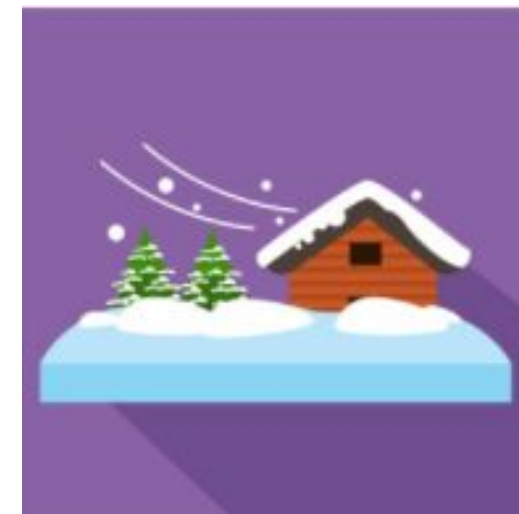
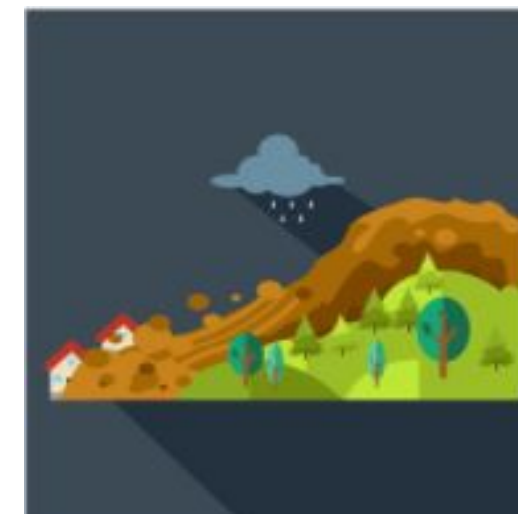
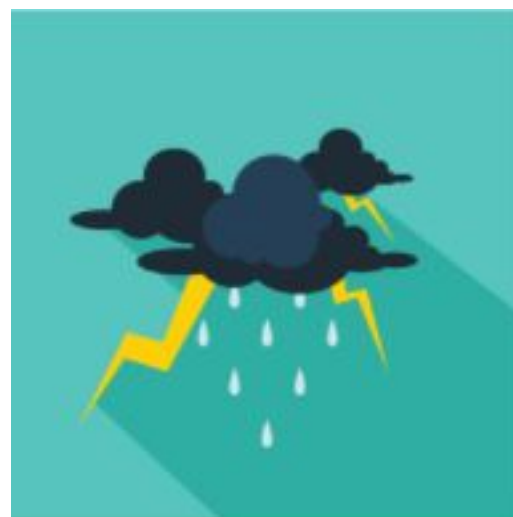




NWS JAX Lunch-and-Learn Series

April 2026

Alex Boothe
alexander.boothe@noaa.gov





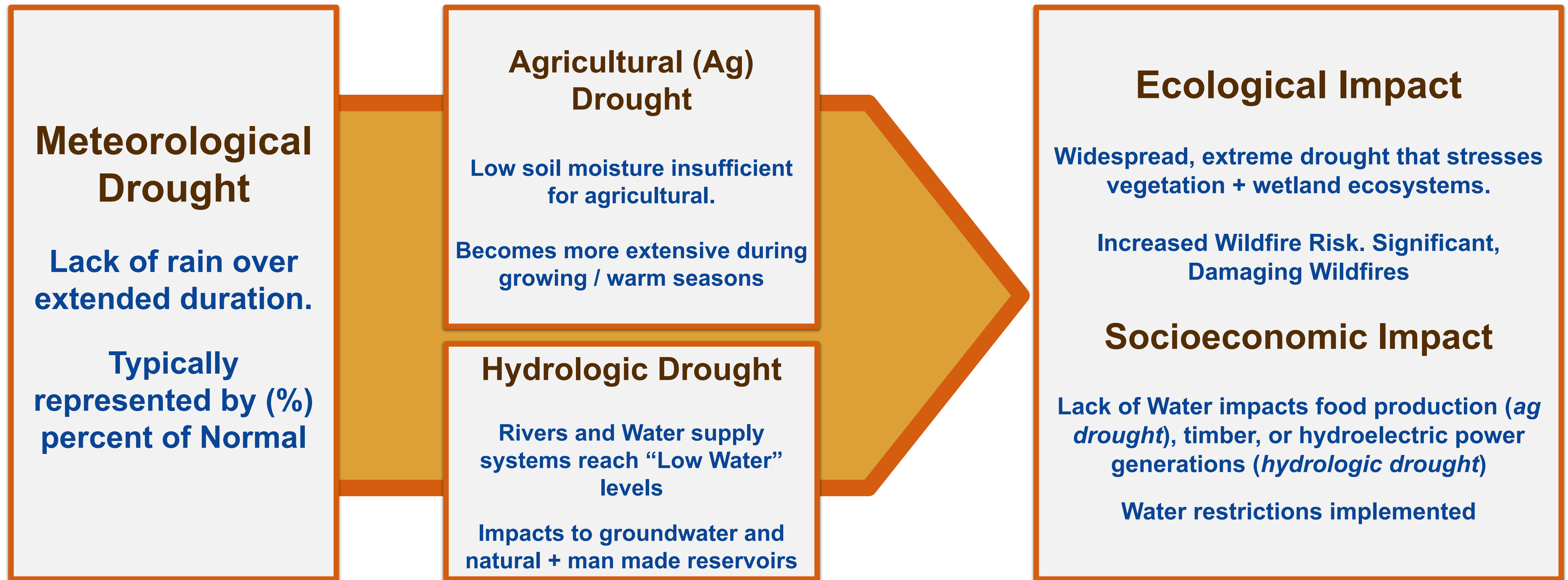
Diving Into:

- Science (why?)
- Tools (what? + how?)
- Outlooks (when?)



Drought: Tools & Outlook

Drought and Progression to Impact



Drought Intensity + Onset



Percentage of Normal Rainfall

- Measured over a period of time typically in Months
- Compares “typical” rainfall to “actual” accumulated rain

“FLASH” Drought

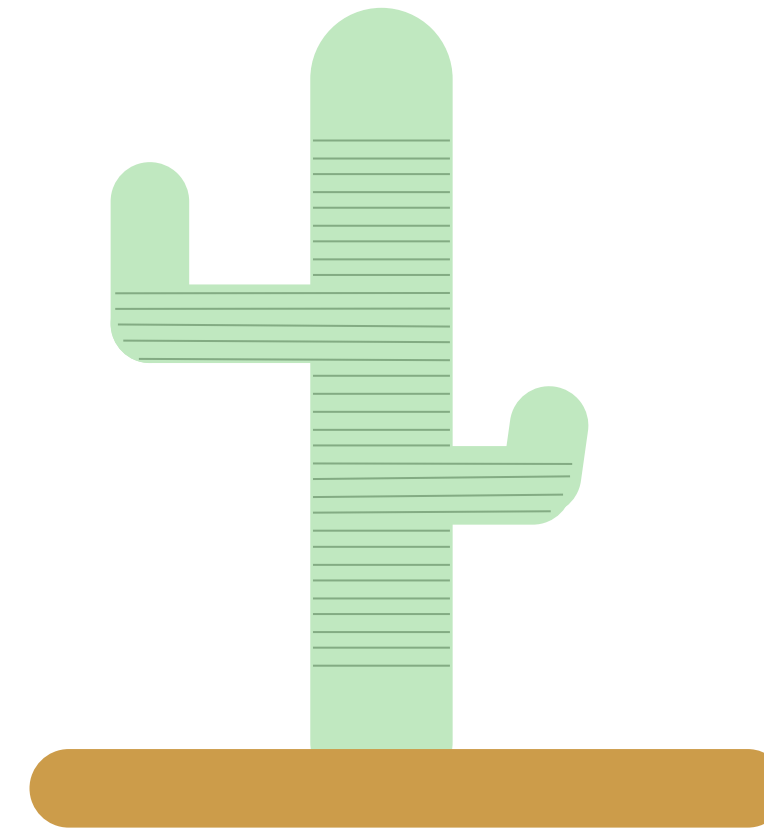
- Weeks of a precipitation deficit during typical “rainy” season
- Occurs during warm season when soil moisture is “sucked” up by the plants (evapotranspiration)
- Accelerated moisture deficit during Heat Waves resulting in rapid drought development
- Often tied to “La Niña” Periods and Summer

Long-Term Drought

- Drought that results from a long period of time (several months) and gradual precipitation deficit

Drought Onset

- Determined and graded (severity) by a group of subject-matter experts and identified aggregate impacts

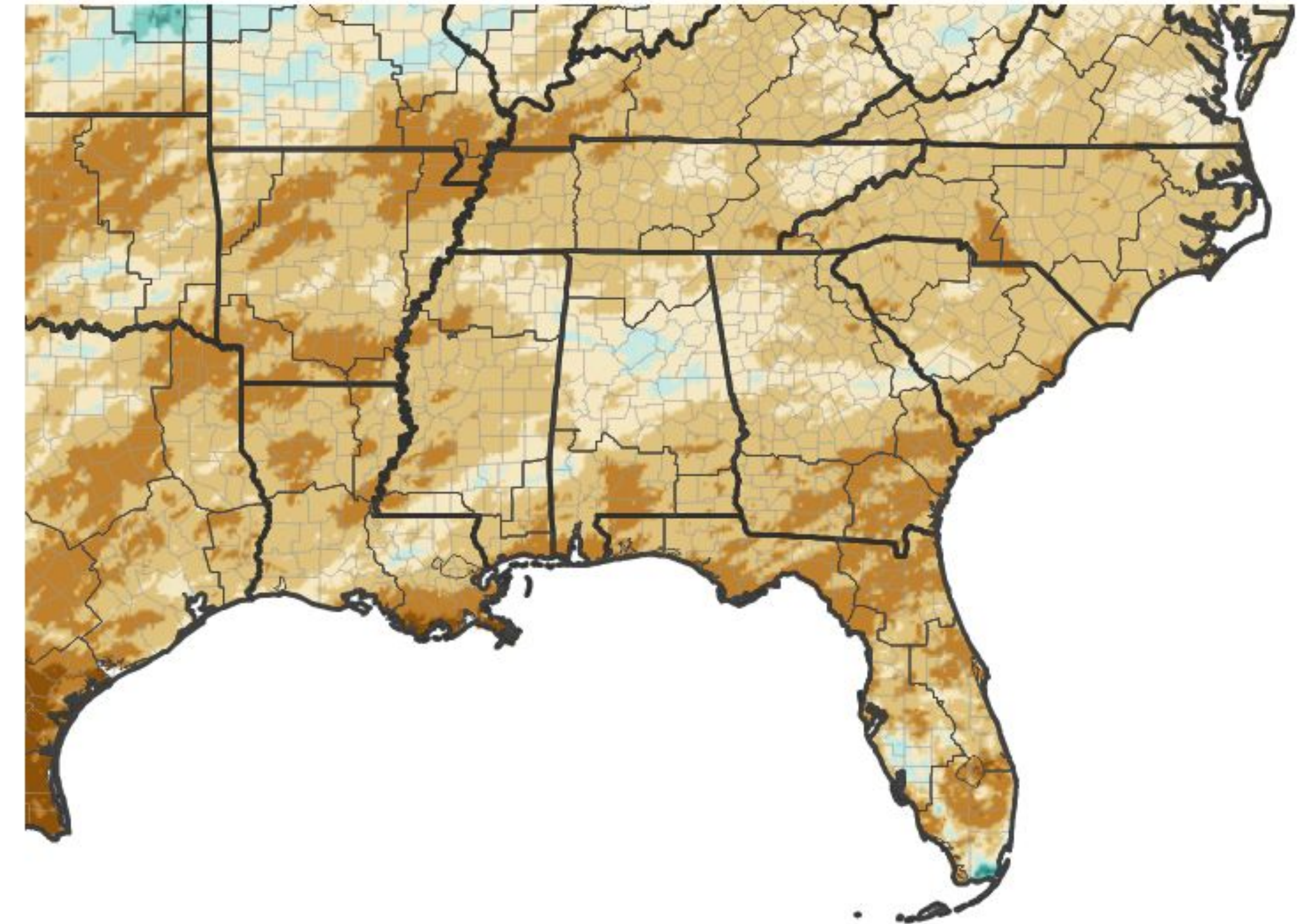


Droughts Begin with Rainfall Deficits

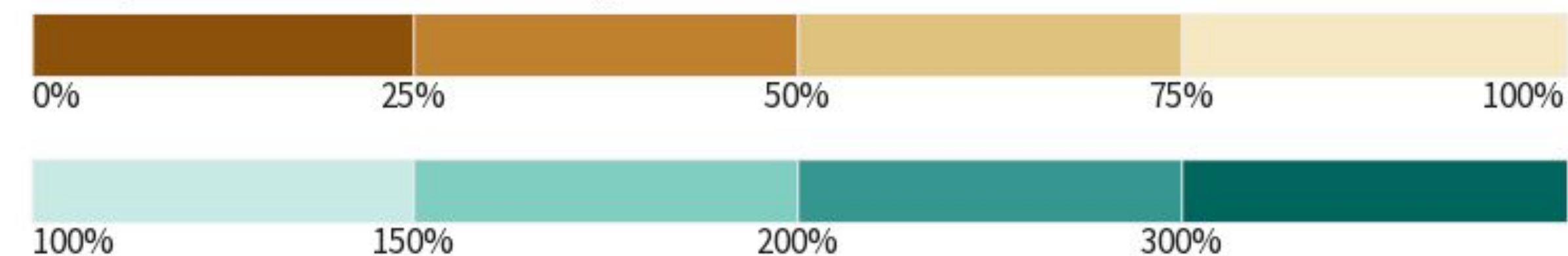
Drought development begins during periods of below “Normal” rainfall for a region

We depict this by using “Percentage of Normal” maps to discern anomalously dry areas

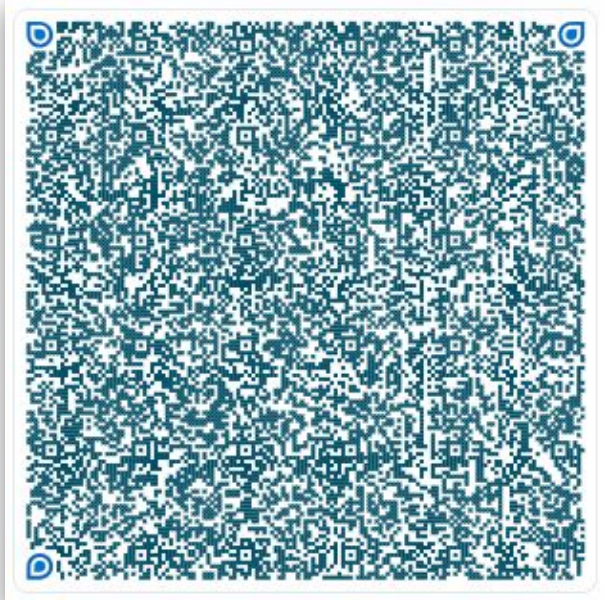
90-Day Precipitation: Percent of PRISM Normal



Precipitation Shown as a Percentage of Normal Conditions



Hydrologic Drought Analysis



Streamflow (River Levels)

- When stream levels fall to low levels = “Long Term” hydrologic drought
- When below the 10th percentile = Critically low threshold

