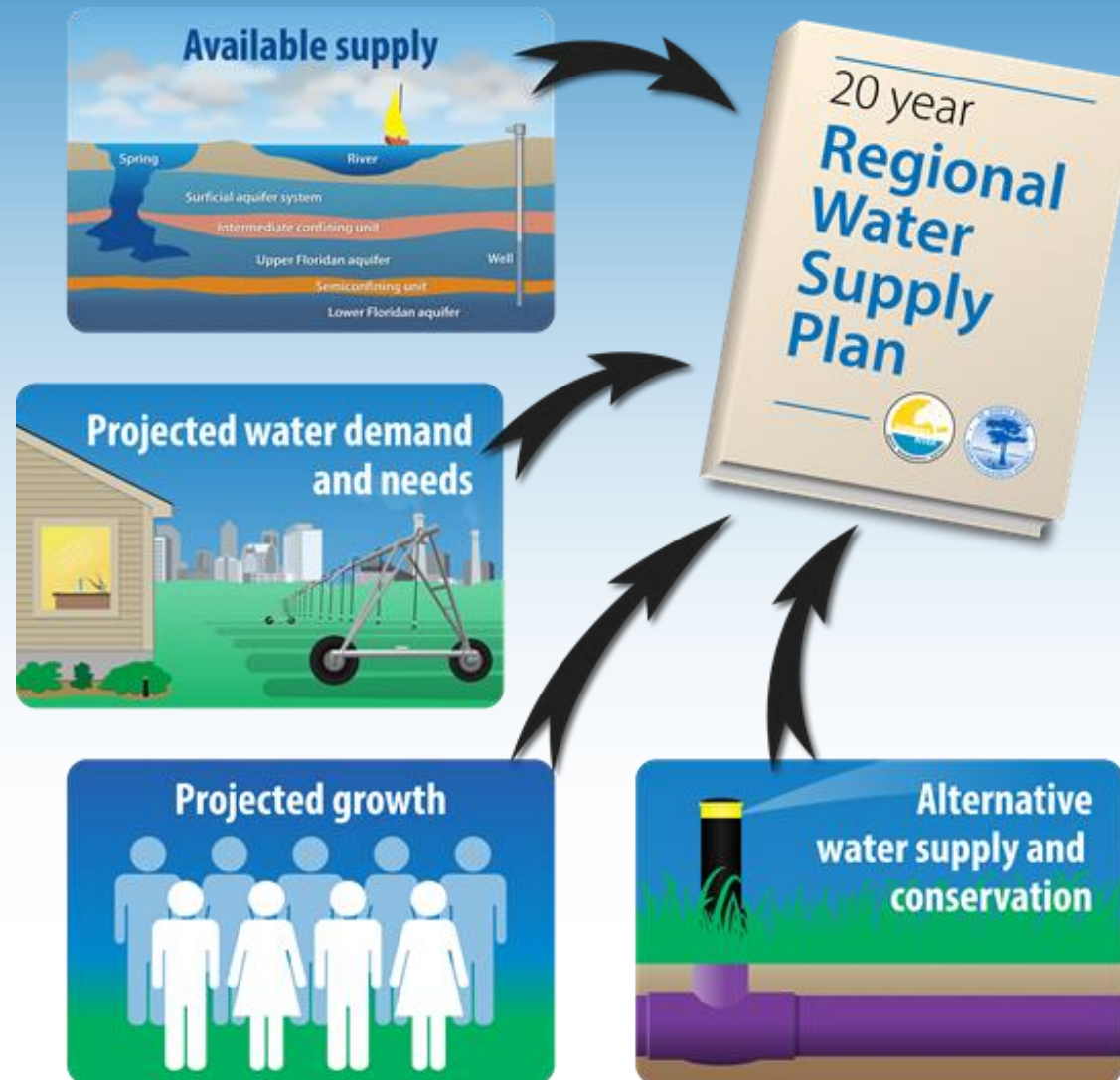


Water Supply  
Planning Regions

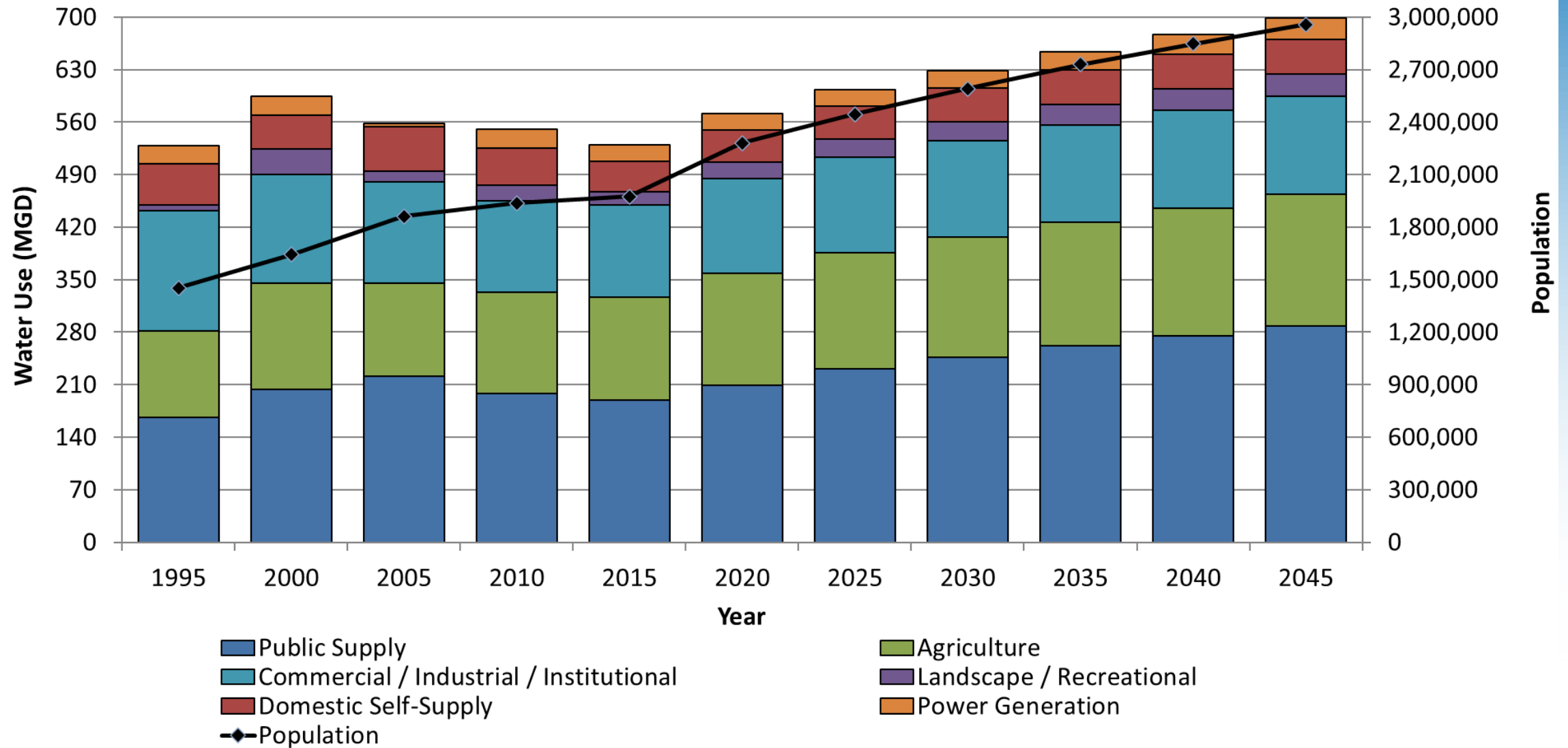


**St. Johns River**  
Water Management District

# Regional Water Supply Planning Process



## Historic Water Use and Population -vs- Projected Water Demand and Population in NFRWSP






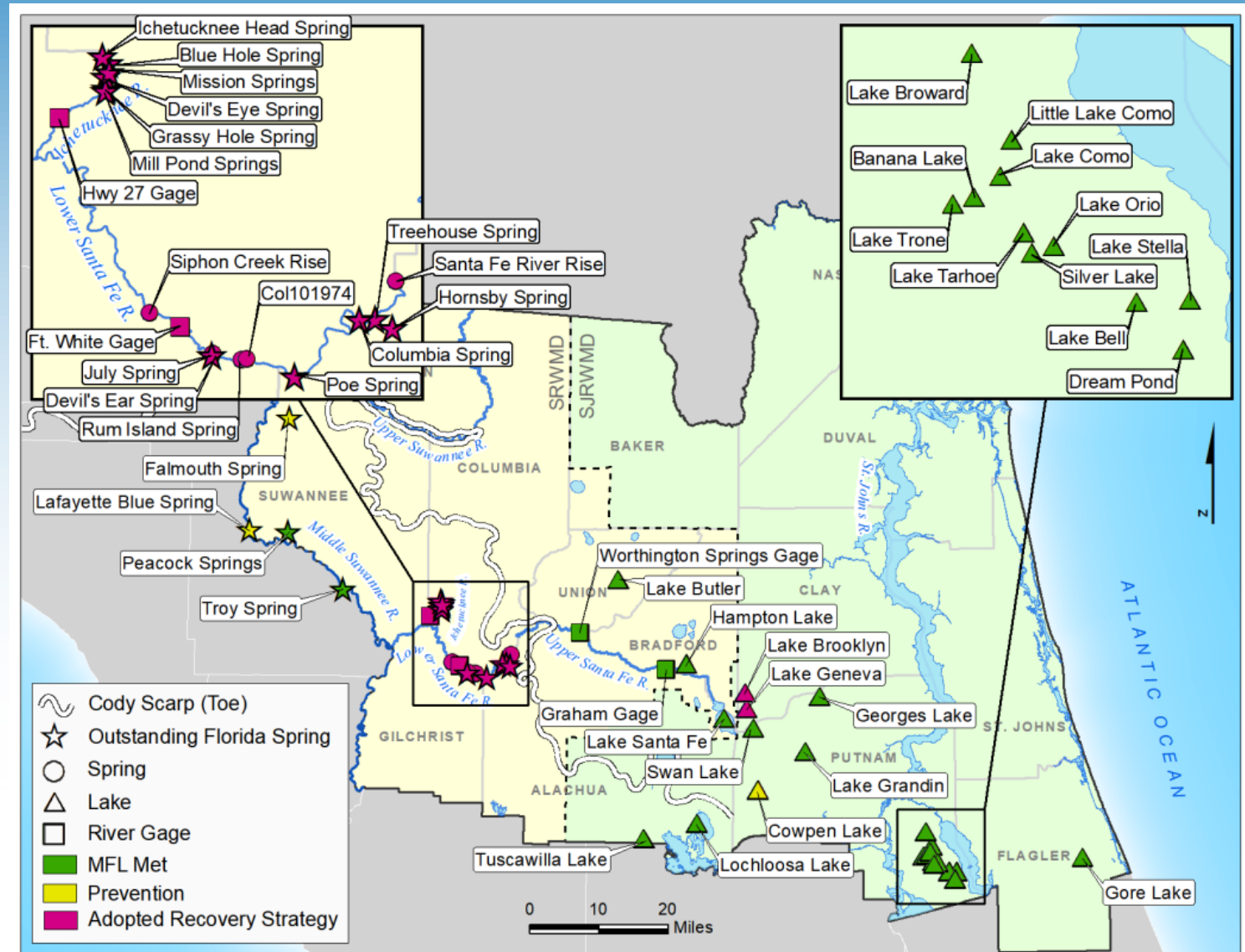
MGD = million gallons per day





# Minimum Flows and Levels (MFLs)

- MFL is currently not met  Recovery Strategy needed
- MFL met, expected to fall below MFL during the next 20 years  Prevention Strategy needed
- MFL met, expected to be met for next 20 years  No Recovery or Prevention Strategy needed