Streamflow: Low Flow

Below normal

10th – 24th percentile

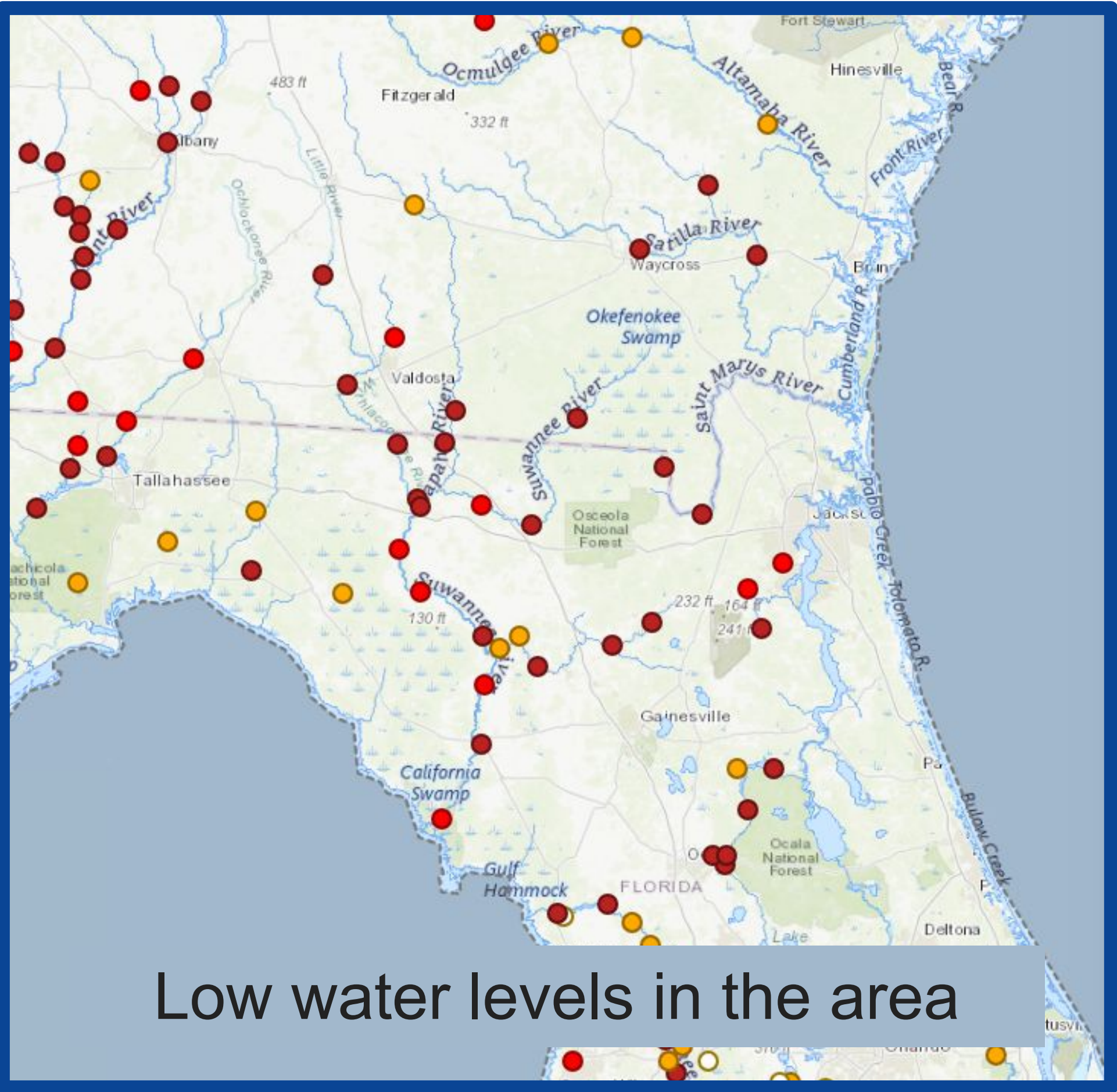
Much below normal

<10th percentile

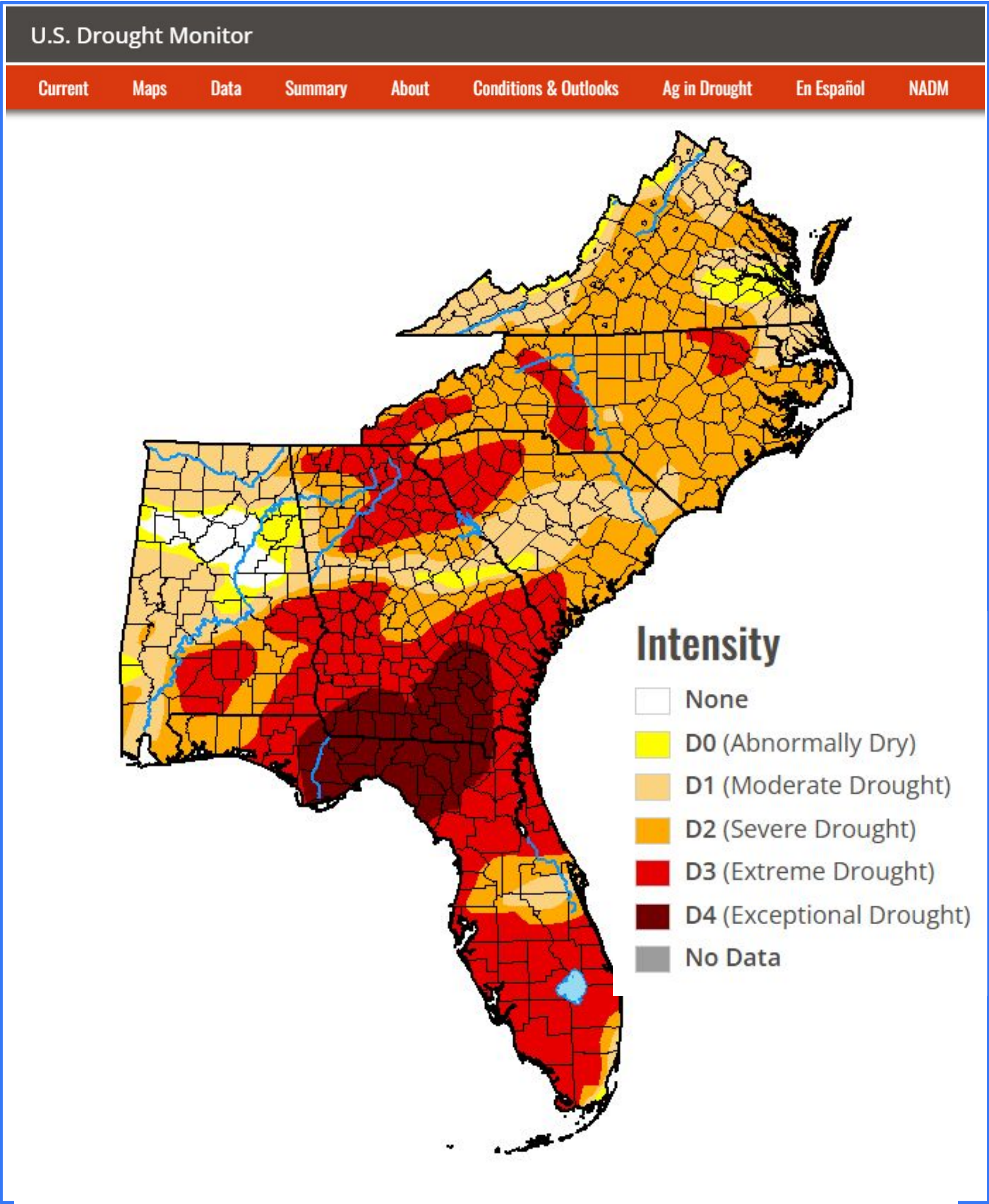
All-time low for this day

0th percentile (minimum)

Not flowing



Monitoring Drought



U.S. Drought Monitor

A map released every Thursday, showing where drought is and how bad it is across the U.S. and its territories.

The map uses six classifications:

- Normal conditions,
- Abnormally dry (D0)
[areas that may be going/coming out of drought]

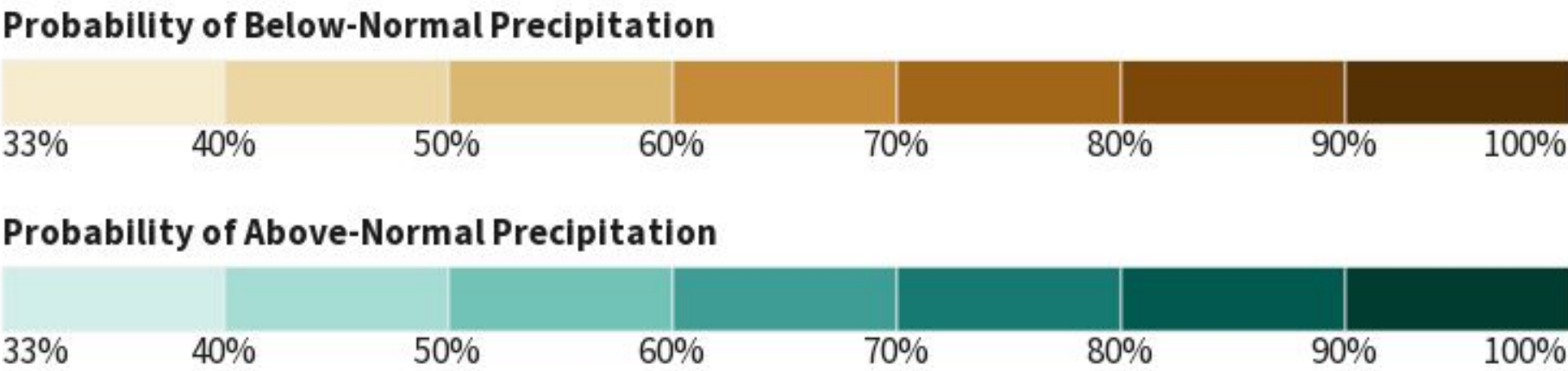
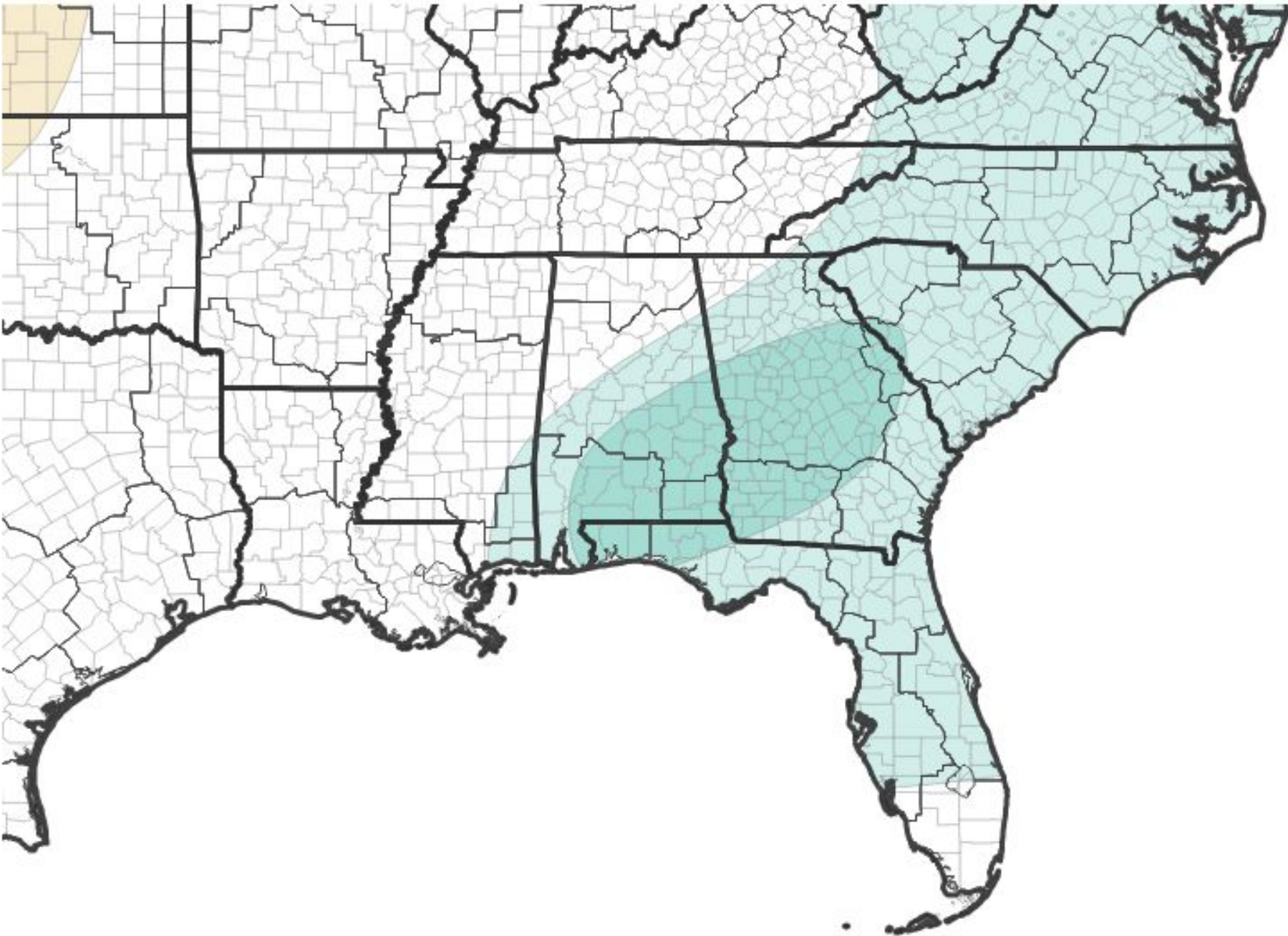
Four levels of drought:

- Moderate (D1)
- Severe (D2)
- Extreme (D3)
- Exceptional (D4).

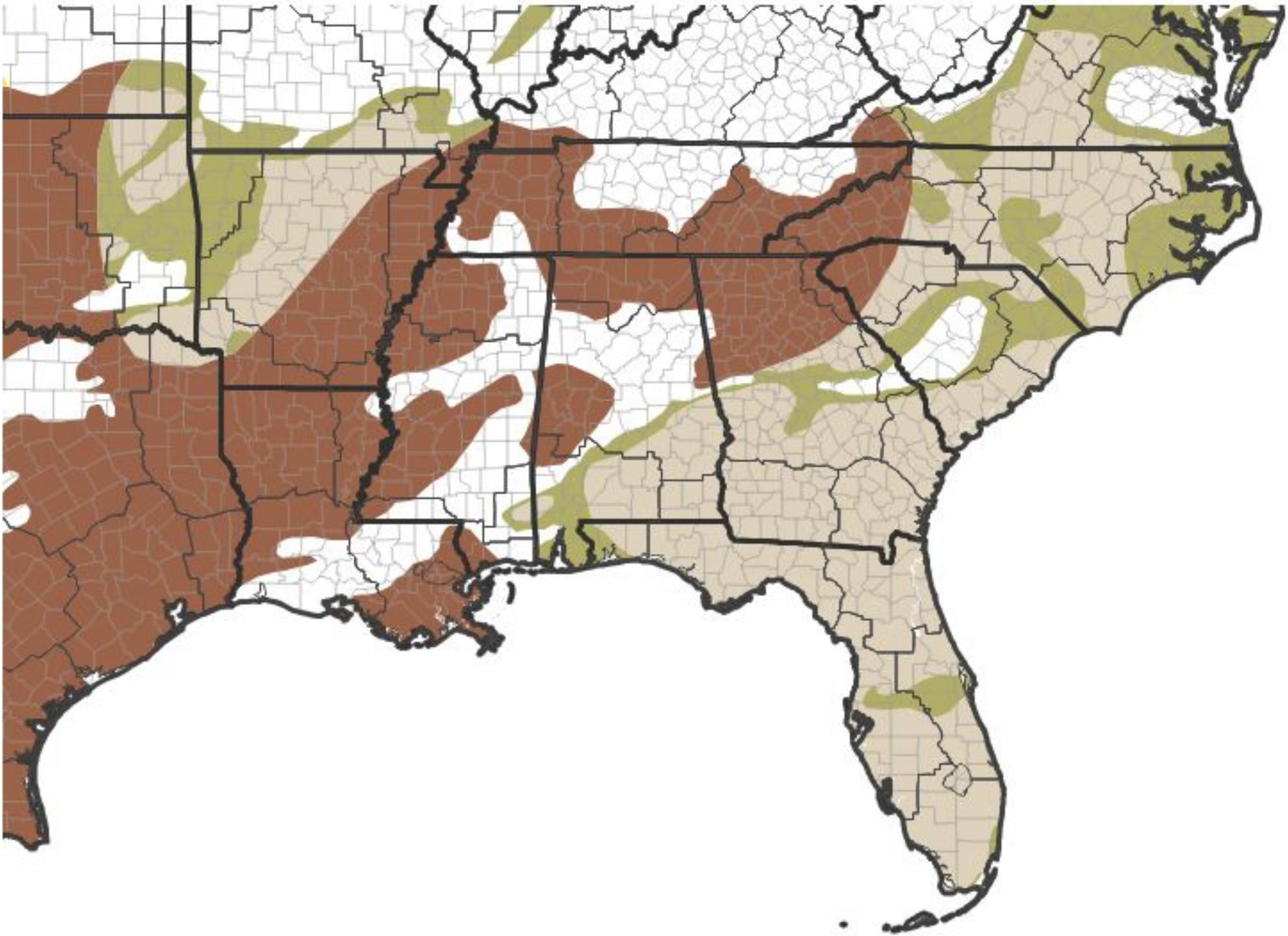


Current Drought + Outlook Information

Seasonal (3-Month) Precipitation Outlook for April 1, 2026–June 30, 2026



Seasonal (3-Month) Drought Outlook for March 19, 2026–June 30, 2026



Local Drought Statement (Updated Weekly)

Current Hazards

Current Conditions

Radar

Forecasts

Extreme Exceptional Drought

Observed Precipitation

Satellite

Surface Observations

Marine Observations

Upper Air Observations

Drought Conditions

NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Local forecast by "City, St" or ZIP code

Enter location

Go

Location Help

News Headlines

NWS JAX Weather Impact Briefing

Florida Tropical Training Week 2026

Skywarn Storm Spotter Class Schedules for 2026

Report Rainfall from Your Backyard! Join CoCoRaHS for "Rain Gauge Rally"

Learn How to Prepare your Home for Wildfires

Additional Headlines

Drought Information Statement

Weather.gov > Jacksonville, FL > Drought Information Statement

Jacksonville, FL

Weather Forecast Office

Current Hazards

Current Conditions

Radar

Forecasts

Rivers and Lakes

Climate and Past Weather

Local Programs

Latest Drought Information Statements for NWS Jacksonville

For text only click the link below:

Latest Drought Information Statements for NWS Jacksonville (Accessible Text-Only Version)

U.S. Drought Monitor

Jacksonville, FL WFO

April 7, 2026

(Released Thursday, Apr. 9, 2026)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	100.00	100.00	48.37
Last Week 03-31-2025	0.00	100.00	100.00	100.00	100.00	31.73
3 Months Ago 01-09-2025	0.00	100.00	99.17	70.75	0.00	0.00
Start of Calendar Year 01-01-2025	0.00	100.00	99.17	70.75	0.00	0.00
Start of Water Year 09-30-2024	8.77	91.23	55.03	9.02	0.00	0.00
One Year Ago 04-08-2024	70.90	29.10	10.57	1.75	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:

David Simerai

Western Regional Climate Center

USDA

NDMC

NOAA

NASA

droughtmonitor.unl.edu

Visit <https://www.drought.gov/drought-information-statements> to view all available NWS Drought Information Statements.