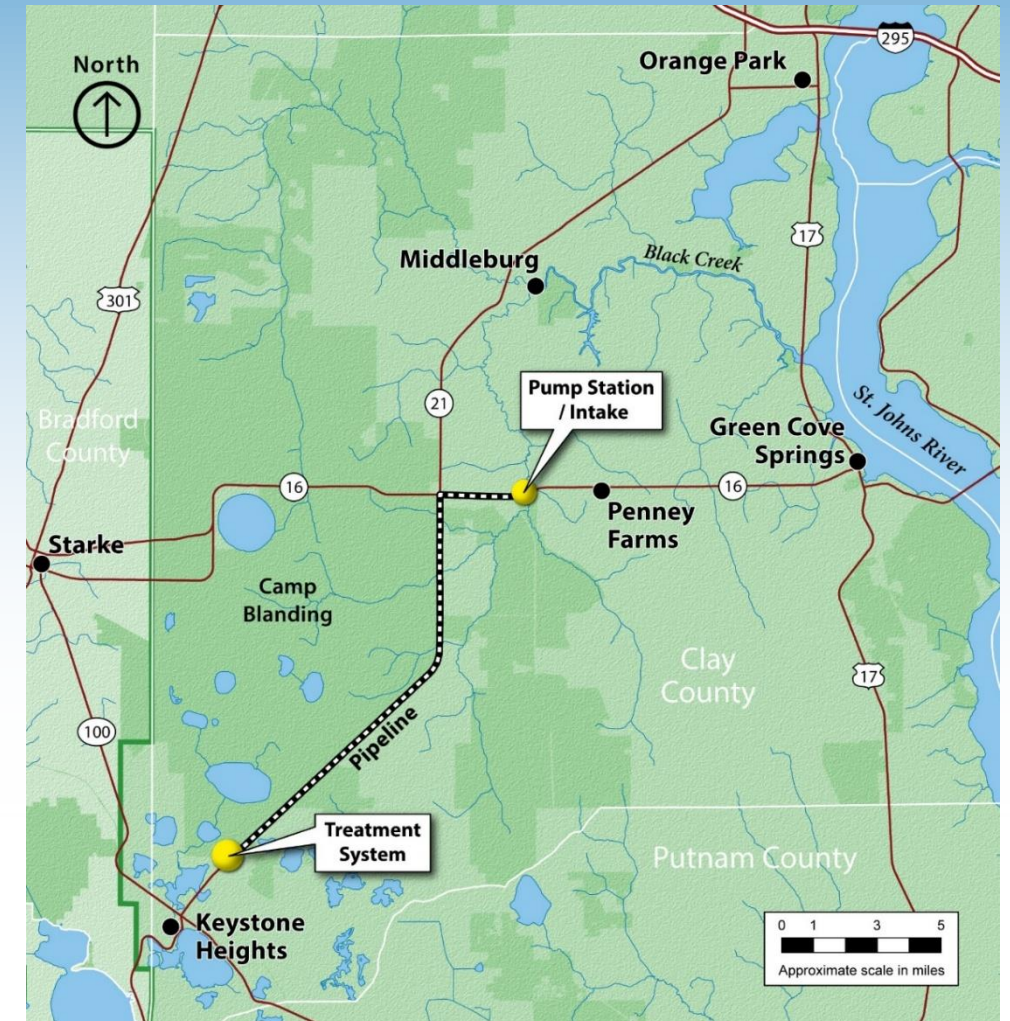
# Regional Projects

Project Name	Project Type	Estimated Completion Date	Estimated Volume (mgd)	Total Capital Cost (\$ Millions)	Estimated Annual O&M (\$ Millions)
Black Creek Water Resource Development Project	Recharge of excess surface water from Black Creek	2025	7.5	\$119	\$5
Water First North Florida	Recharge from highly treated reclaimed water	2039	40.0	\$1,100	\$16
Enhanced Residential Water Conservation	Water conservation	2030	17.0	\$0.97	\$0
Agricultural Water Conservation	Water conservation	2045	8.0	\$14	TBD
	<b>Total</b>		<b>72.5</b>	<b>\$1,234M</b>	<b>\$21M</b>

mgd = million gallons per day

# Black Creek Water Resource Development Project

- 7.5 mgd of aquifer recharge
- 30-inch transmission main, 17-miles
- Regional aquifer recharge



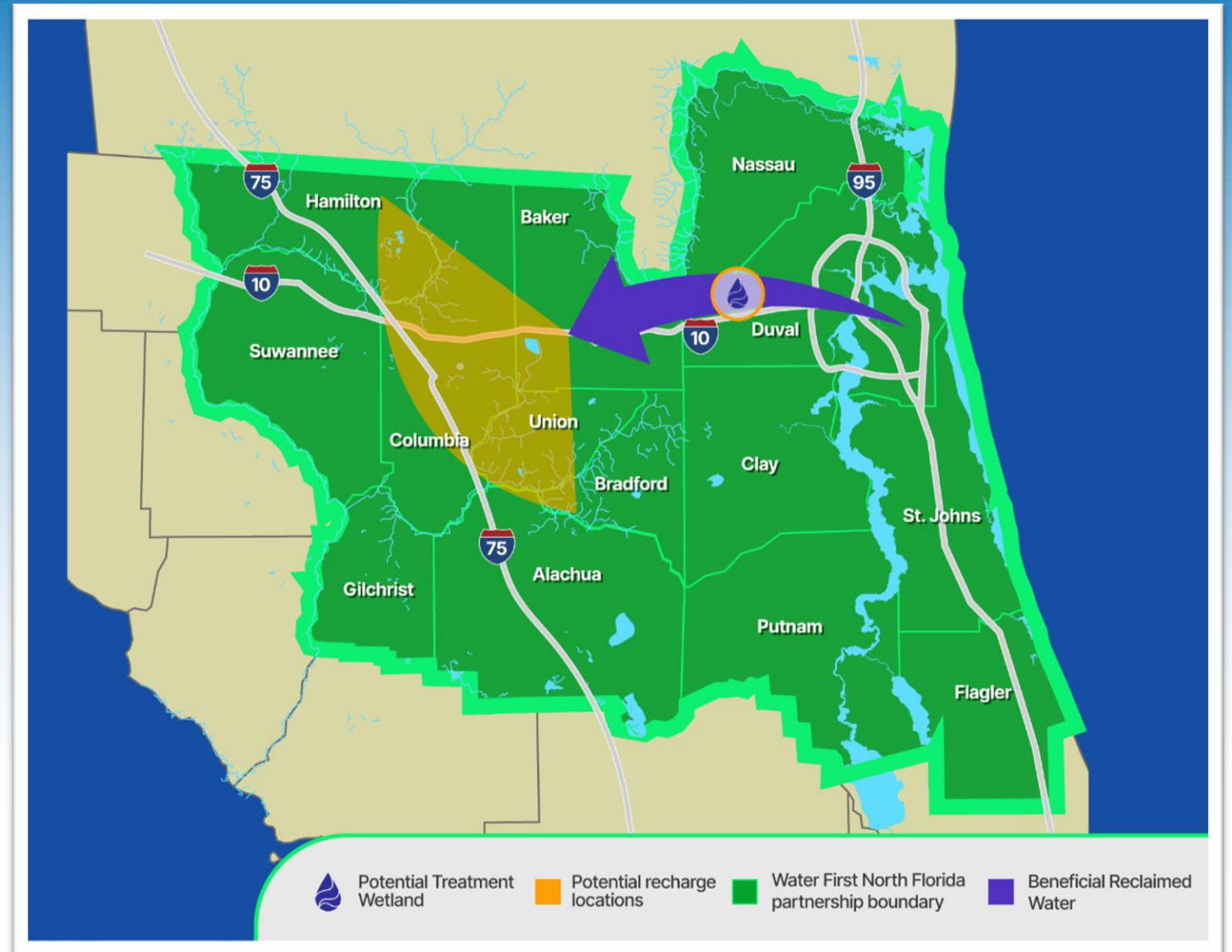




# WATER FIRST NORTH FLORIDA

Partnership today for a sustainable tomorrow.

**Water First is a 40-mgd project utilizing treated reclaimed water that will receive additional natural filtration via a treatment wetland for aquifer recharge in the North Florida region.**



# Modeling Efforts

- St. Johns River Water Quality Model Support
- Middle and Lower St. Johns River Hydrodynamic Flood Model
- Middle and Lower St. Johns River Hydrodynamic Salinity Model



# Questions?

Cori Hermle, Strategic Planning Basin Coordinator

[CMHermle@sjrwmd.com](mailto:CMHermle@sjrwmd.com)

(386) 643-1963





# Discussion



- What coordination efforts are in place among regional stakeholders (including local governments, military representatives, and other agencies) to enhance water resilience?
- Are there any notable projects, data initiatives, or planning frameworks that support regional water security and military readiness?
- How is interagency collaboration shaping long-term strategies for water management and resilience in the region?

# Vulnerability Assessment Data Sources



Hazard	Hazard Scenario	Data Source
Rainfall flooding	Present (100-year flood), 2040, and 2070	CDBG (NEFRC)
Storm Surge	Category 3, Category 5	NHS SLOSH Model, Resilient Jax
SLR	2022 SLR Projections	NOAA/Resilient Jax
Compound Flooding	Future 1% Flood in 2070	Resilient Jax Compound Flood Model

# Wind







# Military Installation Readiness Review

Angie Enyedi - NWS Jacksonville, FL

Warning Coordination Meteorologist

[angela.enyedi@noaa.gov](mailto:angela.enyedi@noaa.gov)



**Naval Air  
Station**

Jacksonville



**Naval Station**

Mayport



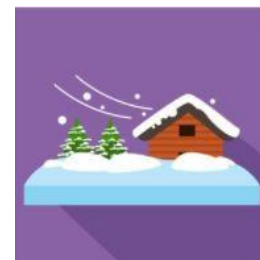
**Marine Corps  
Support Facility**

Blount Island



**Camp Blanding  
Joint Training  
Facility**

Clay County

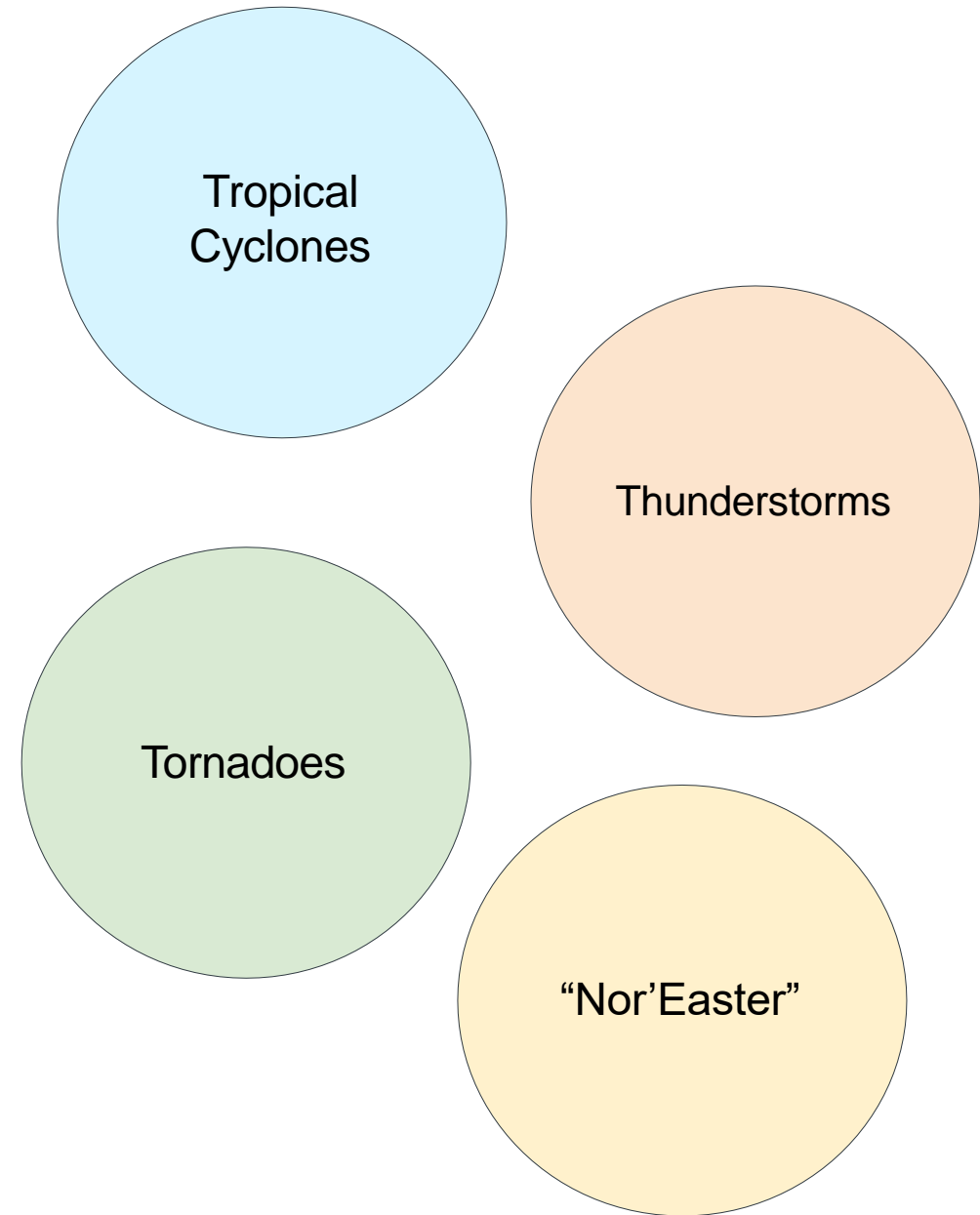


# Causative Wind Damage Events

→ Seasonal events:

- ◆ Hurricane Season: June 1st to Nov 30th
- ◆ Nor'Easters & Post-Front Winds: Fall - Spring

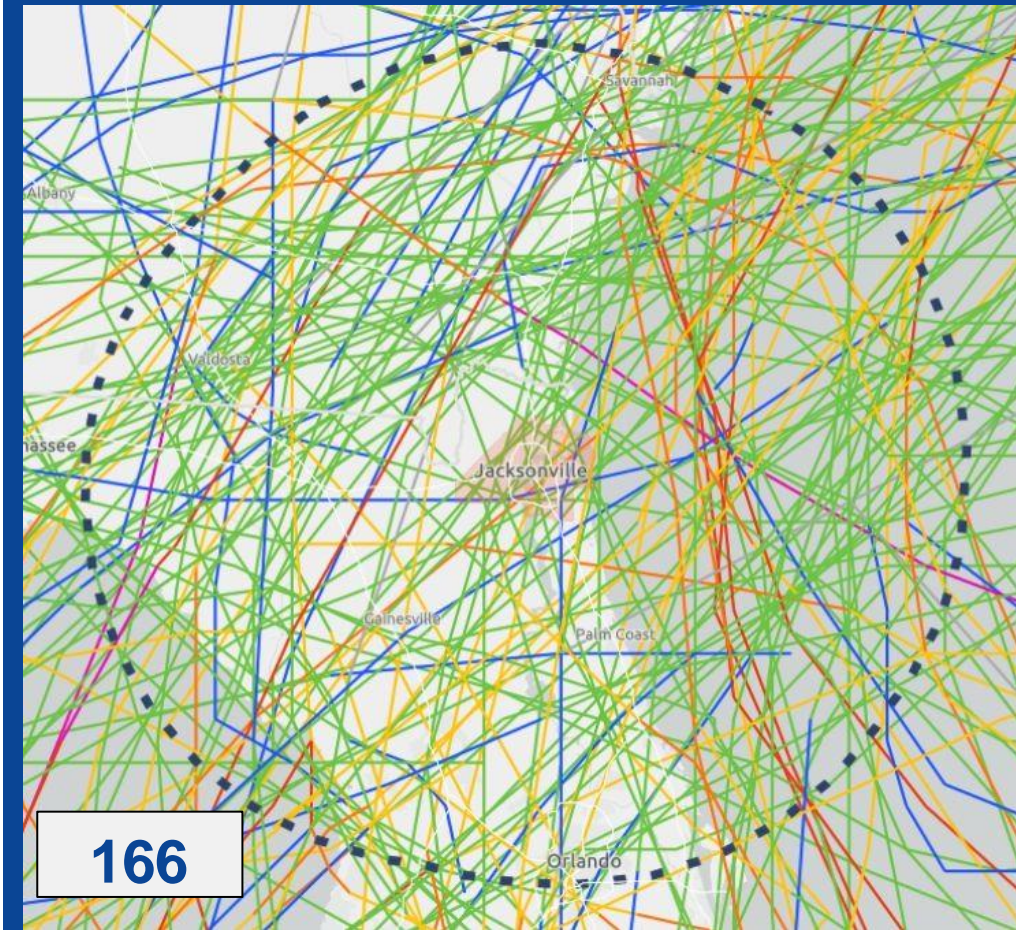
→ All-season thunderstorm & tornado potential



# Tropical Cyclones

## Return Periods

- Hurricane within 50 miles every 13 yrs  
 $100 \text{ yrs} \div 13 \text{ yr/hurricane} = 7.7 \text{ hurricanes in 100 yrs}$
- Last Local Hurricane Landfall: Cat 2 Dora, 1964
- Recent notable tropical storms & hurricanes:  
2022 Nicole - Coastal winds, St. Johns Surge  
2017 Irma - St. Johns surge, large wind/flood impacts

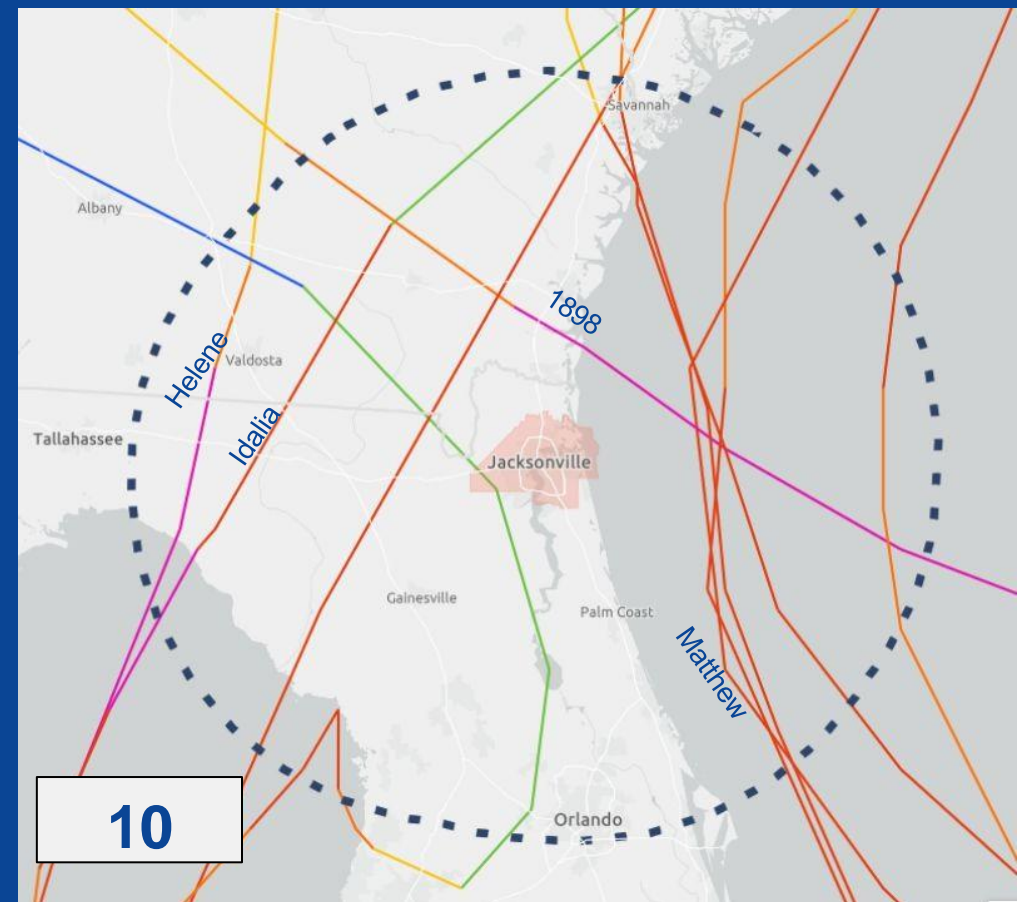


Known tropical storm & hurricane  
tracks within 100 nm of Duval county

(database back to 1850)