Local Drought Statement

- Adds context to the drought, in both Hydrological and Agricultural
- Highlights Local Impacts and Mitigation Strategies
- Updated Weekly **When Extreme Drought (D3) is Occurring.**

NOAA

NATIONAL WEATHER SERVICE

NATIONAL WEATHER SERVICE

Department of Commerce // National Oceanic and Atmospheric Administration // 10



Fire Weather: Basics, Tools, & Outlook

Wildfire Ingredients

Weather

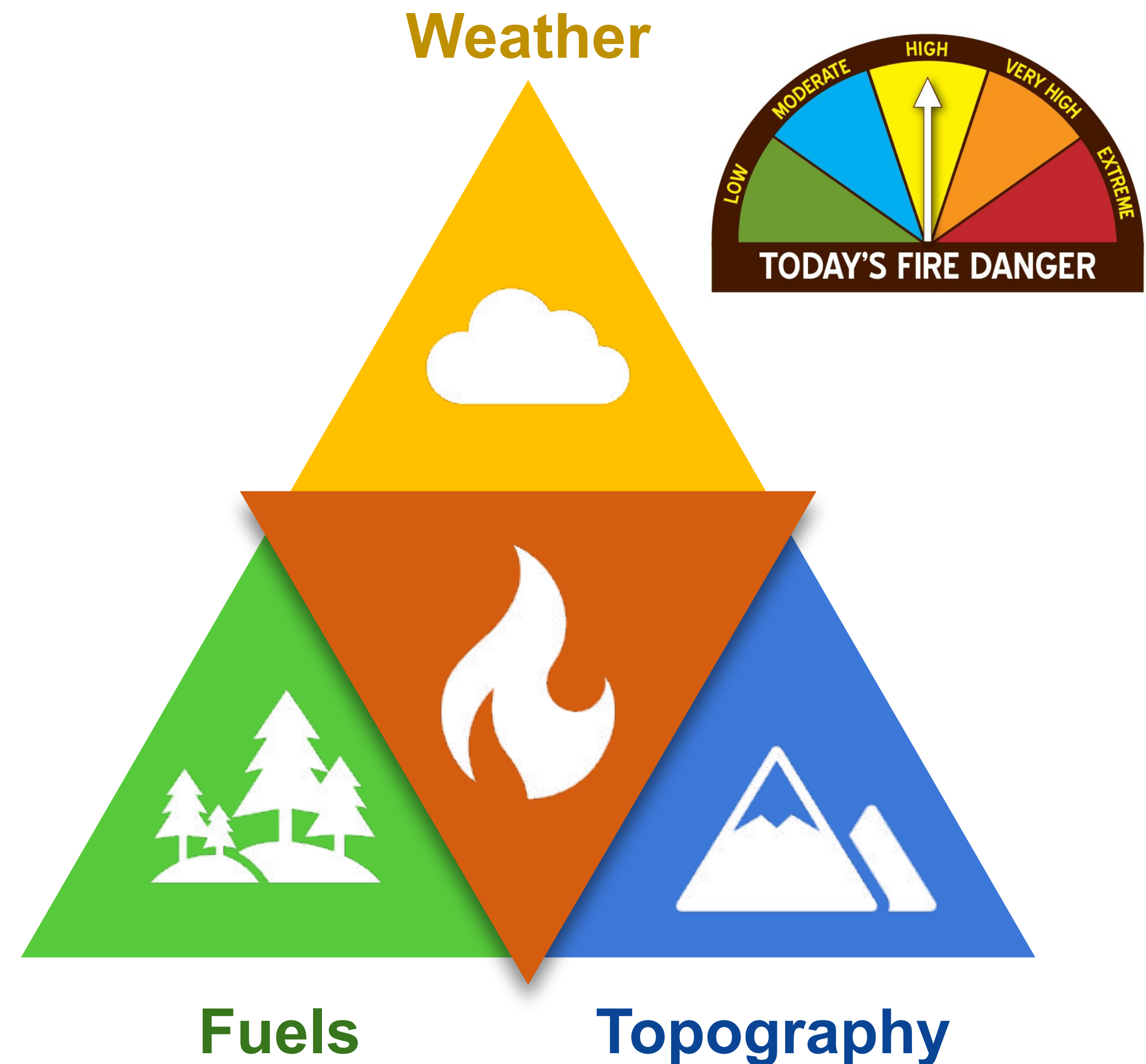
Wind, Humidity, & Instability

Fuels

Types, Dryness (Drought), Load

Topography

Fuel types, Wind Patterns, Aspects



NATIONAL WEATHER SERVICE

Wildfire “Seasonality”

 **Winter**
[Jan - Feb]

Dry Season

Frosts & freeze events dry out fine fuels (grasses)
Prescribed Fire Activity Increases to control Fuel Loading

 **Spring**
[Mar - May]

Peak Fire Activity

Dry fuels, late season fronts, Warming Temps
Spring “Green up”

 **Summer**
[Jun - Sep]

Rainy Season

High humidity and daily thunderstorms reduce wildfire risk

 **Fall**
[Oct - Dec]

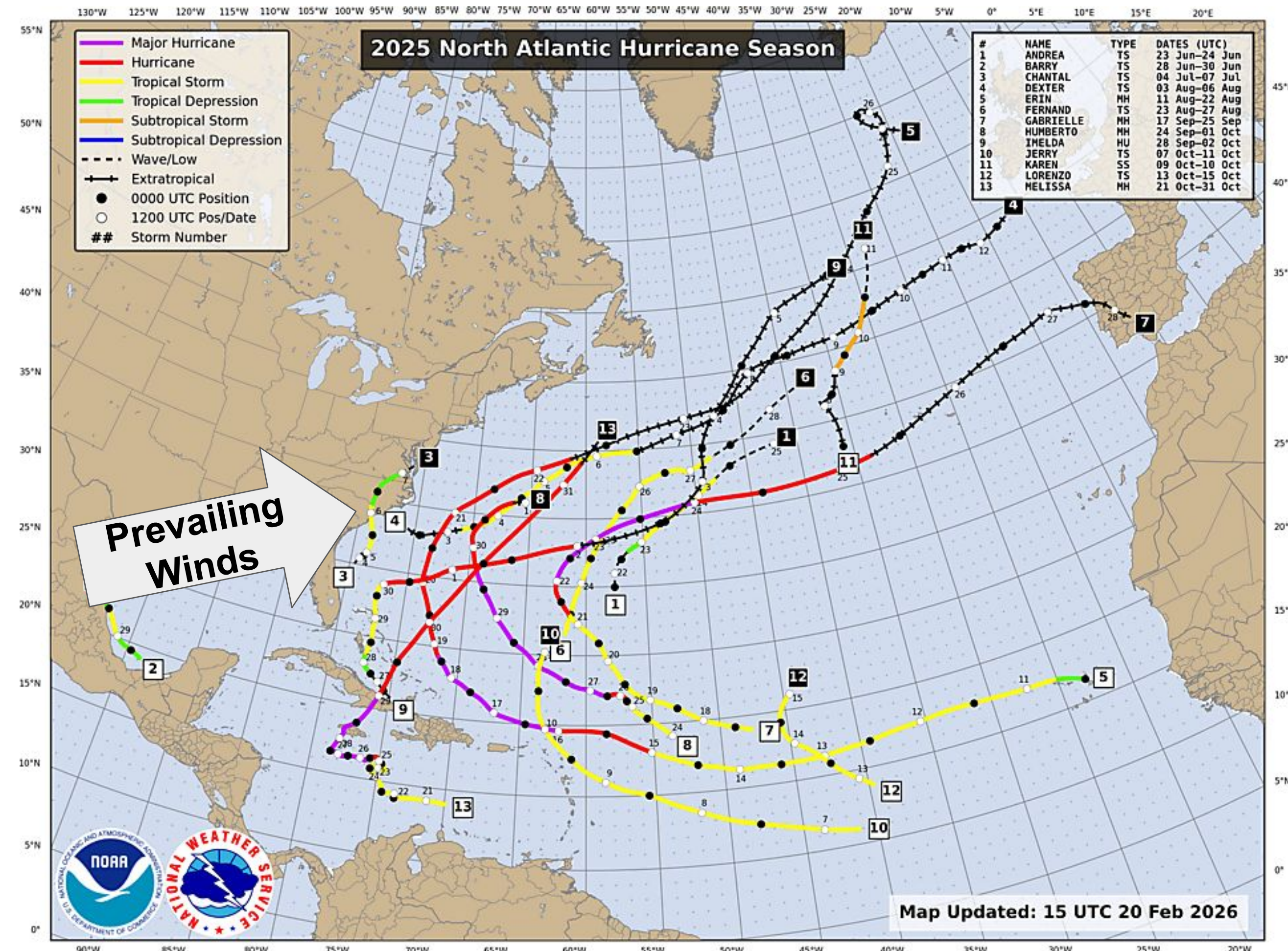
Secondary Peak

If drier than usual conditions close out summer, a secondary peak in fire activity can occur



2025 Tropical Season Impact

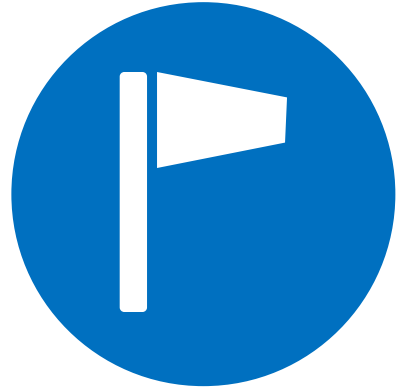
April 13, 2026
7:43 AM



- Early season fronts by late August
- ◆ Early end to local wet season
- ◆ Kept tropical cyclones east of region
- Lack of tropical systems = lack of fall rain



Wildfire: Key Weather Variables

-  **High Temperatures** | Dry out fuels quickly and increase in fire intensity
-  **Low Humidity** | Leads to drier fuels and increases the rate of fire spread
-  **Wind** | Drives fire spread, spotting potential (distances), sudden wind direction changes affects firefighter safety
-  **Atmospheric Stability** | Unstable conditions (rising air) helps ventilate fires and can promote extreme fire behavior

Communicating Critical Fire Weather Conditions

1-3+ Days Before

Fire Weather Watch

- Low Humidity, Strong Winds and Receptive Fuels are **LIKELY** to align across an area
- Issued by individual Fire Zones

12-24 hours Before

Red Flag Warnings

- Low Humidity, Strong Winds and Receptive Fuels **EXPECTED**
- Allows lead time for land management agencies to provide mutual aid, pre-position assets, and stage resources

What are the Red Flag thresholds?

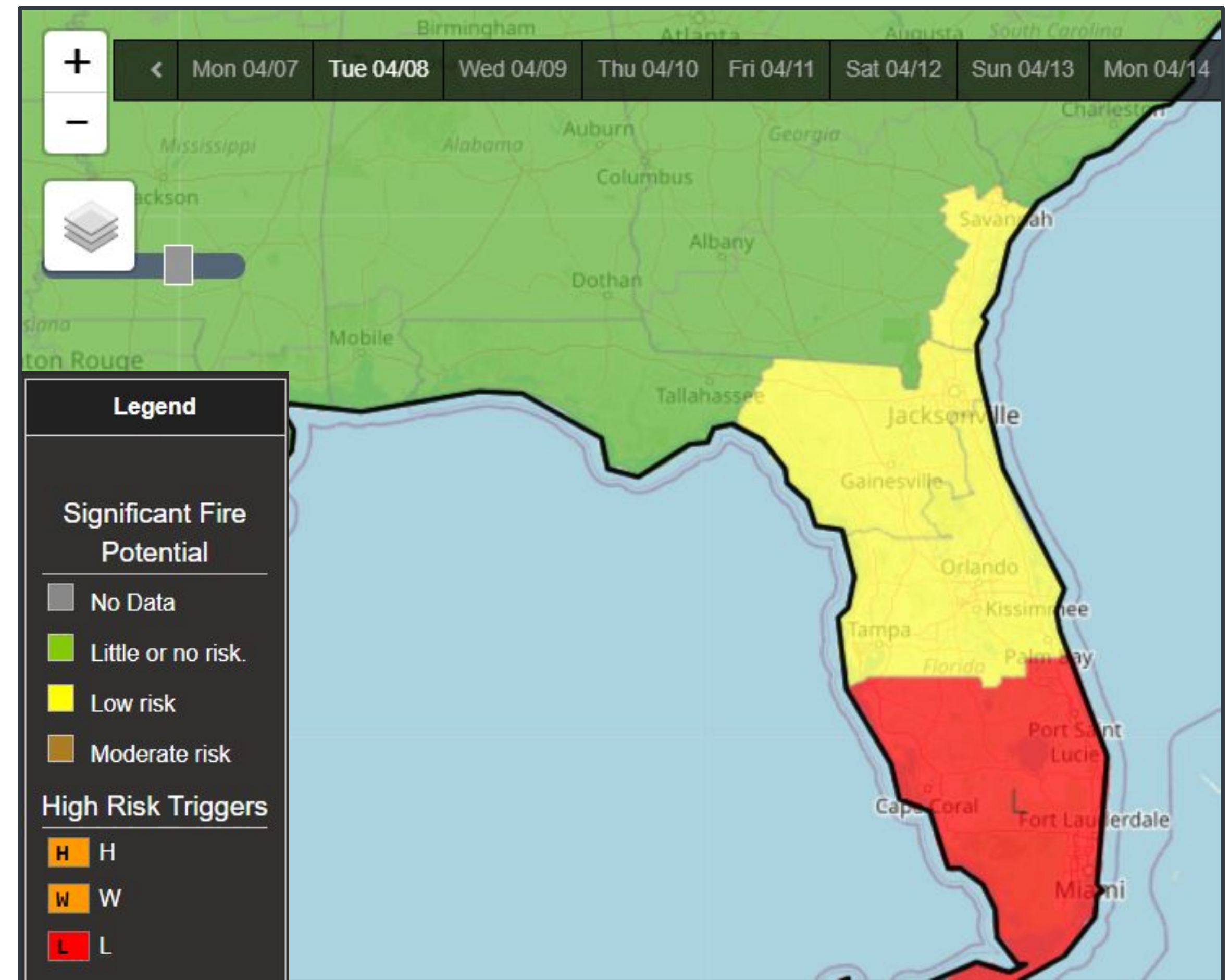
Thresholds Vary Regionally

Southeast GA

- Wind: **15+ MPH or Gusts 25+ mph**
- Humidity: **25% or lower**
- Fuel: **10-hour Fuel Moisture under 6%**

Northeast FL

- Wind: **15+ MPH (gusts not considered)**
- Humidity: **28% or lower**
- Fuel: **Fire Potential “Moderate” or “High” Risk**



Available Fire Weather Intelligence (at your disposal)

Fire Weather Hub

NWS Jacksonville Fire Weather Support

Immediate Support

NWS JAX Operations
904-741-4370 extension 1

NWSChat2.0 Interface
#wfo-jacksonville-fl
About [NWSChat2.0](#)

NWS JAX Fire Forecasts

[Fire Weather Forecast](#)

[SPOT Forecast Request](#)

[Fire Weather Dashboard](#)

[Fire Weather Watch & Warning](#)

[Fire Danger Rating Input](#)

[Point Forecasts for RAWs](#)

[Weather Activity Planner](#)

[NWS Jacksonville Briefing](#)

Forest Point Forecasts

[Osceola NF \(Big Gum Swamp\)](#)

[Ocala NF \(West Lake George\)](#)

[Cumberland Island NS \(High Pt\)](#)

[Okefenokee NWR \(Jones Island\)](#)

[Guana River WMA \(Pine Island\)](#)

[Jennings Forest \(Deep Creek\)](#)

Guidance & Support

State & Federal Agency Links

[Florida Annual Operating Plan](#)

[Florida Forest Service Fire Weather](#)

[Georgia Annual Operating Plan](#)

[Georgia Forestry Commission Fire Weather](#)

[National Interagency Coordination Center](#)

[Southern Area Coordination Center](#)

[InciWeb - Incident Specific Info](#)

Fire Weather Tools

[Drought Monitor](#)

[HRRR Smoke Model](#)

[Surface Observations](#)

[JAX Fire Weather "Snooper"](#)

[Fire Mapping](#)

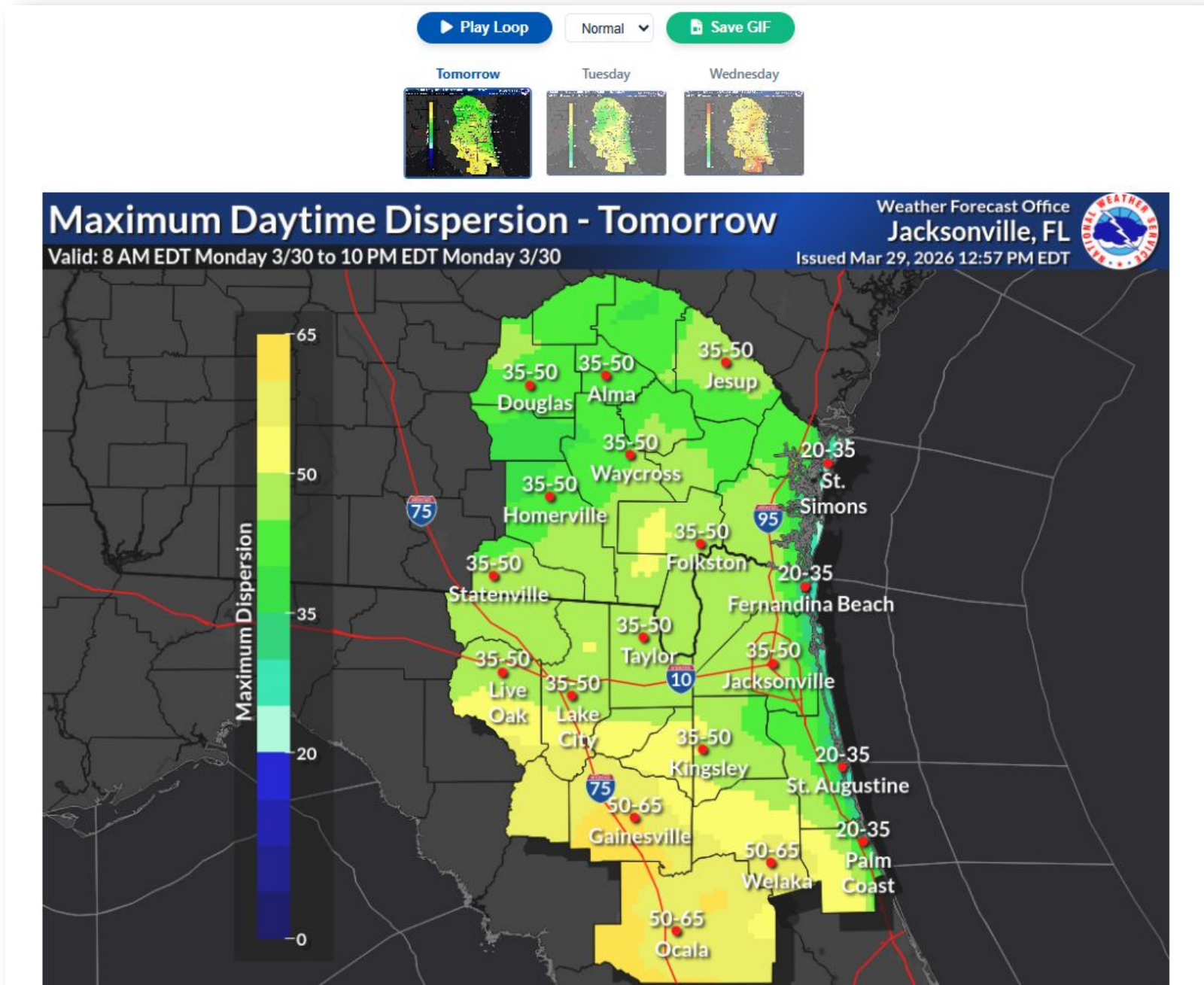
[Forest Service 7-Day Significant Fire Potential](#)

Fire Weather Dashboard

Download Weekly Summary as PNG

Penney Farms, FL Weekly Summary	Tue Apr 8	Wed Apr 9	Thu Apr 10	Fri Apr 11	Sat Apr 12	Sun Apr 13	Mon Apr 14	Tue Apr 15
Max Temp, °F	76	76	79	79	73	76	84	88
Min Temp, °F	58	52	55	57	53	48	49	56
Max RH, %	83	93	100	93	83	77	96	90
Min RH, %	34	37	49	45	35	32	30	31
Max Dewpoint, °F	53	55	60	59	54	48	52	58
Min Dewpoint, °F	45	48	54	55	42	41	47	51
Max Wind, mph	9	16	6	13	10	6	5	8
Min Wind, mph	3	3	2	2	5	2	1	2
Max Wind Gust, time/dir.	5 PM ↘	4 PM ↘	12 AM ↗	3 PM ↗	2 PM ↗	10 AM ↗	2 PM ↗	4 PM ↗
Max Wind Gust, mph	14	18	10	20	16	9	7	13
Min Wind Gust, mph	6	6	3	3	7	3	2	3
Max Cloud Cover, %	44	42	25	45	22	6	8	19
Min Cloud Cover, %	10	6	13	9	2	0	1	6
Max Prob. of Precip., %	0	2	6	39	3	0	1	2
Max LAL	1	1	1					
Max Mixing Height, ft	4700	5800	6100					
Min Mixing Height, ft	450	400	400					
Max Ventilation Rate, kt-ft	33	58	47					
Min Ventilation Rate, kt-ft	3	3	3					
Max LVORI	5	6	8					

Probabilistic Fire Weather Intel



<https://www.weather.gov/jax/fire>
Forecasts, Guidance, Fuel, and Outlook intel



[Fire Weather Dashboard](#)
Located under Fire Weather Support

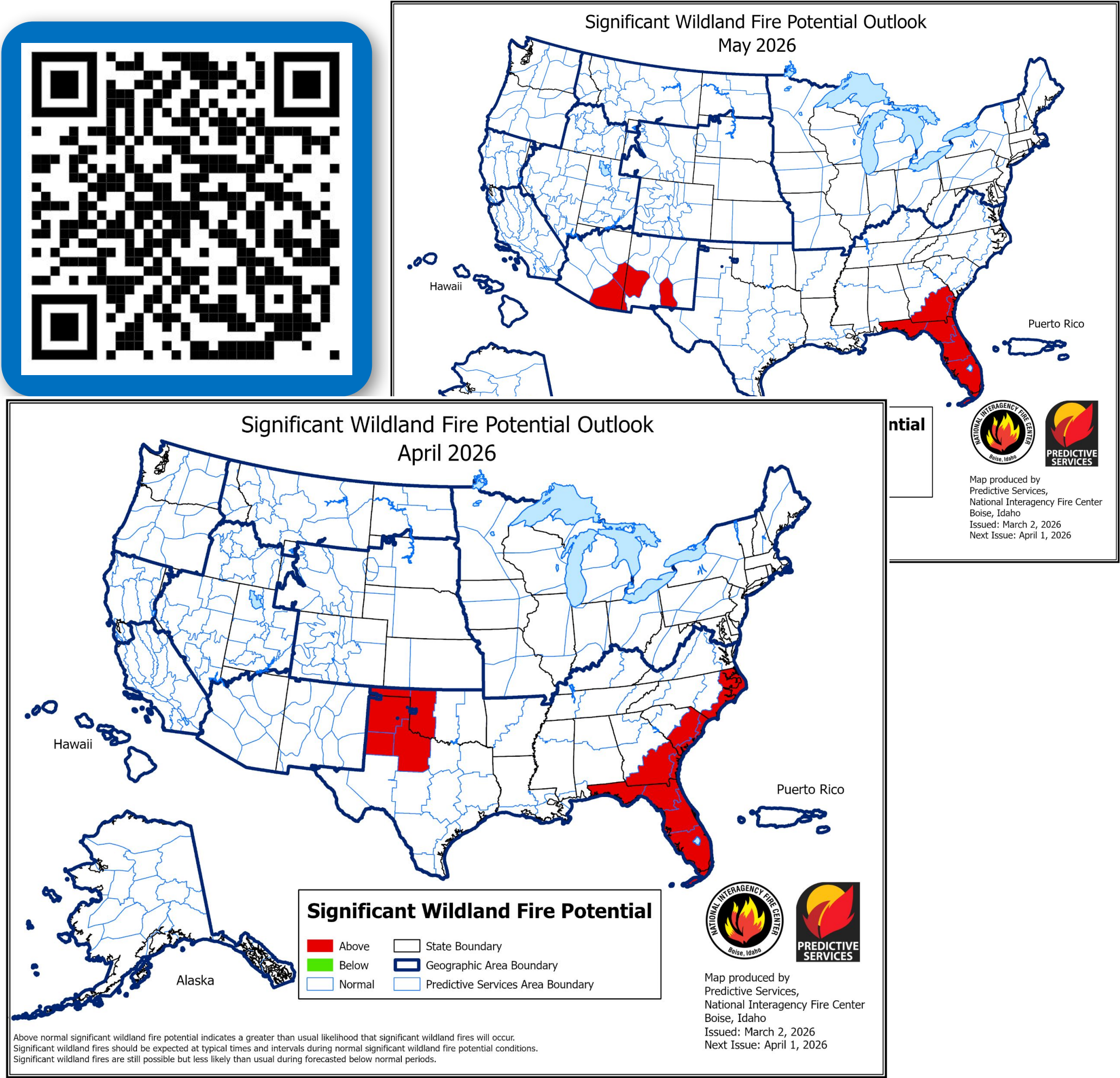


https://www.weather.gov/jax/graphics?do_main=FireWx
Assess Wind and Low Humidity Chance



NATIONAL WEATHER SERVICE

Outlook This Fire Season

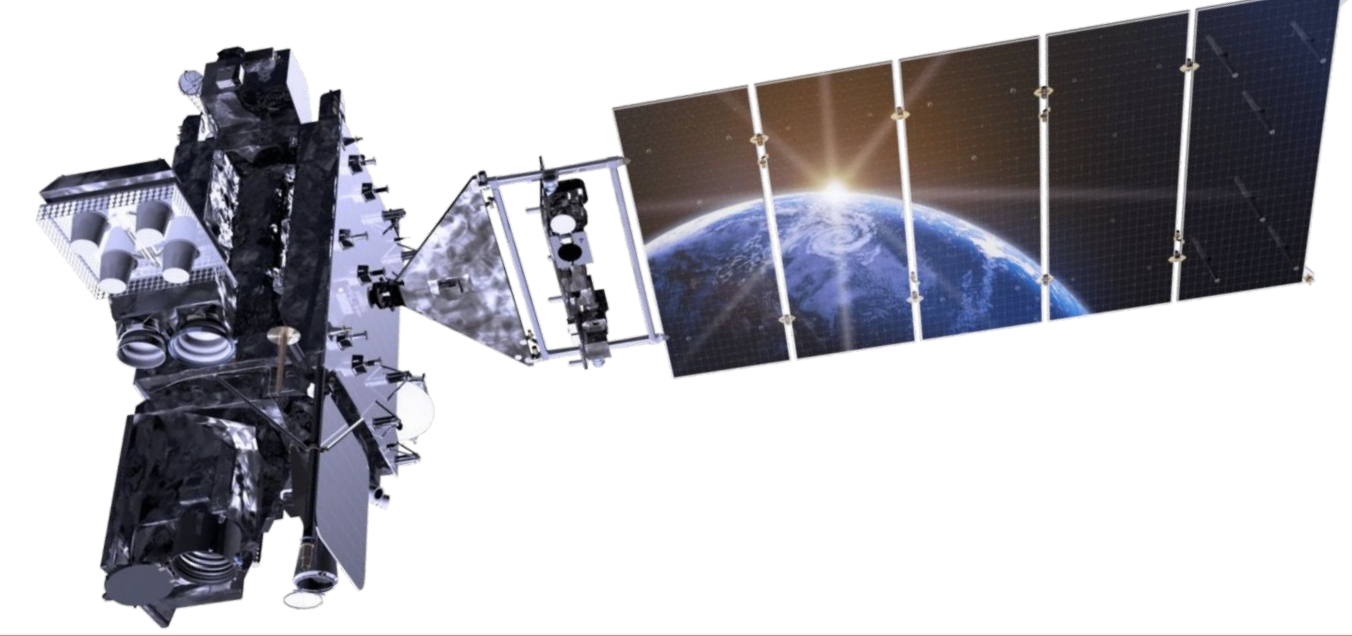


Widespread Extreme Drought will prolong Significant Wildfire Risk through May, Possibly into June across FL and Southeast GA

Critically dry fuels will lead to favorable burning without low humidities

Improving drought Possible in June/July

What's the Future Hold?



Communication Efforts

Red Flag Warnings may become a tiered product to emphasize “Particularly Dangerous Situations” & Improve Communication during more extreme events by providing actionable information



Satellite Fire Detection

Next Generation Weather Satellites (GeoXO) will dramatically improve detection of wildfires and predict movement more quickly

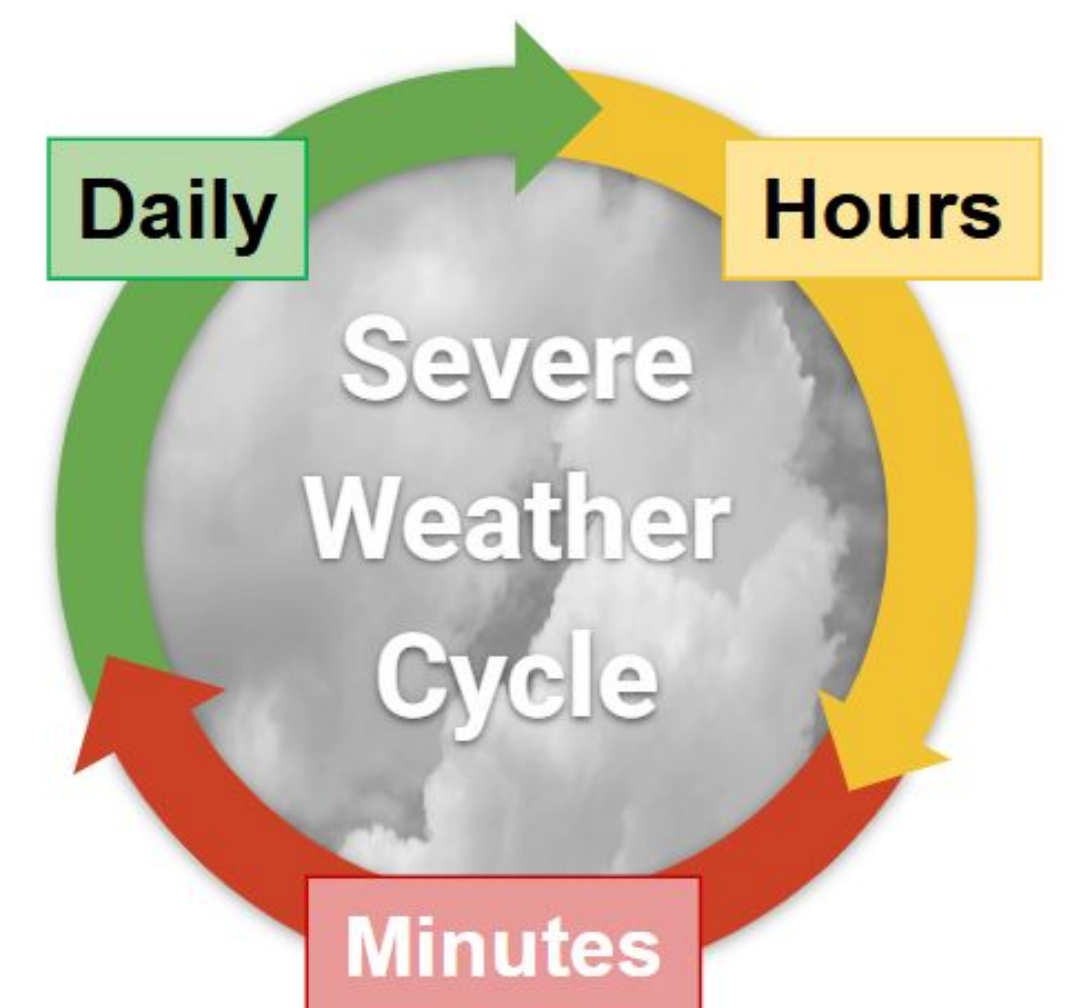


Fire Warnings

Detection improvements with the current satellite system has lead to experimental polygon-based warnings