# Major Hurricane Return Period

- Major Hurricane within 50 miles every 40 yrs  
100 yrs ÷ 40 yr/major = 2.5 majors in 100 yrs
- Last Local Major Landfall: Cat 4, 1898
- Recent notable major hurricanes:
  - 2024 Helene - BIG wind impacts
  - 2023 Idalia - Flooding
  - 2016 Matthew - Coastal wind/surge



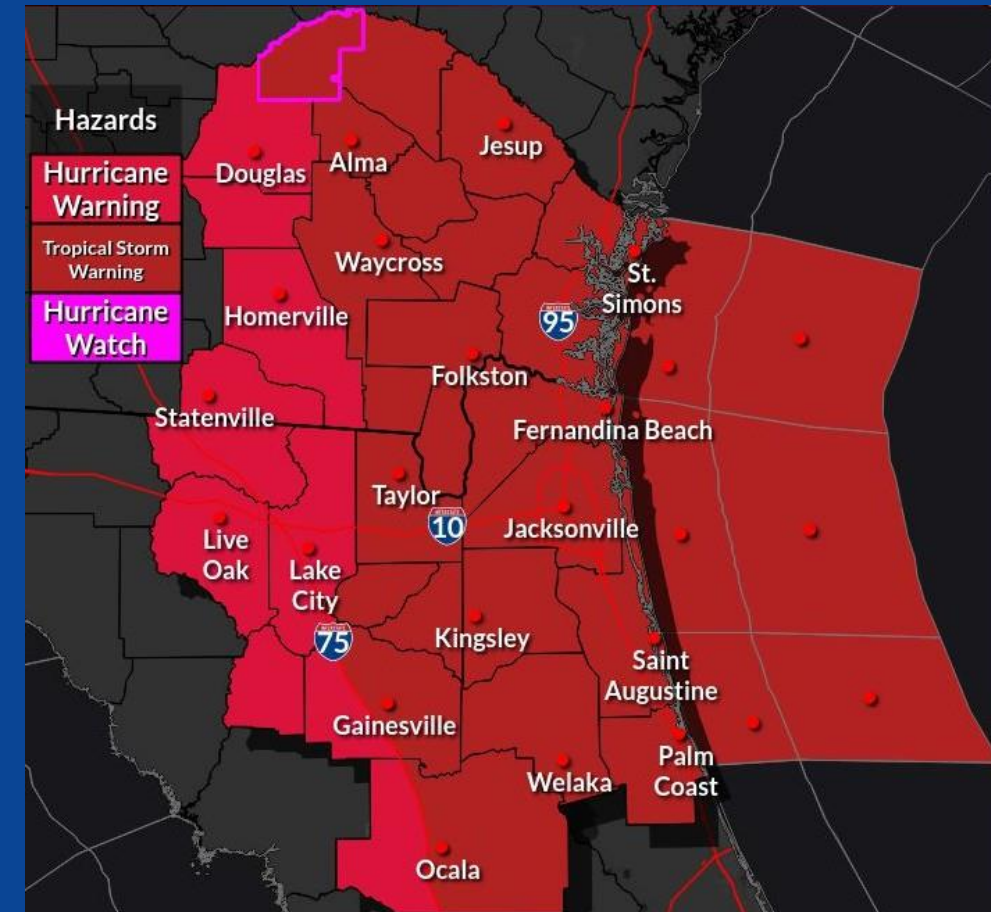
Known Major Hurricane tracks within  
100 nm of Duval county

(database back to 1850)



# Tropical Cyclone Alerts

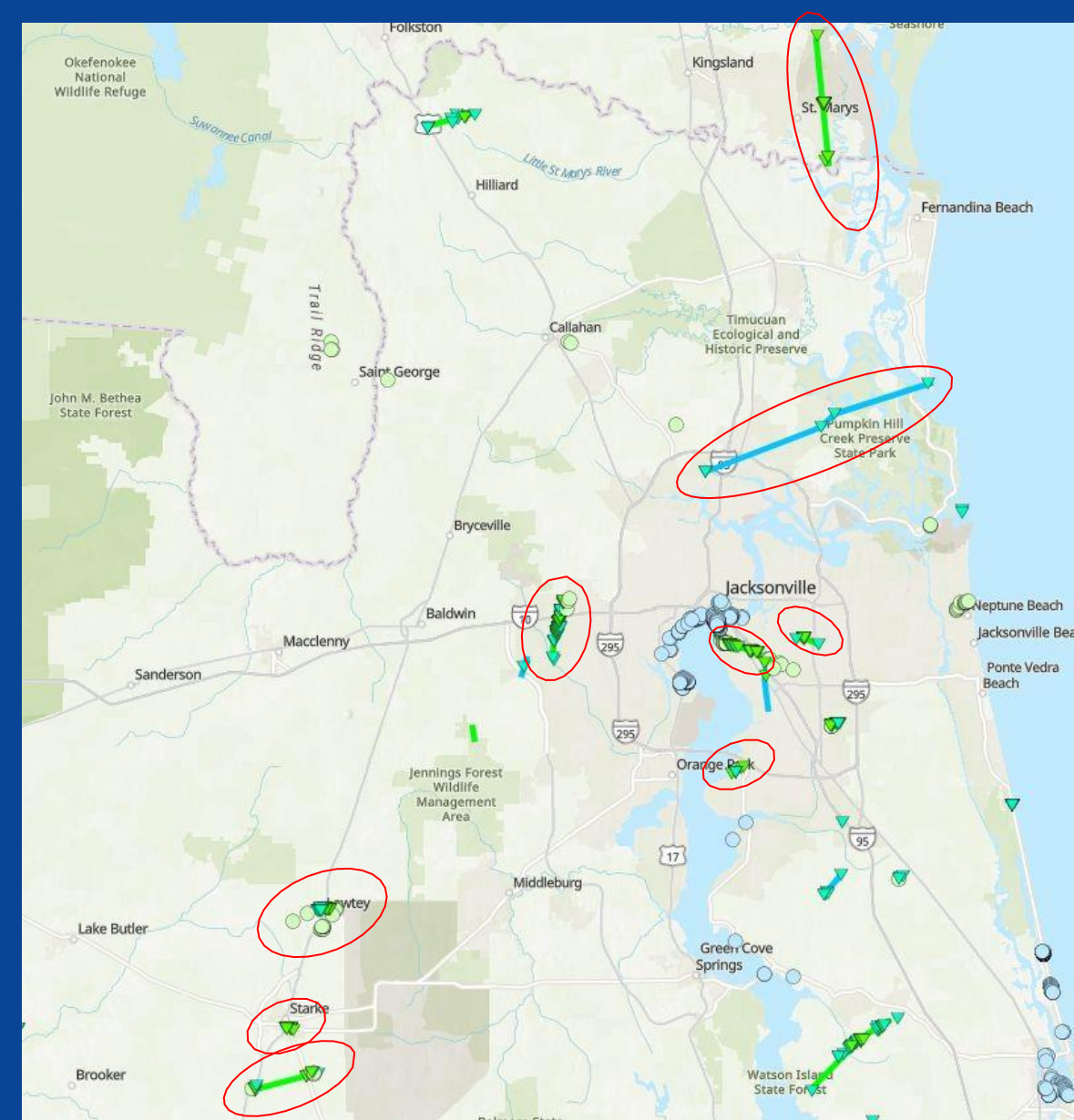
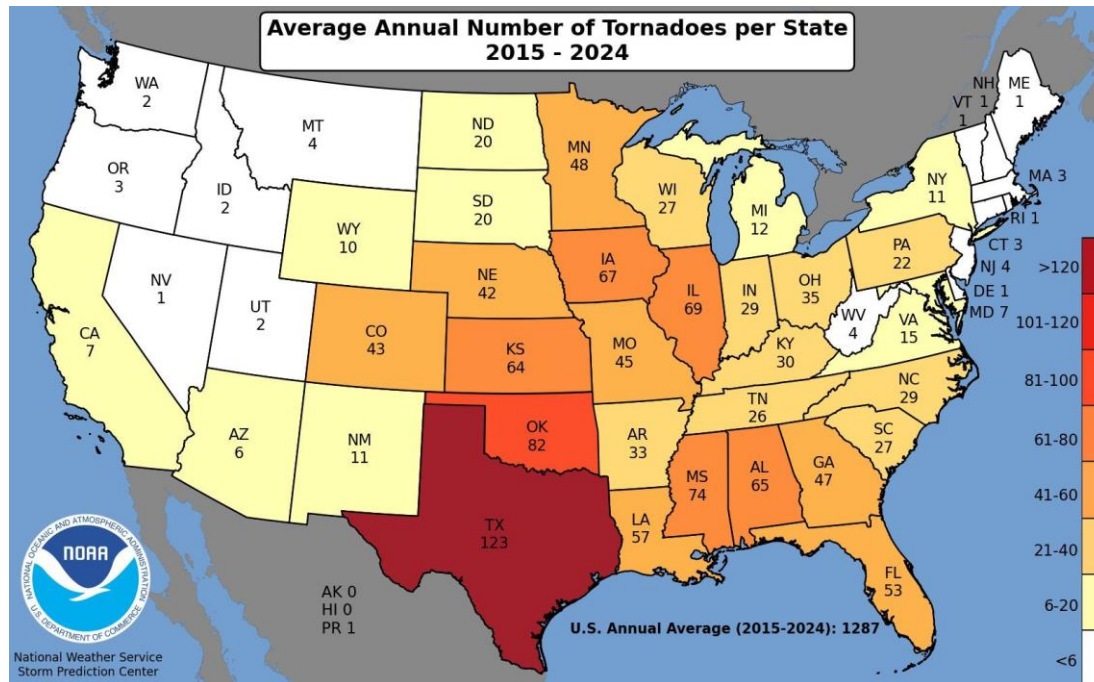
- Tropical Storm & Hurricane watches/warnings alert of WIND impact ONLY (not surge, flooding, tornado risk)
- Watches: 48 hrs from potential wind impacts
- Warnings: 36 hrs from expected wind impacts
- Catastrophic winds can extend well inland  
Helene Alma, GA: 101 mph gust



2024 Hurricane Helene Hurricane & Tropical Storm Warning Footprint

# Tornadoes

- FL Tornado Season: Mar through Sep  
Possible *all* year
- FL #9 for US annual tornado frequency
  - ◆ 10 yr average 53





# Tornadoes

- 'Strong' FL Tornado Season: Mar-Apr-May
- Possible all year
- Alerts: Tornado Watch (possible) Warning (expected)



U.S. Navy photo  
Mass Communication Specialist Seaman  
Aaron Xavier Saldana/Released



<https://www.navy.mil/Press-Office/Press-Releases/display-pressreleases/Article/2685238/suspected-tornado-on-naval-submarine-base-kings-bay/>



Naval Submarine Base Kings Bay  
about 4 years ago



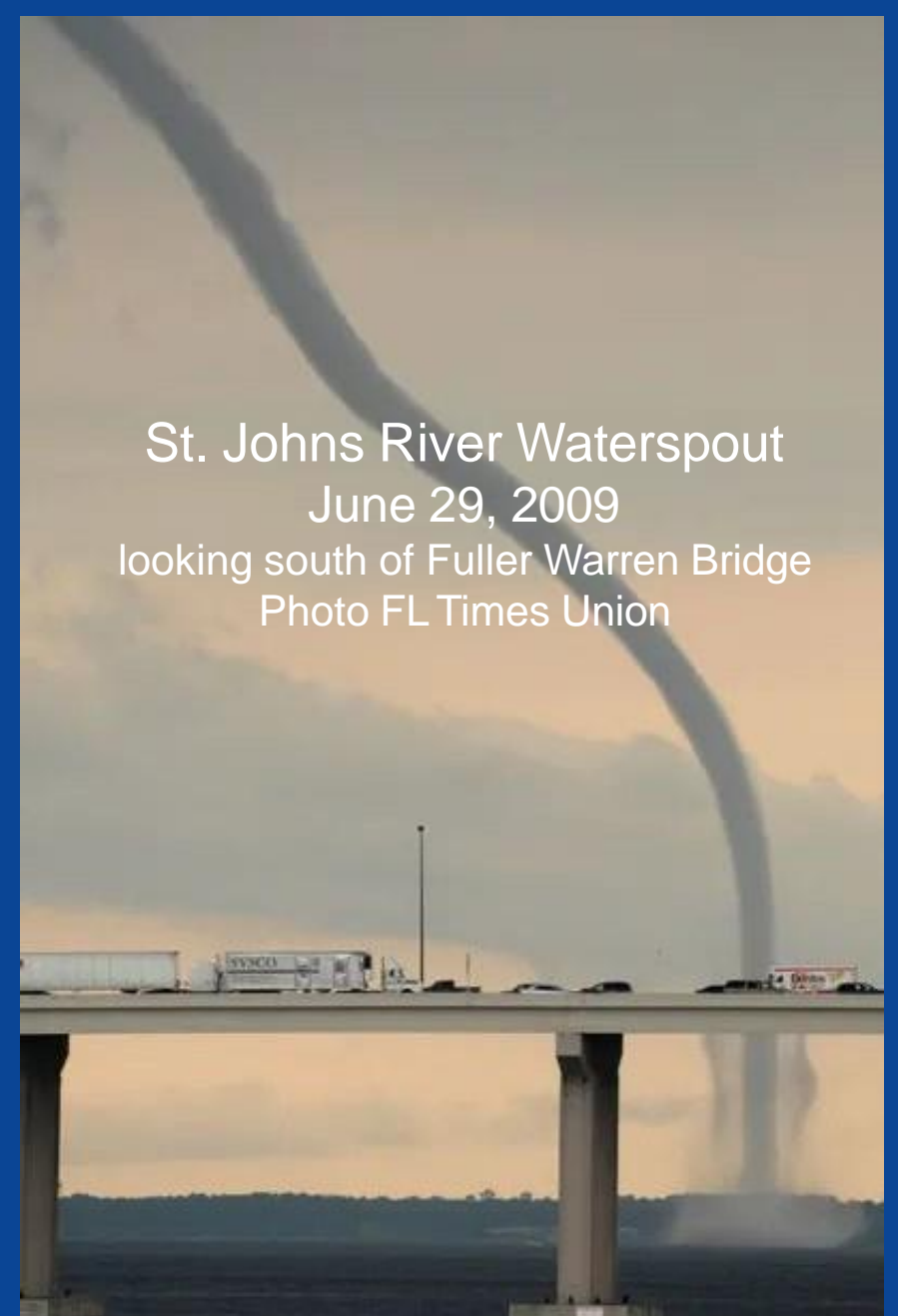
KINGS BAY, Ga. (July 8, 2021) Capt. Chester Parks, commanding officer of Naval Submarine Base Kings Bay, assesses the damage of destroyed recreational vehicles (RV) on base. A tornado struck the on-base RV park July 7, 2021. Two recreational vehicles (RVs) were damaged and nine people were injured with no life-threatening injuries. (U.S. Navy photo by Mass Communication 3rd Class Aaron Xavier Saldana)

Kings Bay Tornado  
July 7, 2021  
(outer rainband of TS Elsa)

# Waterspouts

- Mayport & NAS JAX most vulnerable
- Alerts:
  - ◆ Special Marine Warning - from Atlantic
  - ◆ Tornado Warning - St. Johns River
- 2 Types: Fair weather & tornadic
  - ◆ Fair weather: Weaker, form under developing clouds, dissipate moving inland
  - ◆ Tornadic - stronger, can persist after moving inland

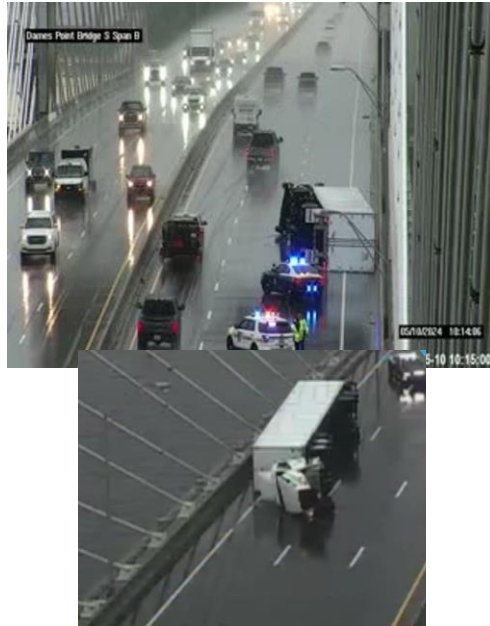
St. Johns River Waterspout  
June 29, 2009  
looking south of Fuller Warren Bridge  
Photo FL Times Union



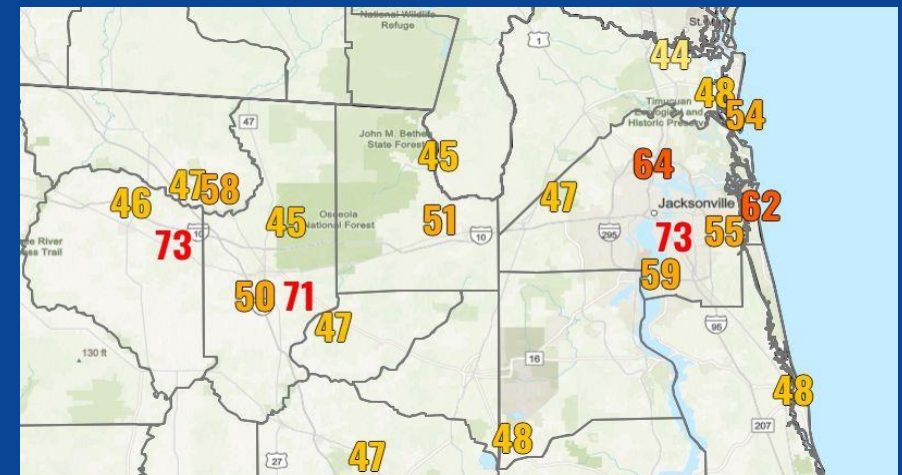
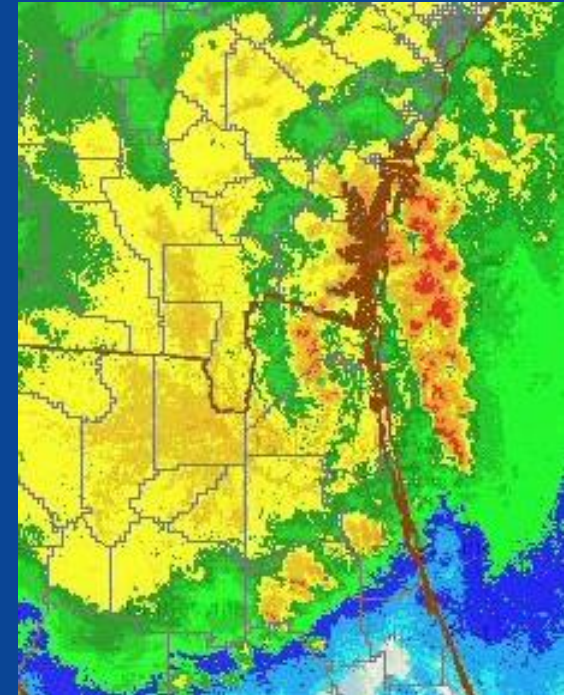


# Thunderstorms

- Can occur throughout year
- Squall Line Storms - mid Oct - mid May
- Sea breeze storms - late spring to mid fall