Severe Storm Outlooks & Alerts



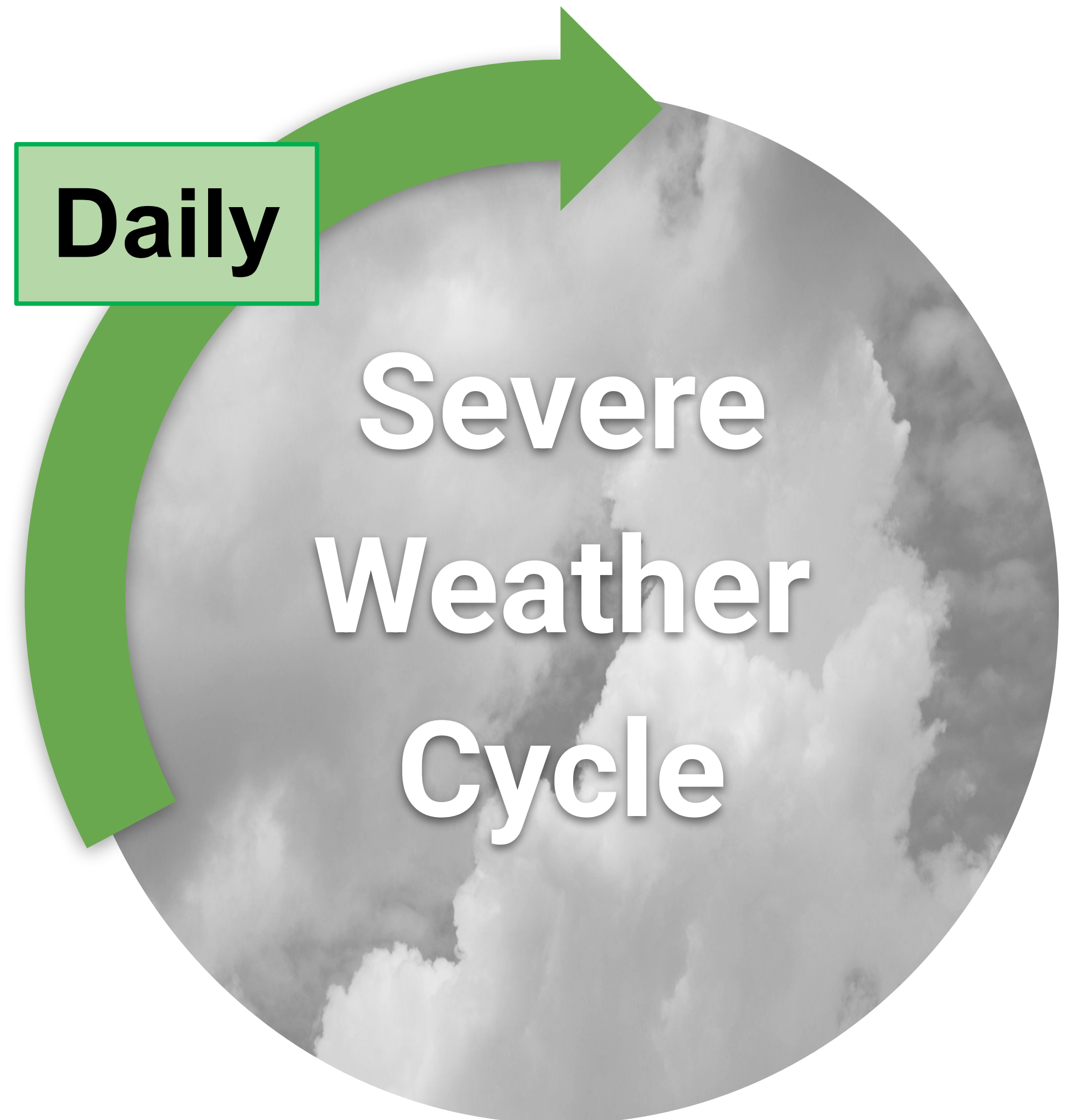
Stage 1: Outlook

Review NWS Products and Services daily.

Typically issued several days out

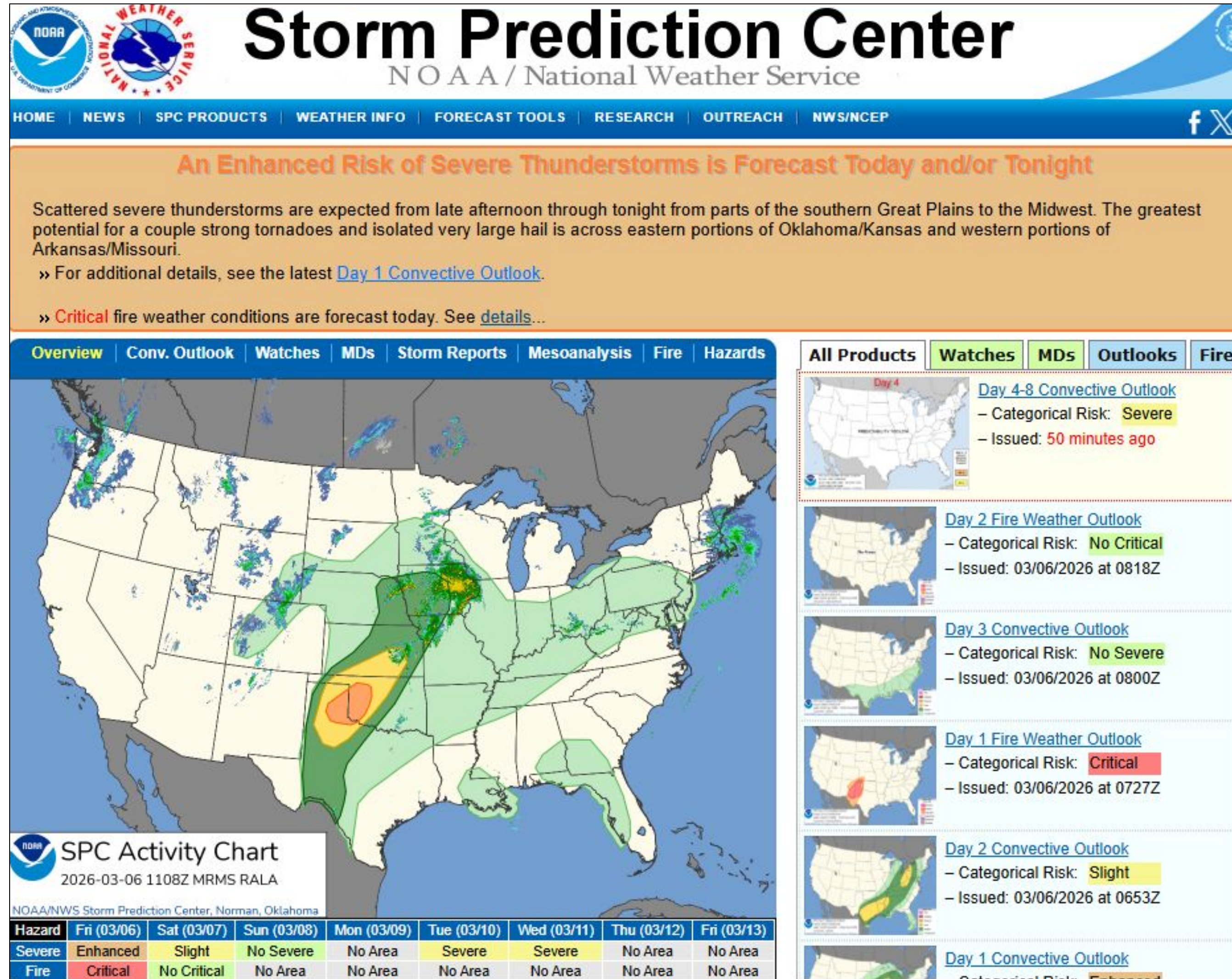
Have a plan and know where to shelter in the event severe weather strikes. Make sure you have emergency supplies.

Have a Plan!



Storm Prediction Center - SPC

<https://www.spc.noaa.gov/>



- National NWS Center
- Focus on large scale (synoptic) weather pattern
- Targets where ingredients to produce severe storms phase
- Provides Outlooks for:
 - Severe thunderstorm risk via **Convective Outlooks**
 - Severe thunderstorm risks (damaging wind, large hail & tornadoes)

Storm Prediction Center Outlooks

THUNDERSTORM S (No Label)

No severe
thunderstorms
expected

ALL
thunderstorms
include a lightning
and flooding threat

1 - MARGINAL (MRGL)

Isolated severe
thunderstorms
possible

Often limited in
duration and/or
coverage and/or
intensity

2 - SLIGHT (SLGT)

Scattered severe
thunderstorms
possible

Short-lived and/or
not widespread,
isolated intense
storms possible

3 - ENHANCED (ENH)

Numerous severe
thunderstorms
possible

More persistent
and/or widespread,
a few intense

4 - MODERATE (MDT)

Widespread
severe
thunderstorms
likely

Long-lived,
widespread and
intense

5 - HIGH (HIGH)

Widespread
severe
thunderstorms
expected

Long-lived, very
widespread and
particularly intense

Increasing coverage and intensity of severe weather

- Winds to 40 mph
- Small hail

- Winds 40-60 mph
- Hail up to 1"
- Low tornado risk

- 1-2 tornadoes
- Reports of strong winds/damage
- Hail ~1", isolated 2"

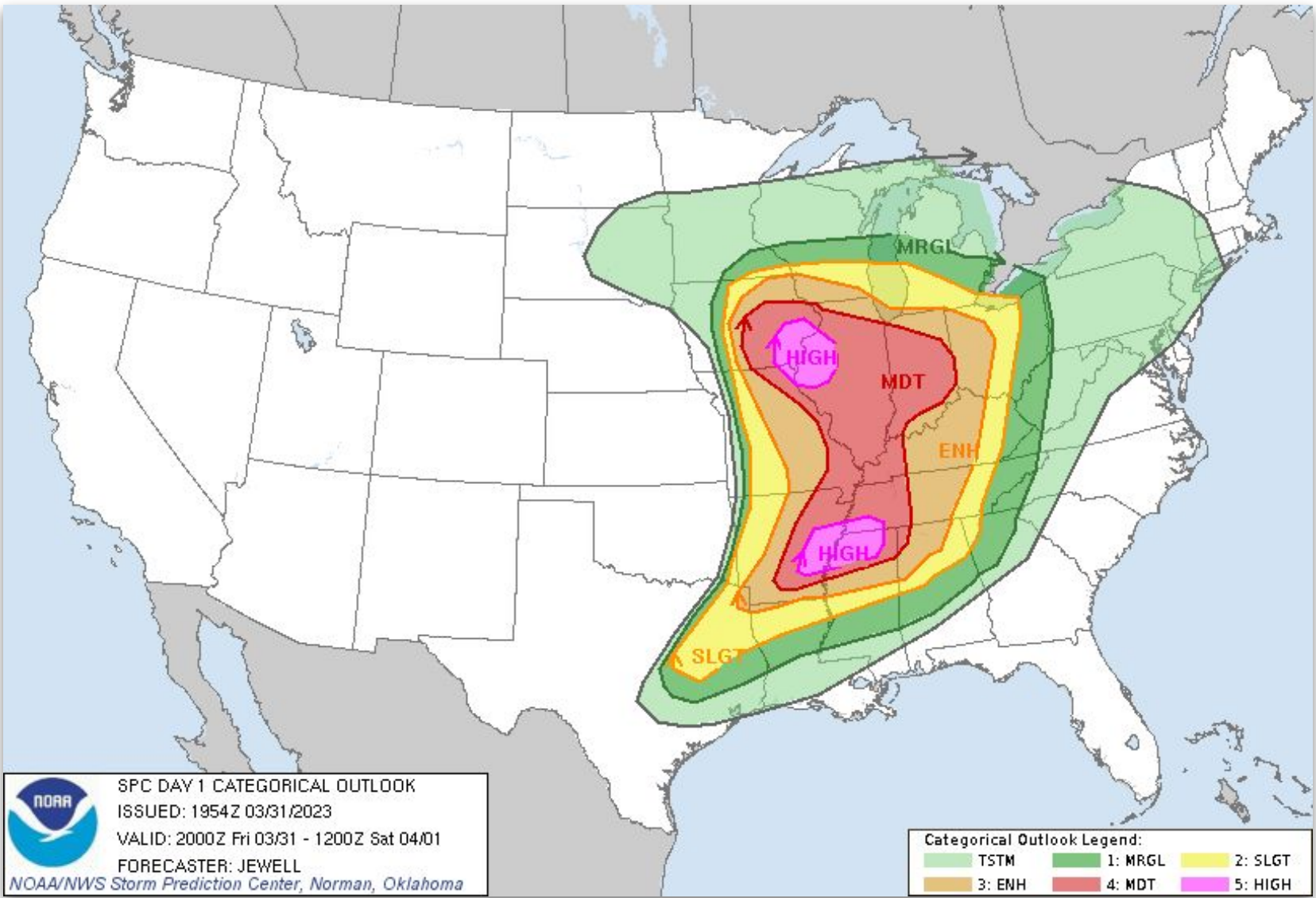
- A few tornadoes
- Several reports of wind damage
- Damaging hail, 1-2"

- Strong tornadoes
- Widespread wind damage
- Destructive hail, 2"+

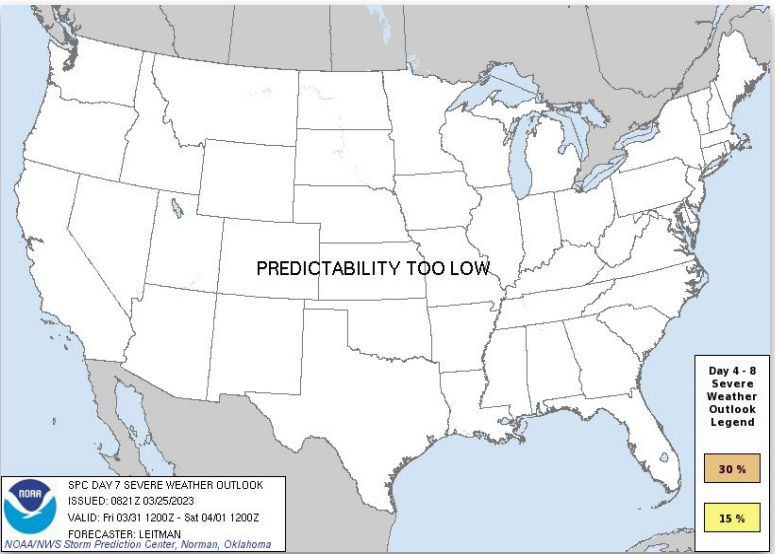
- Tornado outbreak
- Derecho

SPC Outlook Frequency for NWS JAX

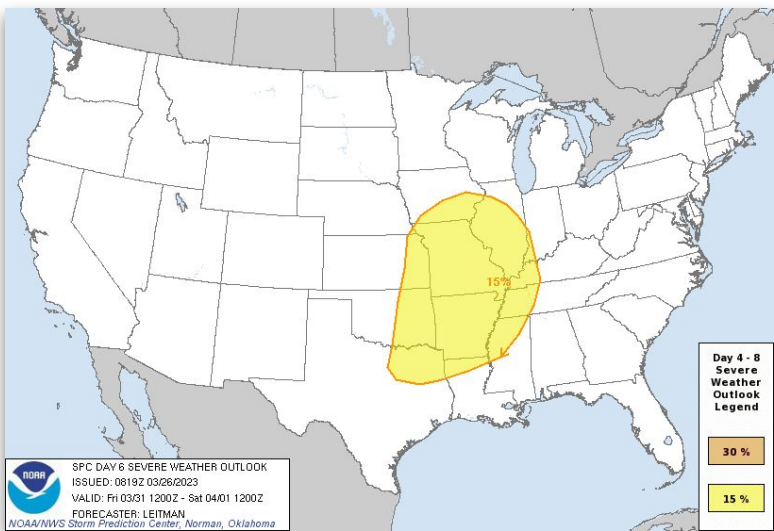
www.spc.noaa.gov



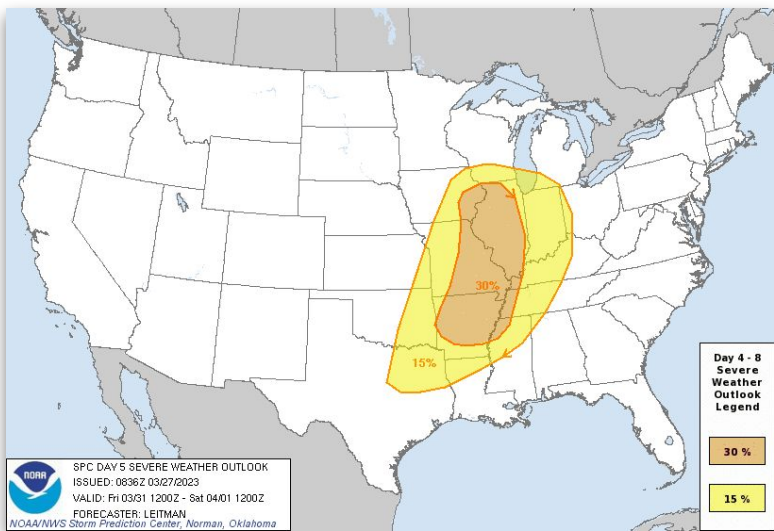
Severe Risk Level	Return Frequency (Day 1 Outlook, 2015-2025)	JAX Email Briefing	JAX Webinar/ Slack Recording
Marginal	25-35 times a year	—	—
Slight	5-10 times a year	Yes	—
Enhanced	1 to 2 days a year	Yes	—
Moderate	~ Once every 2 years	Yes	Yes
High	~ Once every 4-10 years	Yes	Yes



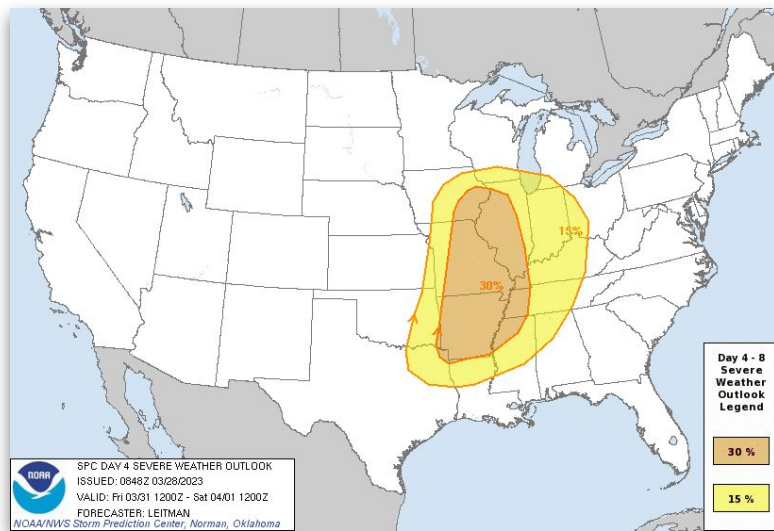
Day 7



Day 6



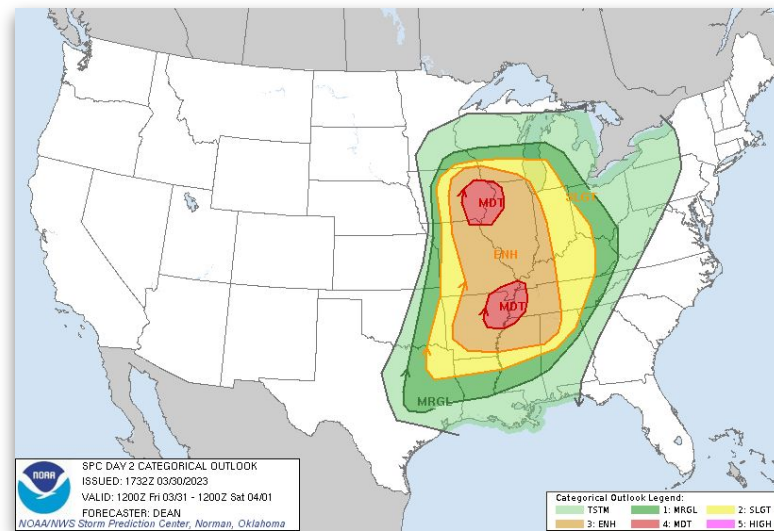
Day 5



Day 4



Day 3



Day 2

NWS JAX Convective Outlook Example

T-Storm Outlook Monday

Key Messages



- Scattered severe thunderstorms on Monday for northeast FL (level 2 / 5)
- 'Enhanced' risk (level 3 / 5) across southeast GA

Storm Timing



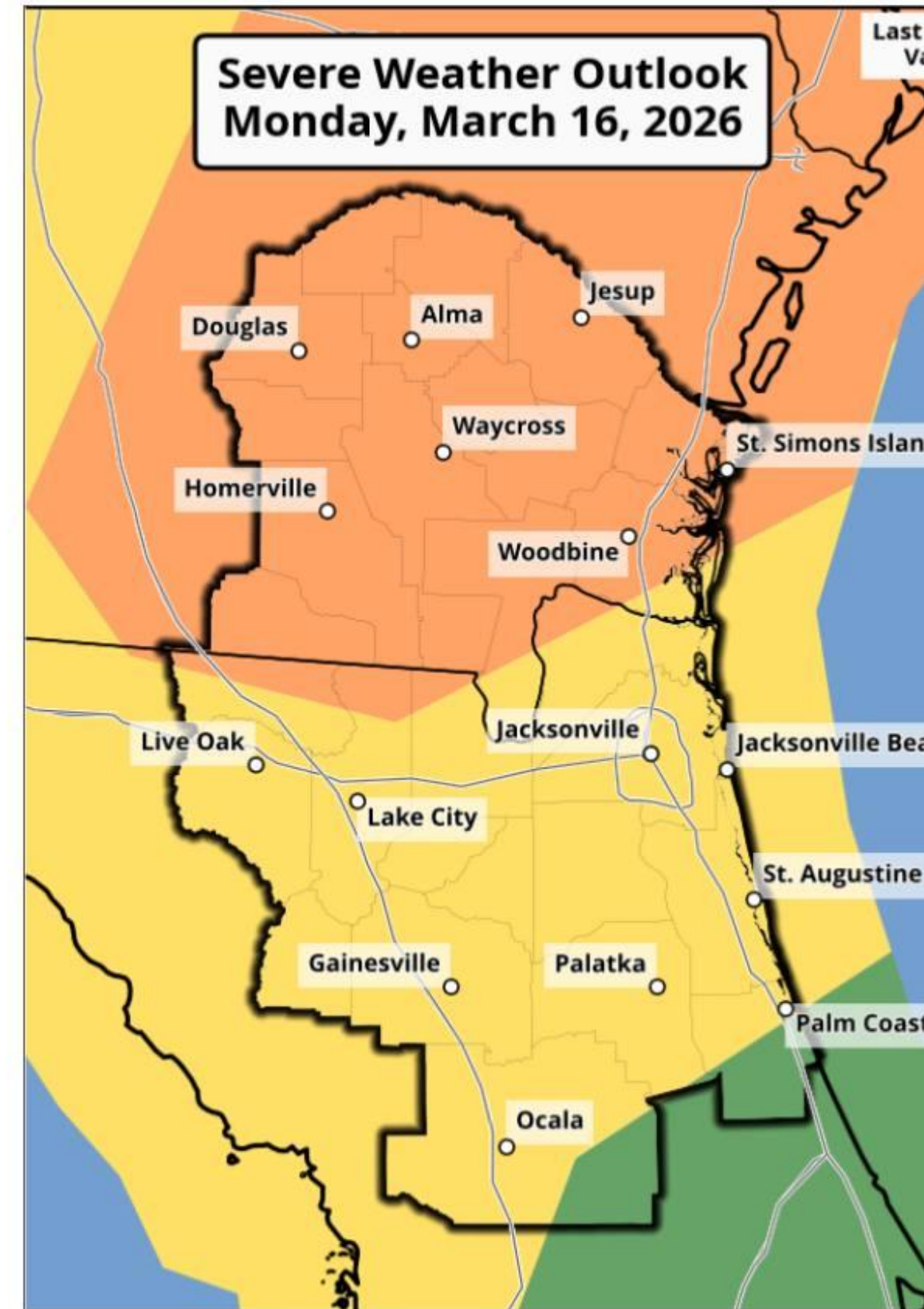
- Strong to Severe Storms: Morning & Afternoon

Main Storm Hazards

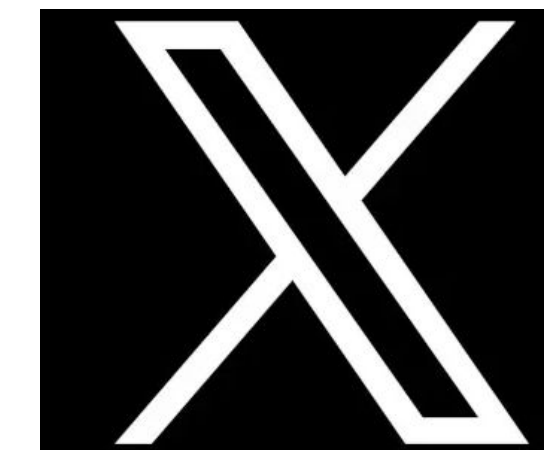


- Damaging Winds
- A Few Tornadoes Possible
- Hail

Identify your storm shelter today! 