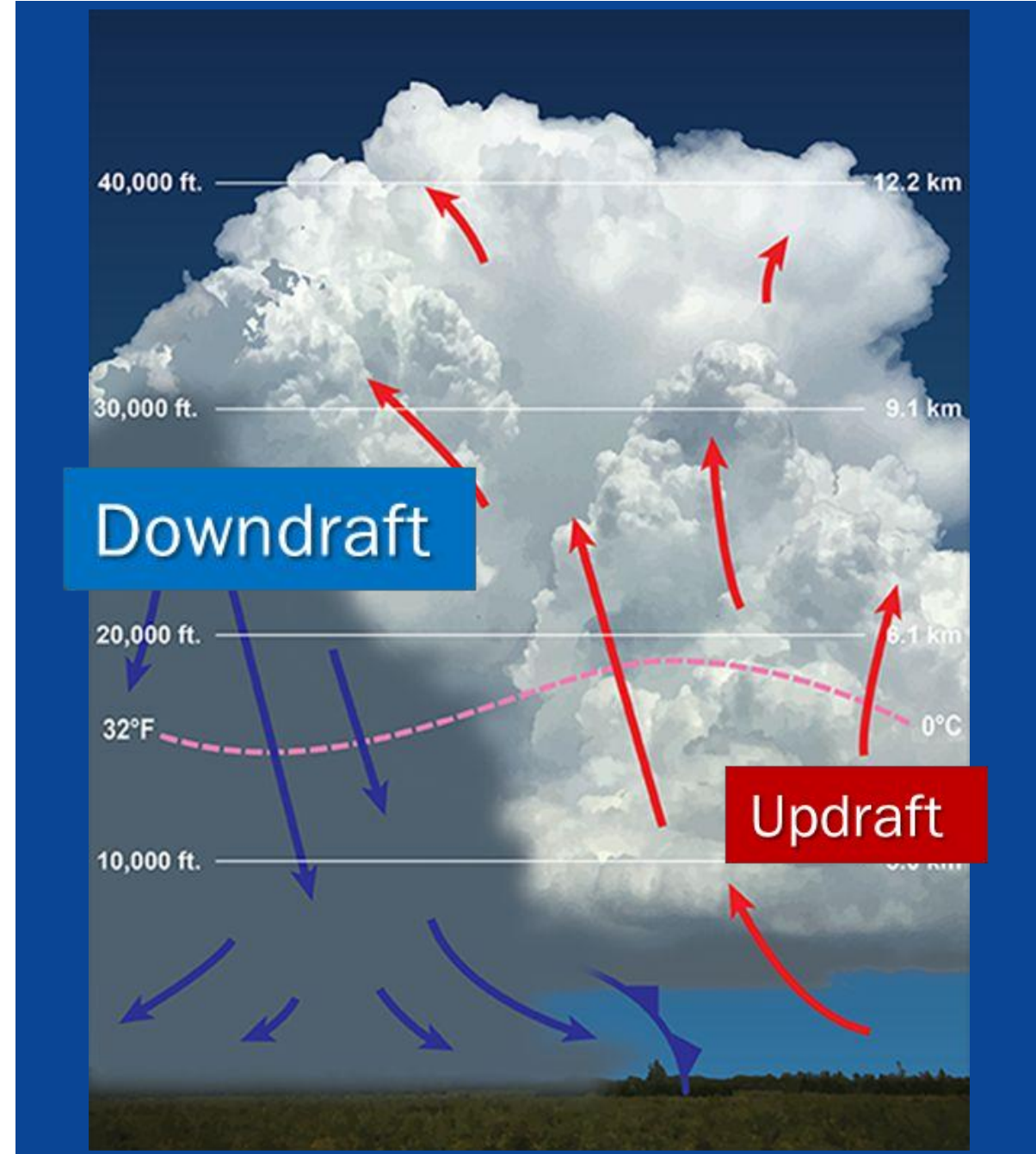
## Squall Line May 10, 2024



# Thunderstorms

- Thunderstorm Wind NWS Alerts:
- Special Weather Statement < 58 mph
  - Severe Thunderstorm Warning 58 mph +

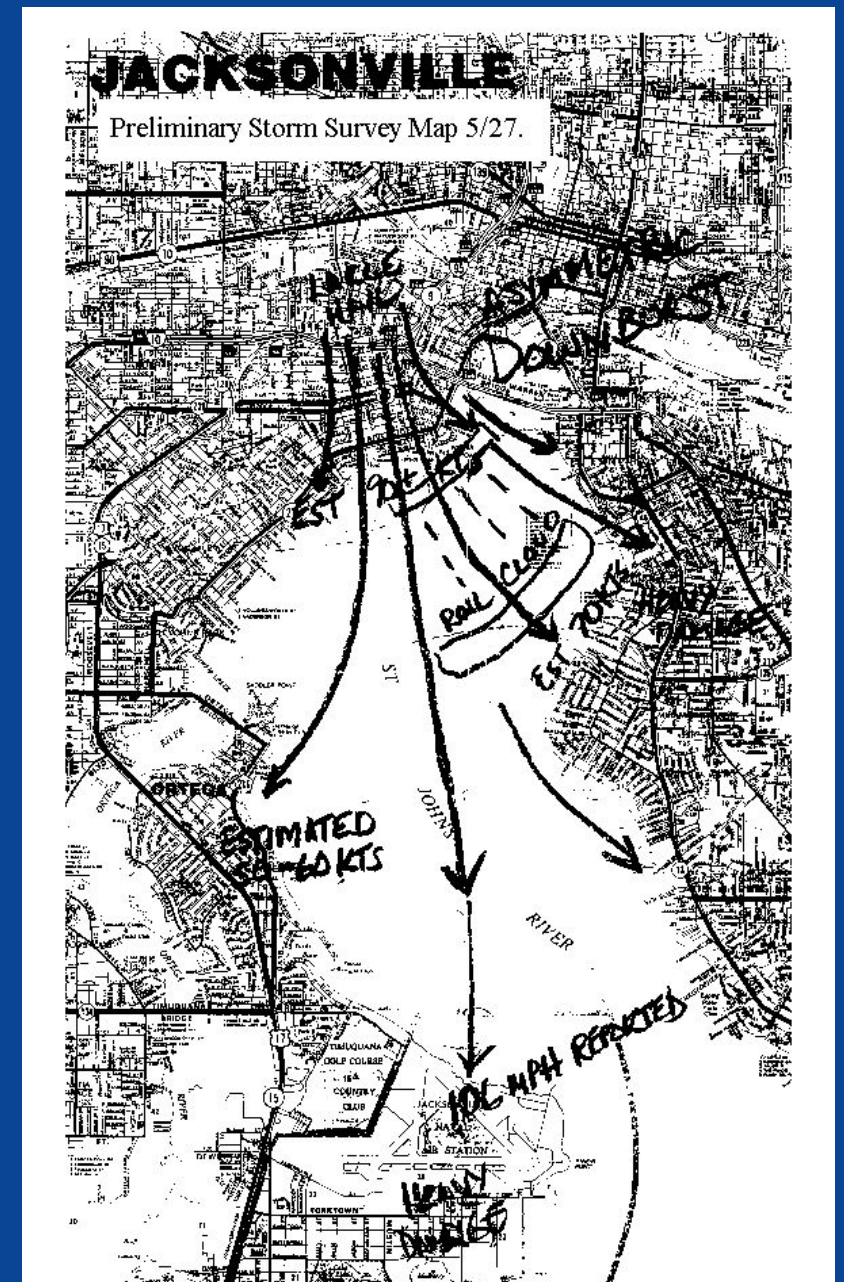
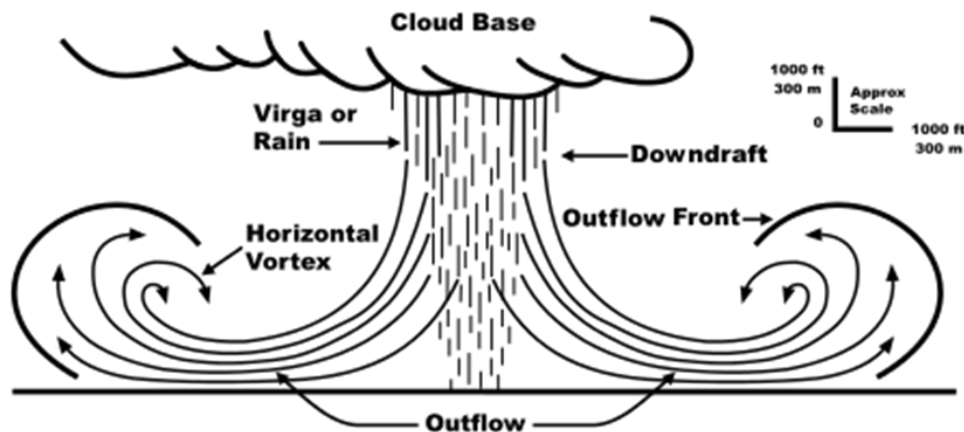
GENERAL	STRONG	SEVERE
<ul style="list-style-type: none"><li>• Lightning</li><li>• Gusty Winds 20-40 mph</li><li>• Heavy Rain</li></ul> 	<ul style="list-style-type: none"><li>• Hail</li><li>• Gusty Winds 40-57 mph</li></ul> 	<ul style="list-style-type: none"><li>• Large Hail ≥ 1 inch</li><li>• Damaging Winds ≥ 58 mph</li><li>• Tornadoes</li></ul> 





# Downbursts

- Downburst over downtown JAX May 27, 1997
- Strong outflow of wind pressed southward down river (no frictional forcing to reduce speed)
- NAS JAX **106 mph** wind gust
- Planes & hanger damaged, widespread tree/power/infrastructure damage along river bank



# Thunderstorm Wind Events

August 2008  
JAXPort Cranes Collapse

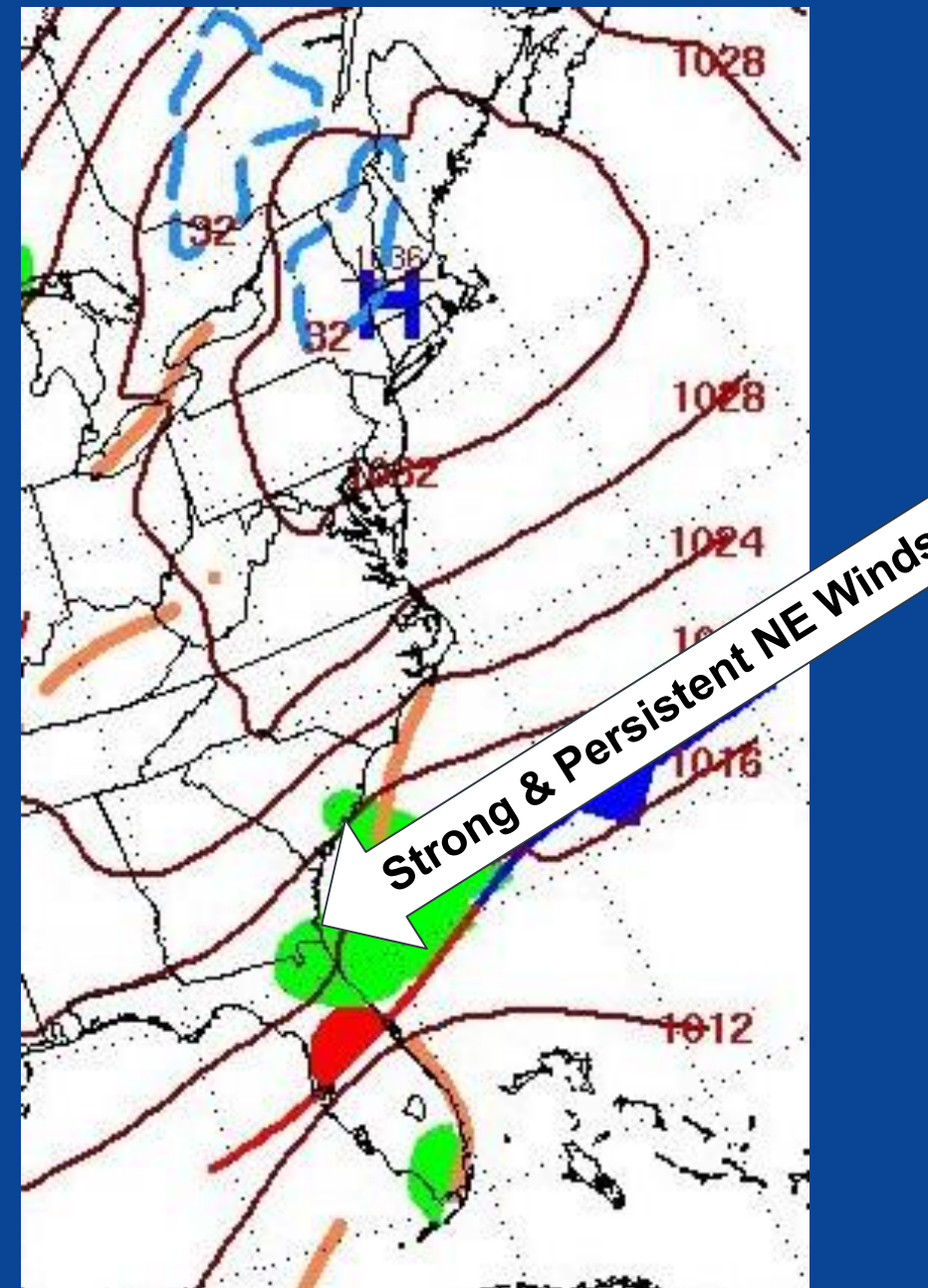
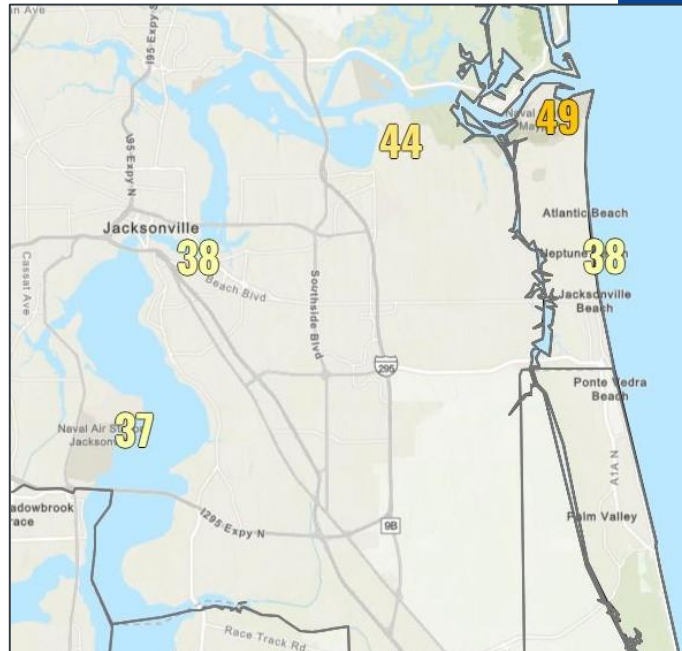





# Nor'Easters

- Days of strong onshore winds (northeast winds)
- Gusts over 40 mph in stronger nor'easters
- Mayport, Blount Island & NAS JAX more vulnerable to stronger winds
- NWS Alert - Wind Advisory

Nor'Easter  
October 9-10, 2025  
(peak 24 hrs 10/10/25)



# NWS 'Wind' Hazard Products

Hazard	NWS Product(s)	Meaning	WEA Alert 
<b>Tropical Cyclone</b>	Tropical Storm Warning Hurricane Warning	Winds 39 mph + Winds 74 mph +	No No
<b>Thunderstorms</b>	Special Weather Statement <b>Severe Thunderstorm Warning</b>	Gusts 40-57 mph Gusts 58 mph +	No <b>Yes</b>
<b>Tornadoes</b>	<b>Tornado Warning</b>	Tornado Imminent	<b>Yes</b>
<b>Waterspouts</b>	<b>Special Marine Warning</b> - Atlantic <b>Tornado Warning</b> - St. Johns River	Waterspout Imminent	<b>Yes</b>
<b>Nor'Easters &amp; Post-Frontal Winds</b>	Wind Advisory	Non-Thunderstorm Gusts 40-57 mph	No

# Recent Wind Impacts

## To the audience:

- What extent of damage did recent wind events cause at your location?
- Wind damage event lessons learned?
- Recent wind mitigation projects?  
What partner agencies are involved?

Wright-Patterson Air  
Force Base, OH  
Post Severe Storms  
2/28/2024



Tyndall Air Force  
Base, FL  
Post Cat 5 Michael  
10/2018  
\$5B in damage

# Vulnerability Assessment Data Sources



Hazard	Hazard Scenario	Data Source
Wind		



# Wildfire





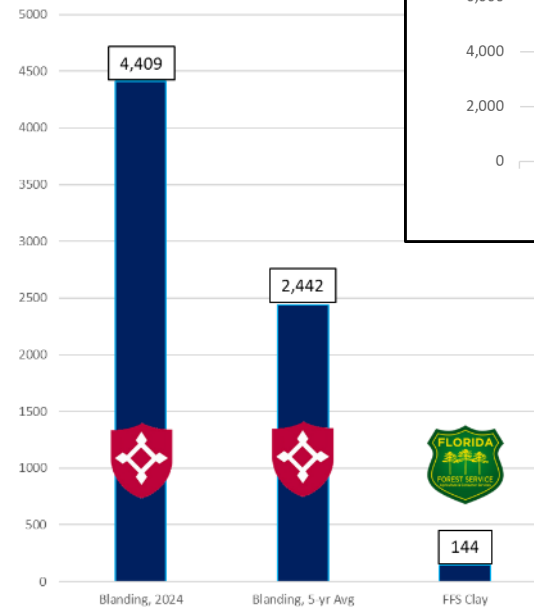
# Matthew Corby – FLARNG, Camp Blanding Joint Training Center Installation Environmental Manager – (904) 626-8572



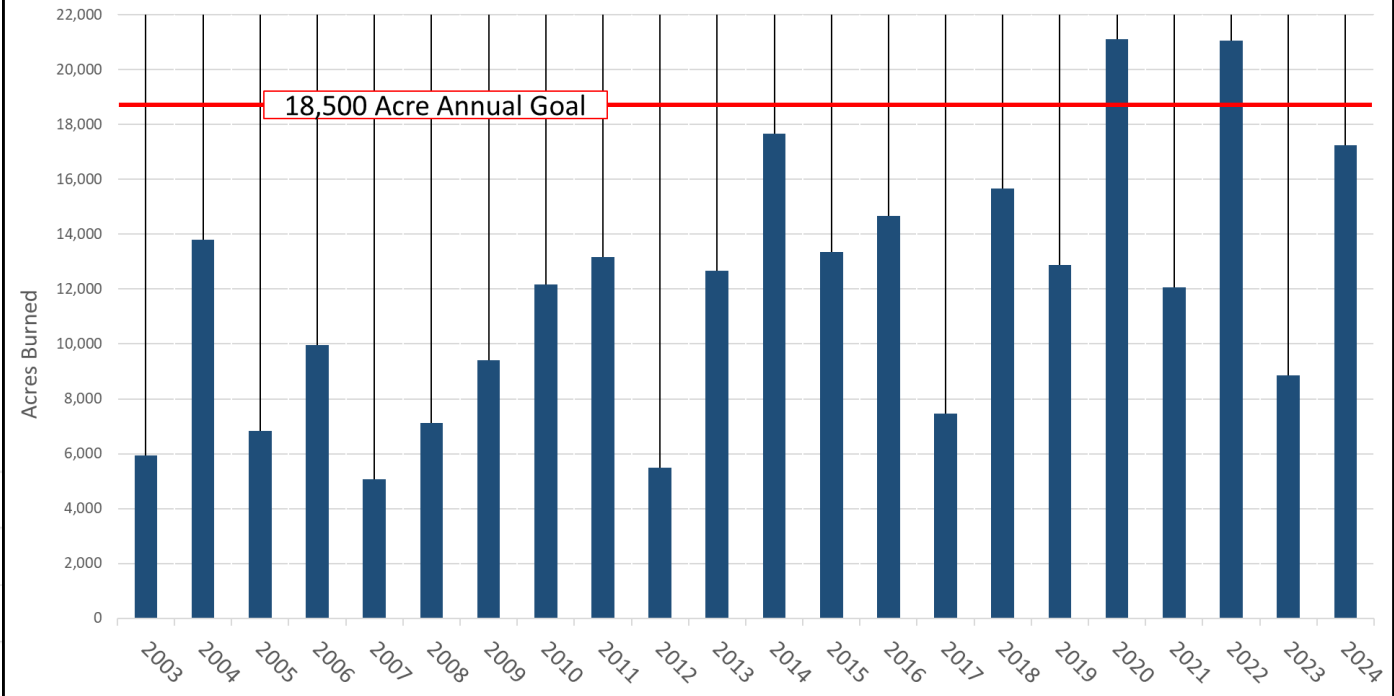
Wildfire Responses



Wildfire Acreage Burned



Camp Blanding Fire History 2003-2024







# Matthew Corby – FLARNG, Camp Blanding Joint Training Center Installation Environmental Manager – (904) 626-8572



## Why We Burn: Blanding Example:

(In order of importance at Camp Blanding)

# Military Training

## Wildfire Mitigation/Protection

### Regulatory Compliance

### T&E Habitat Maintenance/Enhancement

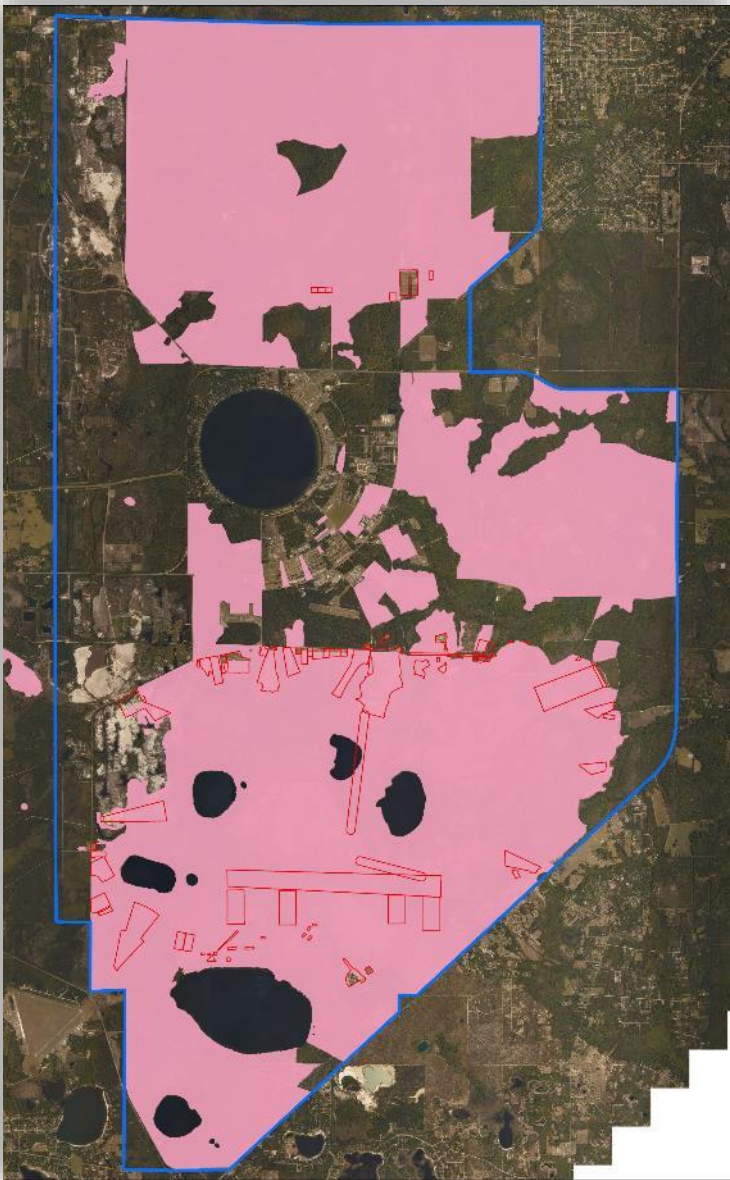
### Restoration of Native Habitat

### Timber Production for Revenue

### Water Resource Protection







# Wildland Fire Program

(In 3 parts)

- Prescribed Fire
- Wildfire
- Wildland Fire Use

Camp Blanding Joint Training Center Pyrotechnics Restriction Board	
PYRO CHART UPDATE 4 JAN. 2017	
Ammunition Types and Devices	
Ball Ammunition	
Tracer Ammunition: North Post Ranges	
Tracer Ammunition: Yerkes Rd Ranges	
Tracer Ammunition: Treat Rd Ranges	
Tracer Ammunition: Impact Rd Ranges	
Tracer Ammunition: OP Dixon	
Tracer Ammunition: Convoy Live Fire Range	
Artillery and Mortars	
Demo Range South	
Hand Grenade Simulators, G.B.S, Flash Bangs, Smoke Grenades	
Pop Flares and Star Clusters	

Camp Blanding Joint Training Center Pyrotechnics Restriction Board	
No Restrictions   Partial - Contact Forestry   Complete Restrictions	
Training Areas	Impact & Range Areas
NA	
NA	
NA	
NA	
NA	
NA	
NA	
NA	
NA	
NA	



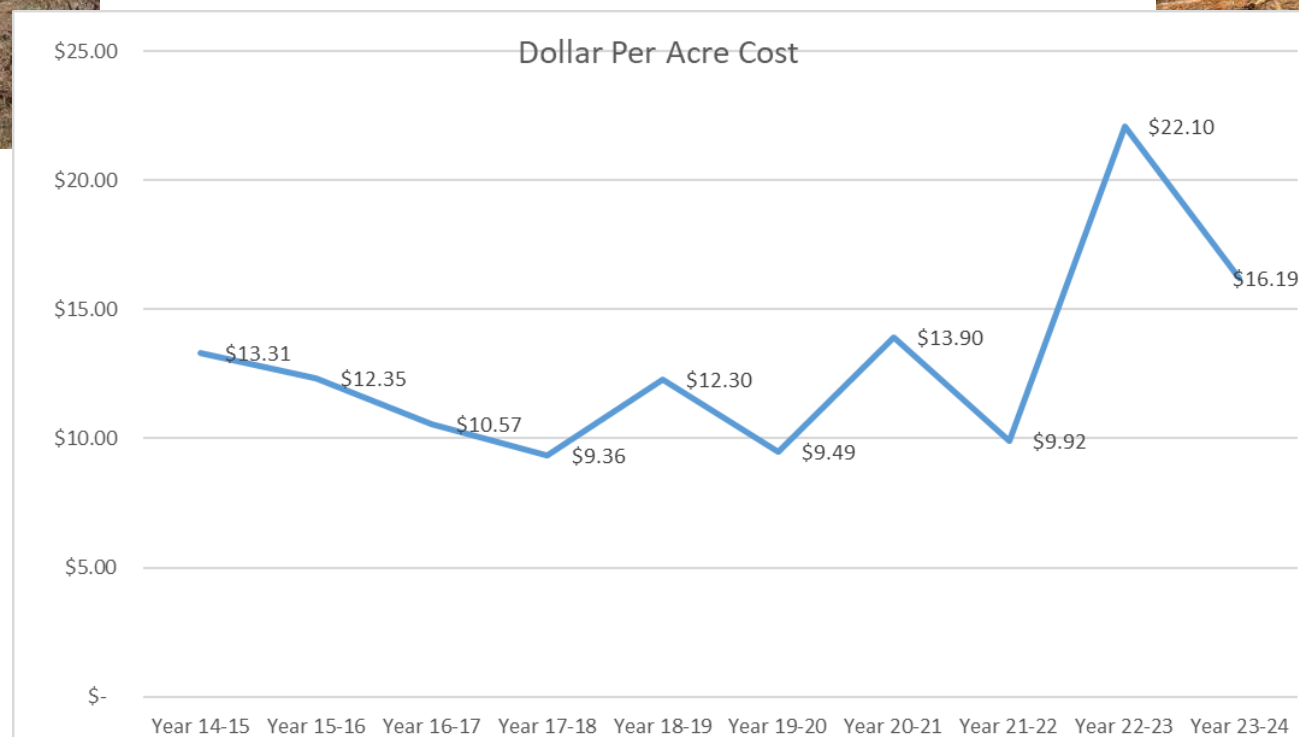


# Matthew Corby – FLARNG, Camp Blanding Joint Training Center Installation Environmental Manager – (904) 626-8572



In Florida, it's not if it burns, it's when.

Mitigate Wildfire with Prescribed Fire  
-OR-  
Surrogates for Prescribed Fire



UGA1403013

# Discussion

- Are any lessons learned from recent wildfire seasons or evolving practices that are shaping future mitigation efforts?



# Vulnerability Assessment Data Sources



Hazard	Hazard Scenario	Data Source
Wildfire	Wildfire	USDA, Forest Service Research Data



# Land Management



# Discussion

- How do Duval and Clay Counties coordinate land use planning with nearby military installations, and are there formal mechanisms in place for ongoing communication?
- What future development pressures are anticipated near military installations, and how are Duval and Clay Counties preparing to manage those in a coordinated way?



# Vulnerability Assessment Data Sources



Hazard	Hazard Scenario	Data Source
Transportation Interruptions	Transportation Interruptions	MPO - NERPM 2020 Loaded Networks
Extreme Heat	Heat Severity USA 2024	Trust for Public Land



# Mutual Support Agreements



# Mutual Support Agreements (MSAs)

## What is an MSA?

- Formal, written arrangement between two or more parties
  - Including military installations and state, regional, and local government agencies
- Coordinate services, share resources, or implement joint projects

## Why are MSAs important?

- Cost savings
- Costs avoided
- Operational efficiencies
- Mission assurance
- Enhanced partnerships



# Mutual Support Agreements (MSAs)



## Types of MSAs

- Less formal
- ↑
- Letters of Intent (LOI)
  - Memorandum of Understanding (MOU)
  - Memorandum of Agreement (MOA)
  - Mutual Aid Agreement (MAA)
  - **Intergovernmental Service Agreement (IGSA)**
- ↓
- More formal

## Importance of IGSAs

- Formal partnership: service(s) + local/state govt(s)
- Congressionally authorized contracting vehicle
- Over the last 10 years:
  - 100 installations have entered 170 IGSAs
  - Services ranging from waste removal, public transport, water treatment, maintenance, joint police/fire, etc.



# NEFRC MIRR Task 5

## *Mutual Support Among Regional Installations and Local Governments*

### **Goals of Task 5:**

- Assesses current MSAs among regional installations and state, county, and local government agencies
- Identify gaps and opportunities to expand their scope,
- Strengthen regional resilience
- Support the development of new or revised agreements that enhance mutual benefits, efficiency, and mission effectiveness.



# Our Approach

1. Research existing MSAs in the region with relevance to the MIRR
2. Survey TAC/Steering Committee members on relevant MSAs
3. Conduct a gaps and opportunities analysis
4. Develop recommendations for new or expanded agreements that could be beneficial for the regional resilience and mission assuredness
5. Deliver Technical Memorandum #7: Opportunities Assessment report



# MSA Research and Survey Results to Date

[Link to Table of MSA Research/Survey Results](#)





# Group Discussion



**When it comes to mutual support in the region, what's working and what's not?**



- What gaps or opportunities do we see?
- Any opportunities to expand existing and/or develop new MSAs?
- Are there areas where mutual support is functioning well/producing tangible benefits (ie. emergency services, fire support, etc.)
- Are there areas where the benefits of mutual support have not yet been explored?

# Next Steps & Questions



# Next Steps & Questions

- Next TAC Meeting – January 22, 2026 - 2 PM
- Mutual Support Agreements / Community Partnerships







Northeast Florida Regional Council  
Military Installation Readiness Review

# Thank You

September 30, 2025



Jacobs