weather.gov/jax



NWSChat

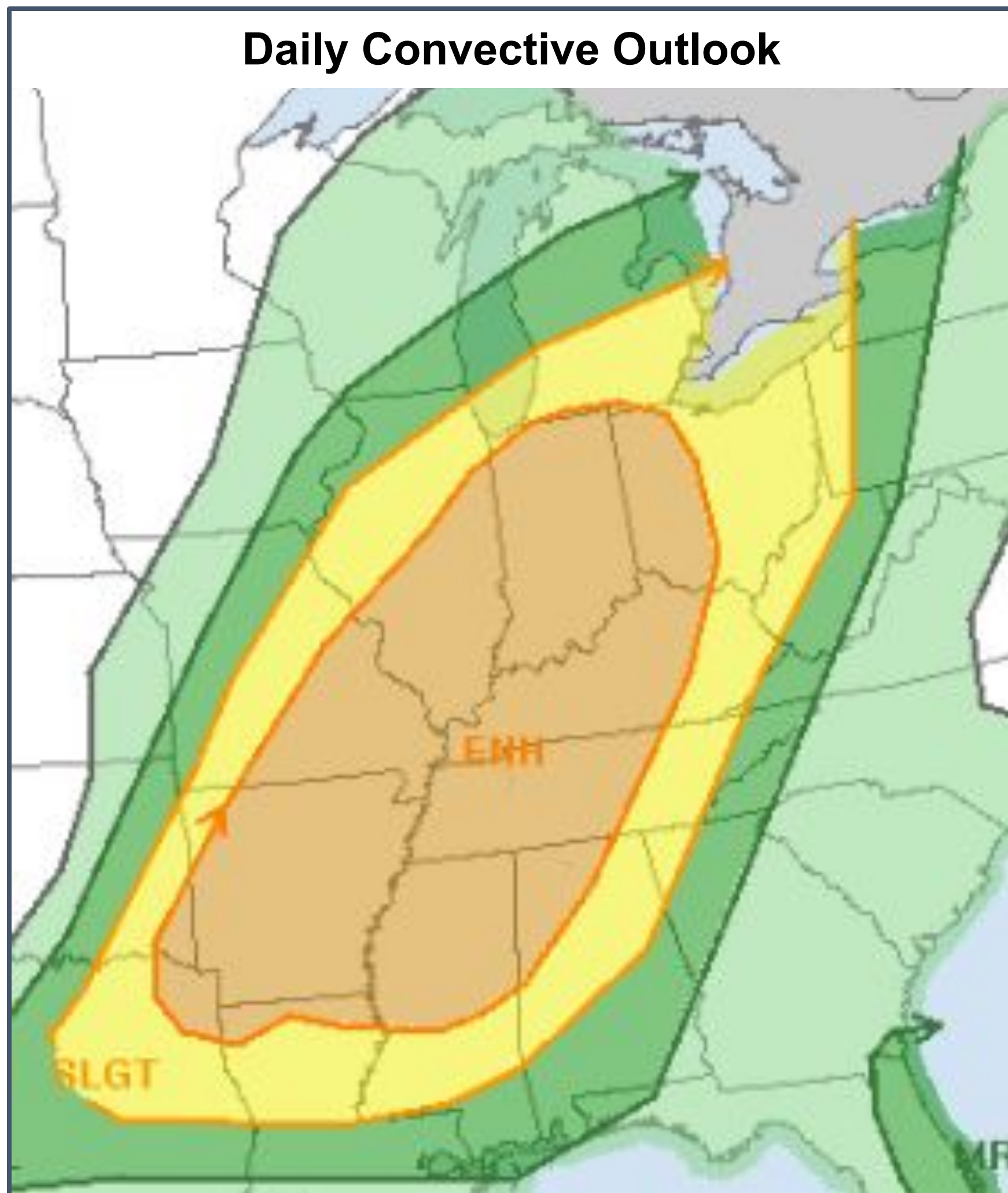


NATIONAL WEATHER SERVICE
Jacksonville  Florida

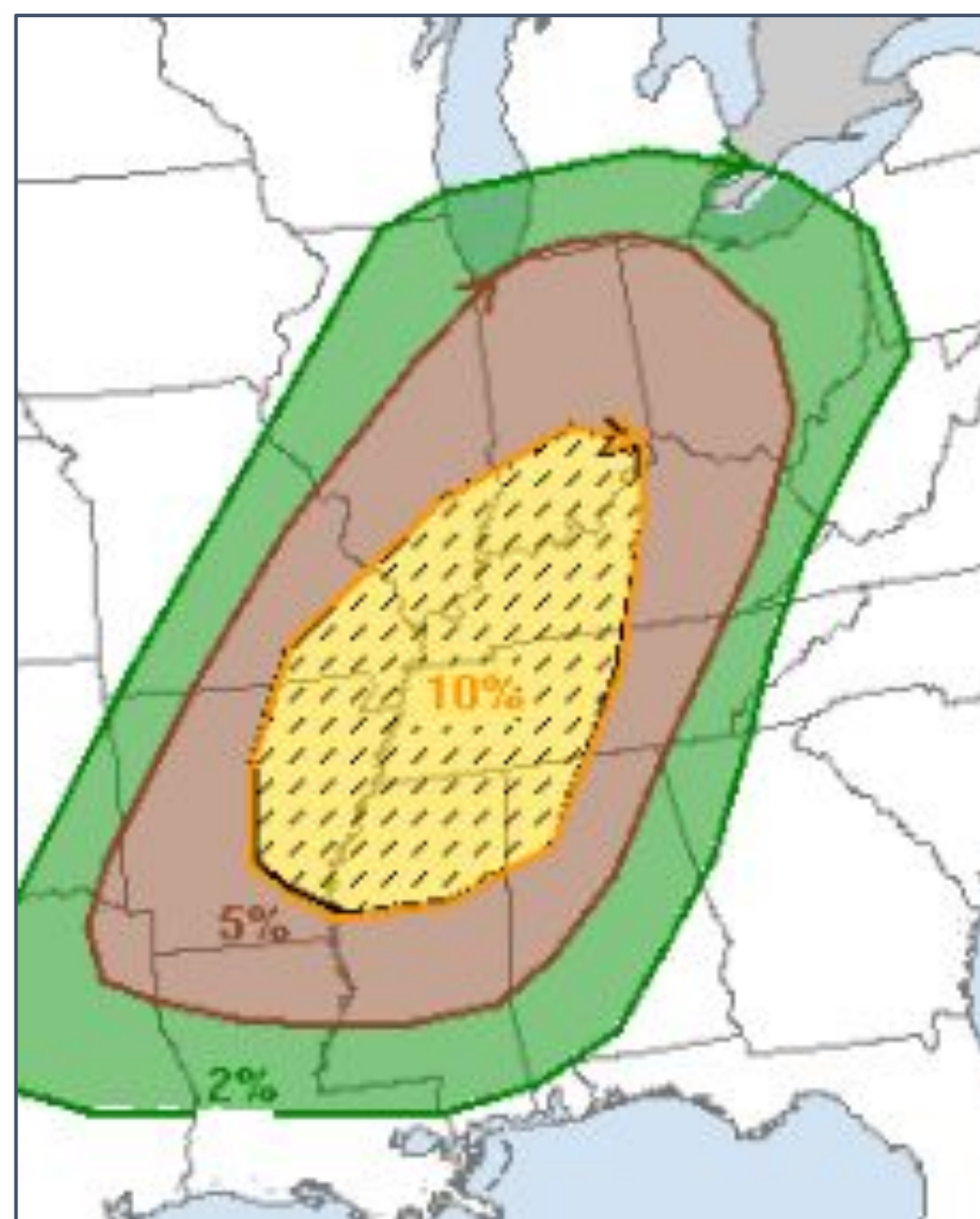
Issued: Sun, Mar 15, 2026 5:42 PM

Day 1 & Day 2 Hazard Specific Probabilities

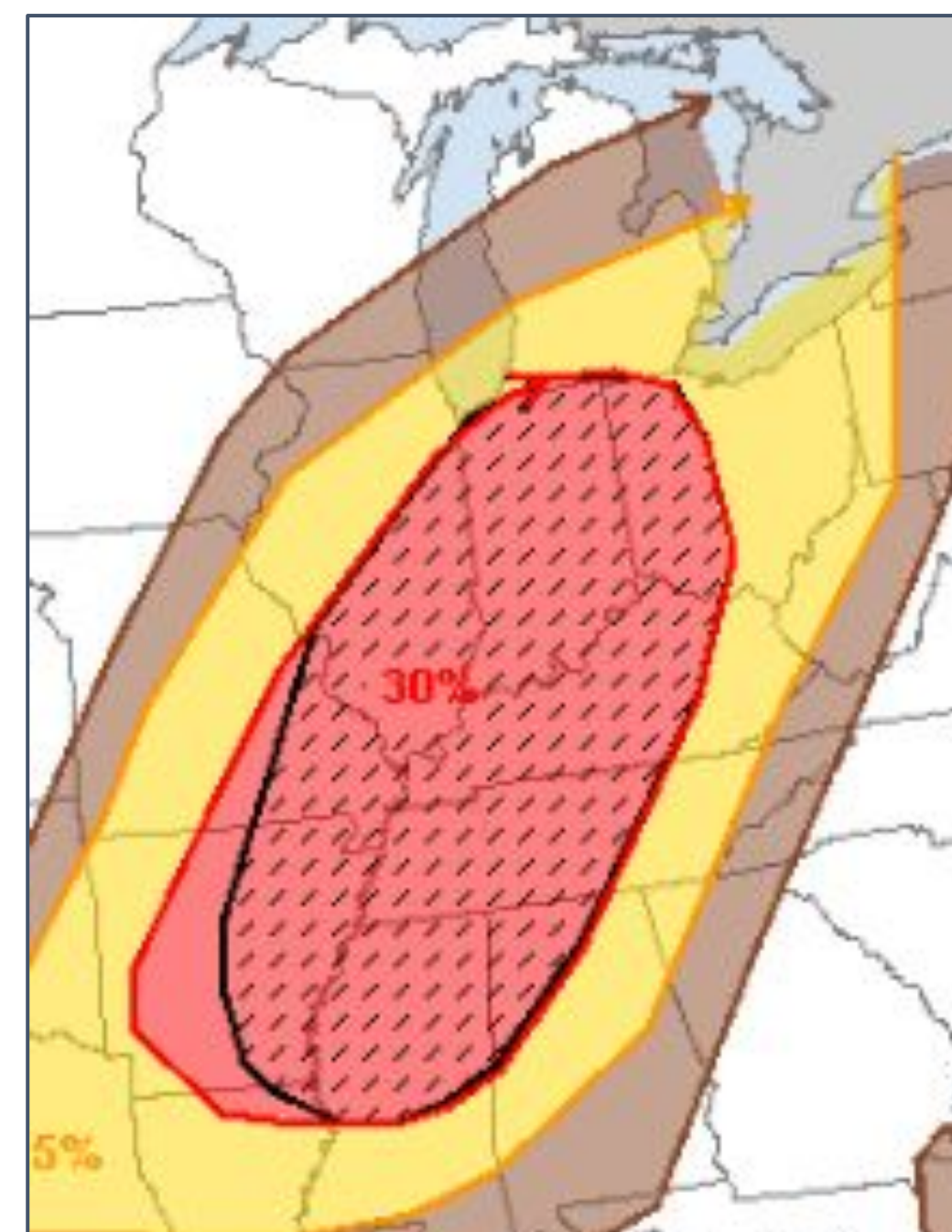
Daily Convective Outlook



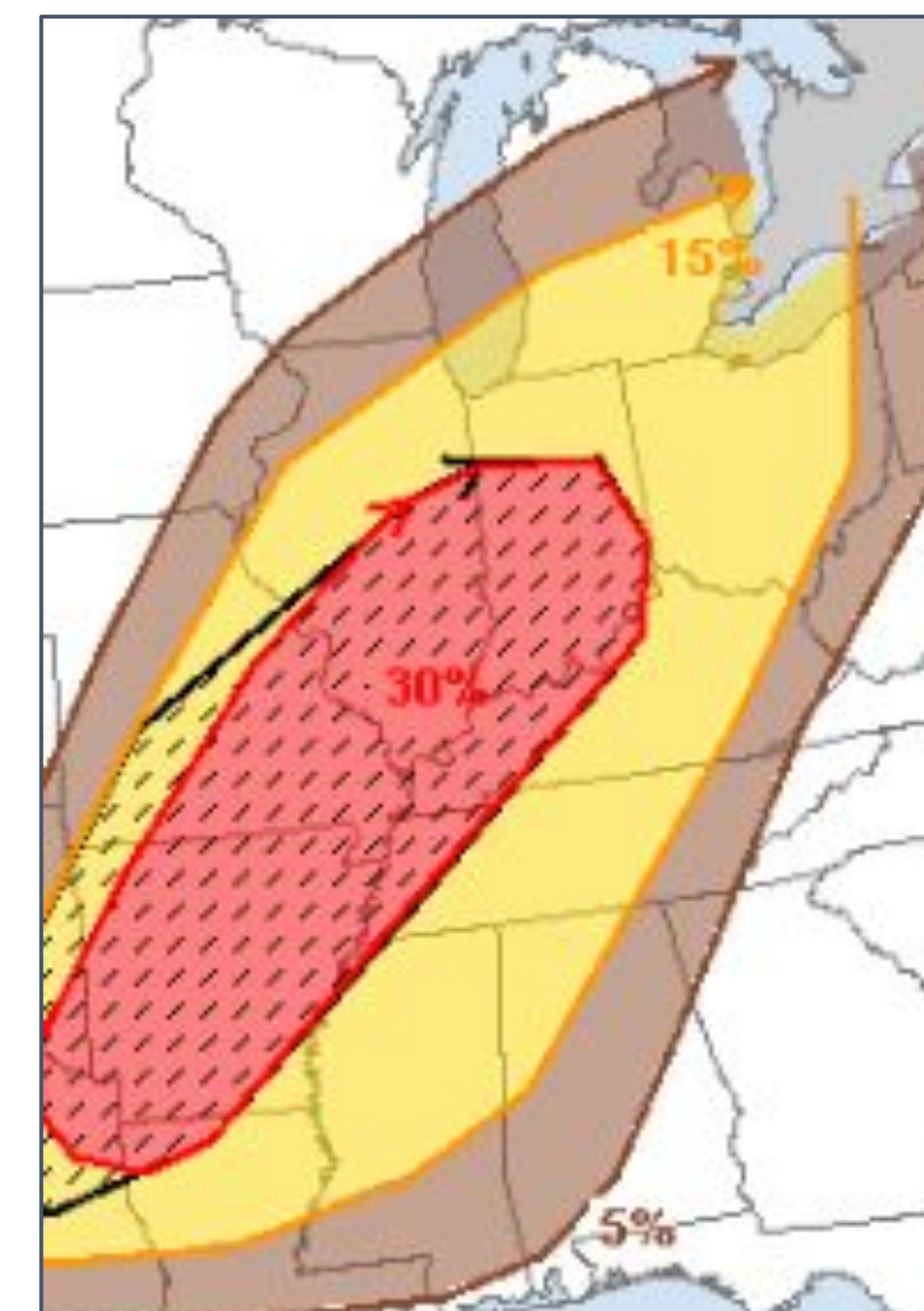
Tornado Risk



Severe Wind Risk



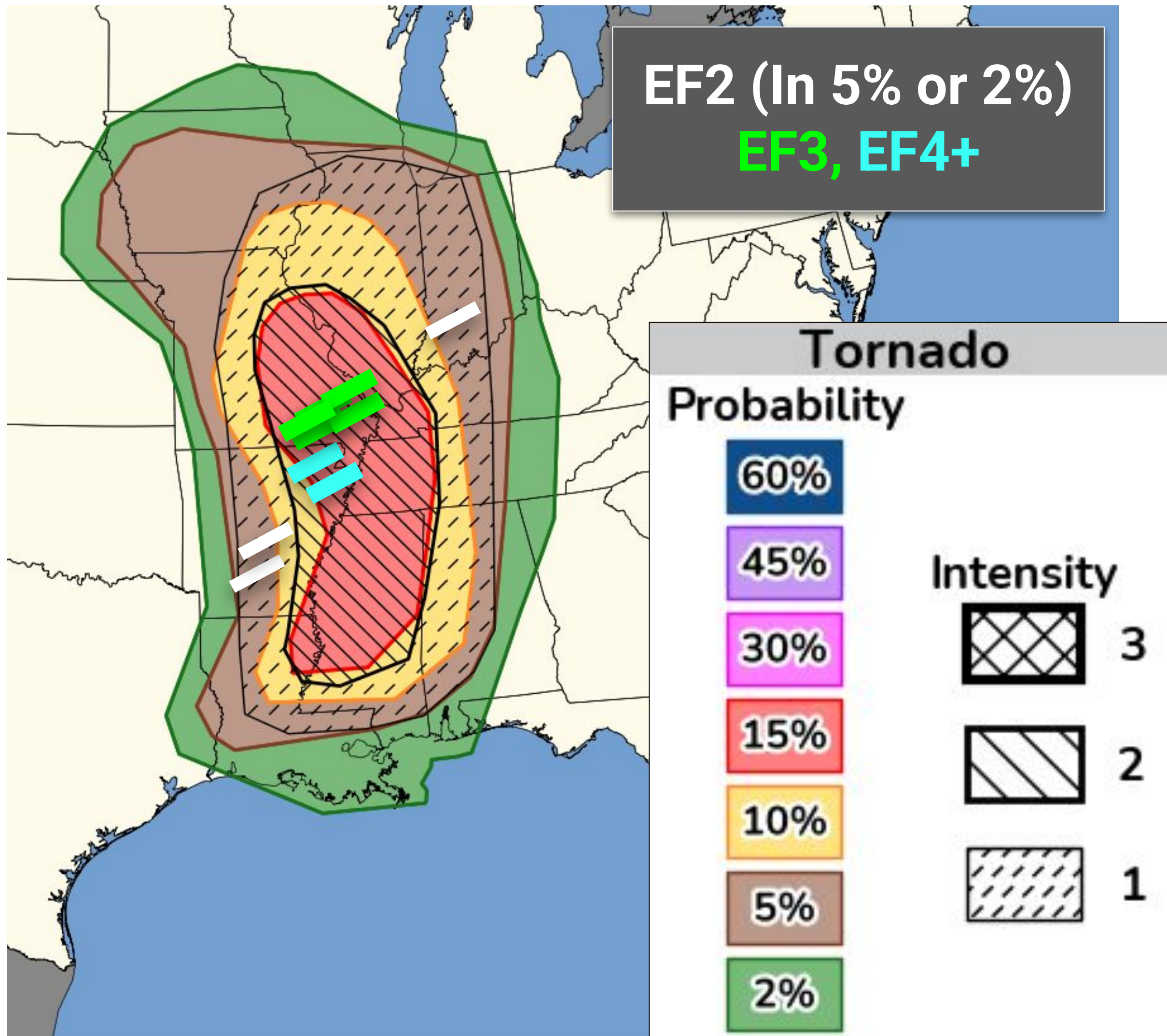
Hail Risk



Probabilities for tornadoes, damaging winds & large hail

- Likelihood of the hazard to occur within 25 miles of a point
- **Hatched areas** denote higher confidence in high-end severe weather (**Changed March 2026**).

14 March 2025 - Conditional Intensity Example



Changes to the SPC Probability Outlooks should help better communicate areas of concern for significant severe weather

AND

Help communicate HOW strong hazards could be.

SPC Conditional Hazard Intensities

Key Change: You no longer need a 10% or greater probability area to highlight significant severe potential.

Methodology: Intensity forecasts are now based on storm environment and storm mode.

Definition: These intensities are conditional, meaning: "If a tornado occurs, what is the probability it will be EF2+/EF3+/EF4+?"



Conditional Intensity Outlooks

“Conditional” means...

If a severe storm forms, then

1. What is the chance of a particular hazard (tornado, damaging wind, hail) **AND**
2. How bad could that hazard be?

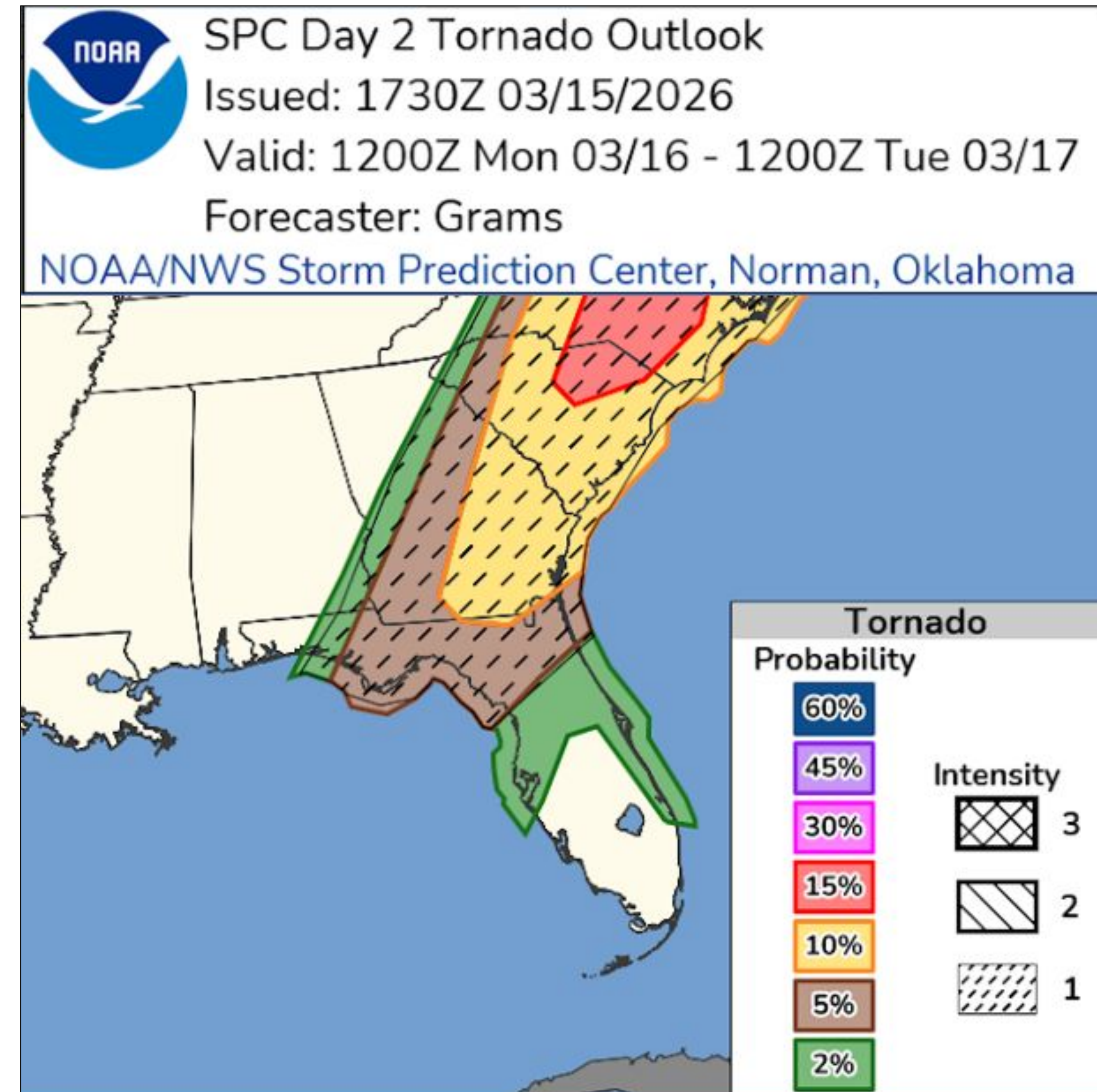
Tornado Intensity Tiers:

Intensity Level <1: Mostly Weak Tornadoes

Intensity Level 1 : Max expected EF2+

Intensity Level 2 : Max expected EF3+

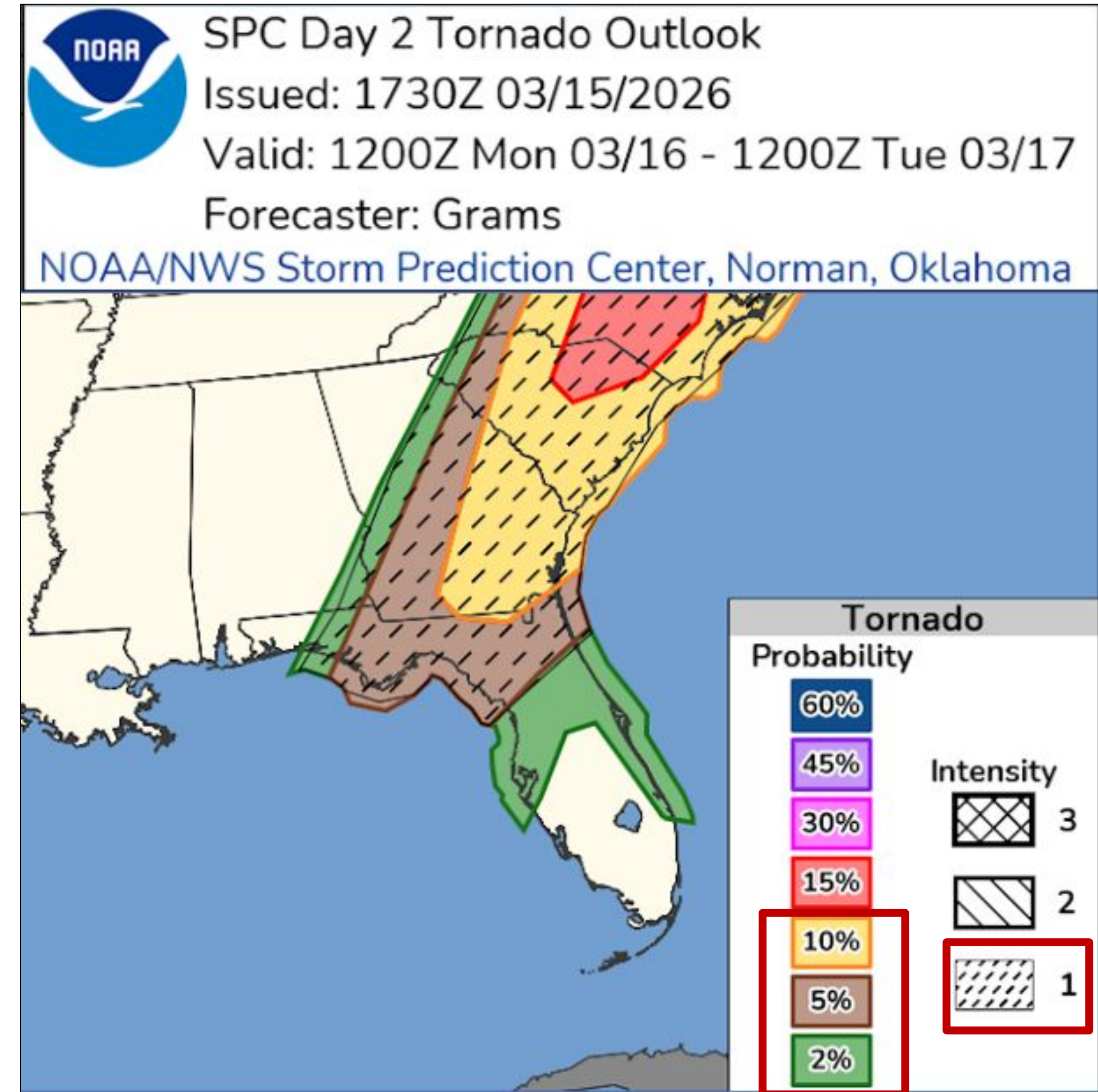
Intensity Level 3 : Max expected EF4+



Practice Interpretation

If severe storms forms, there is a **5-10%** of a tornado across southeast GA & most of northeast FL.

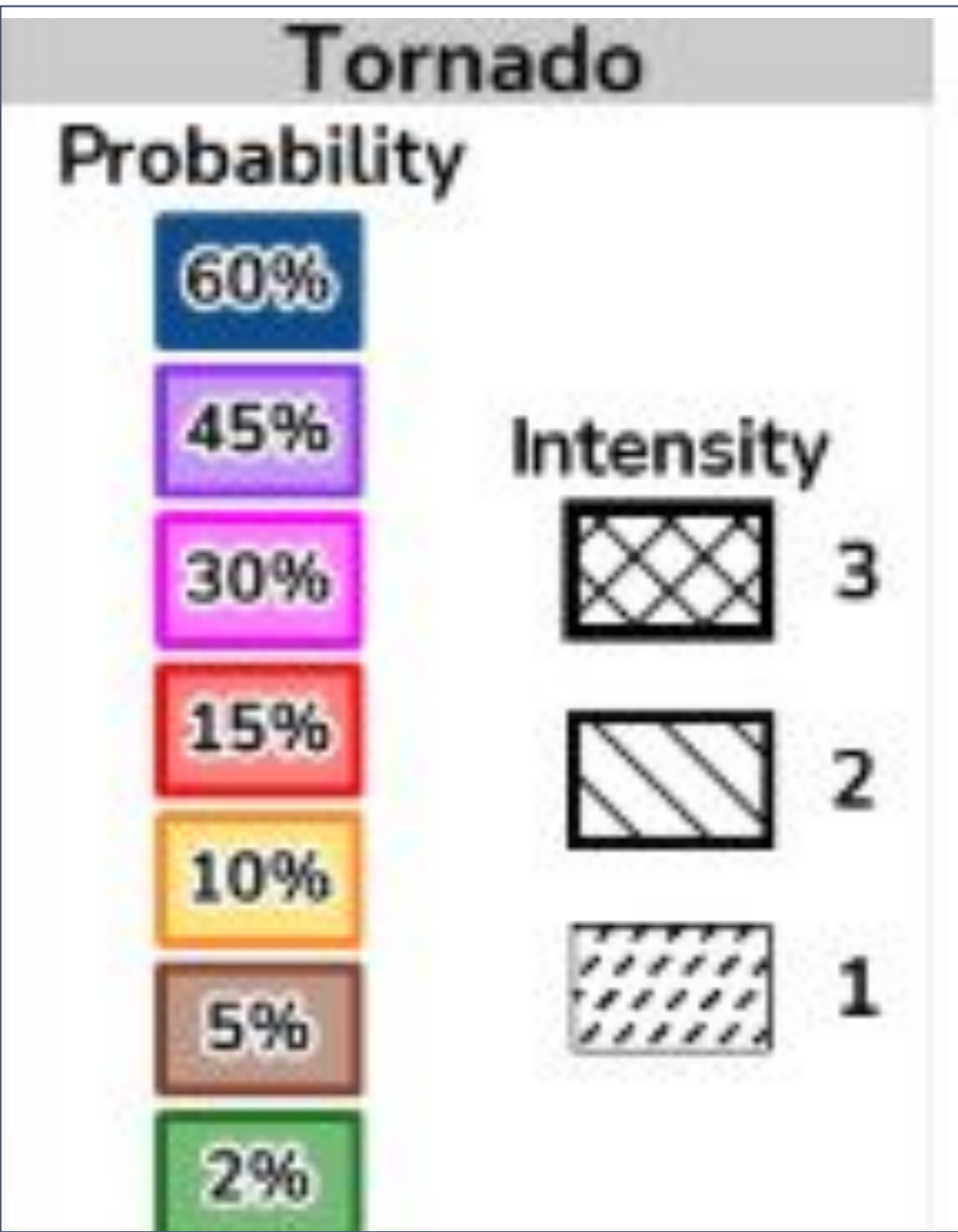
If a tornado forms, peak intensity is expected to be **no more than EF2**.



SPC Hazard Intensities

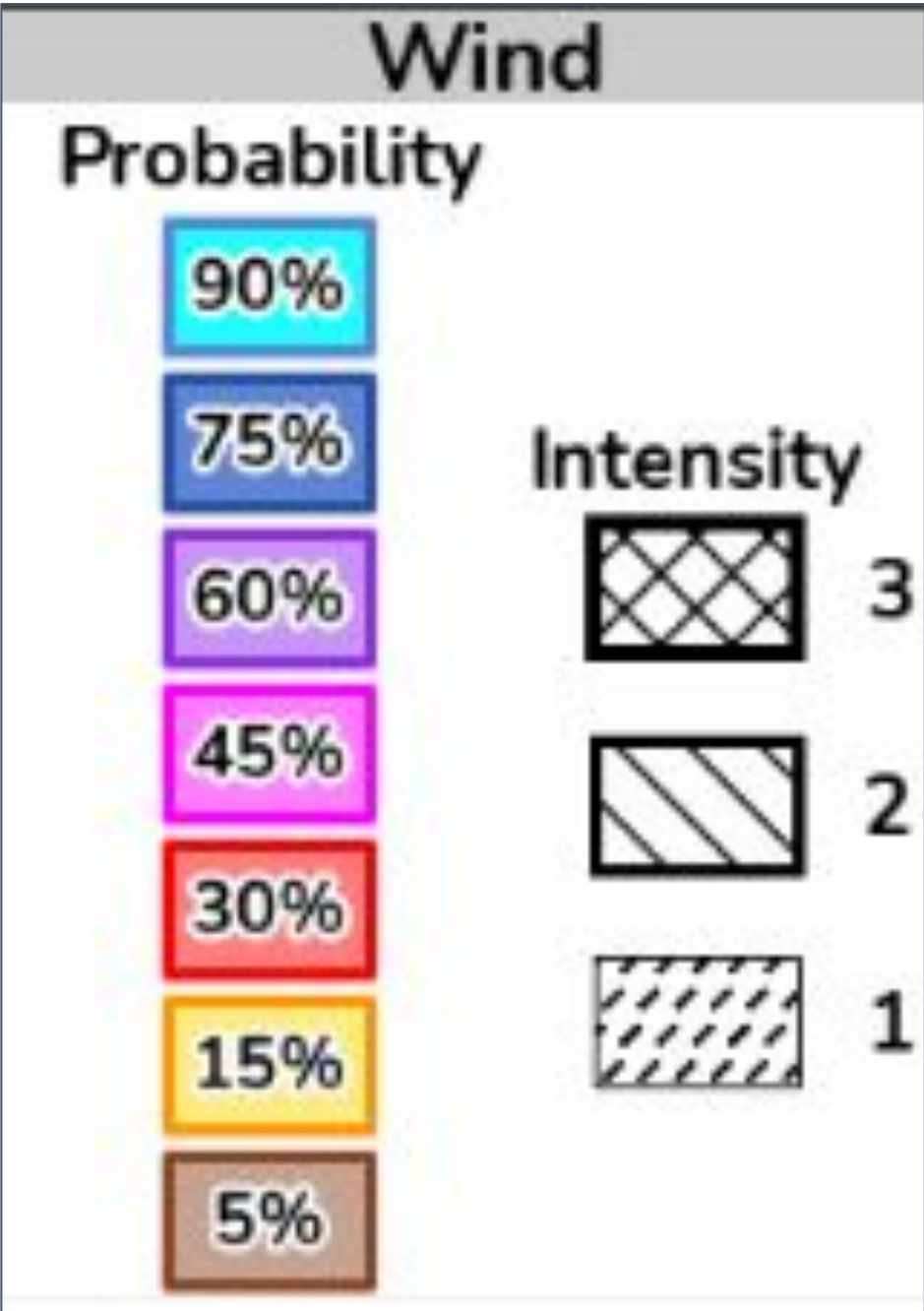
Tornado

Intensity Level <1: Mostly Weak Tornadoes
Intensity Level 1: Max expected EF2+
Intensity Level 2: Max expected EF3+
Intensity Level 3: Max expected EF4+



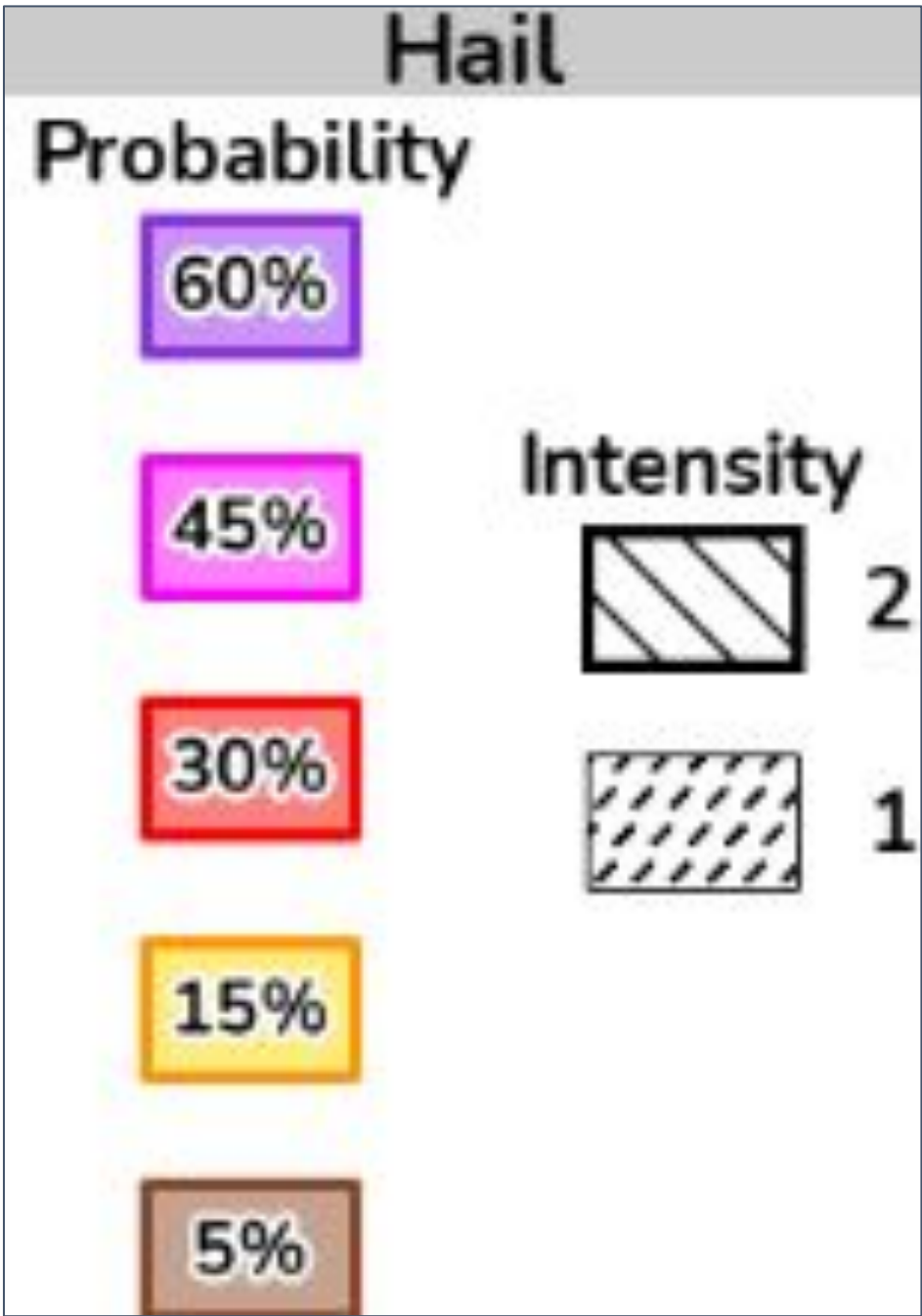
Damaging Winds

Intensity Level <1: Peak gusts ≤ 75 mph
Intensity Level 1: Peak gusts ≥ 75 mph
Intensity Level 2: Bow echo & derecho risk
Intensity Level 3: High-end derecho risk



Large Hail

Intensity Level <1: $\leq 2''$
Intensity Level 1: Supercells, $\geq 2''$
Intensity Level 2: Supercells, $> 3.5''$



Stage 1: Outlook

Review NWS Products and Services.

Have a plan and know where to shelter in the event severe weather strikes.
Make sure you have emergency supplies.

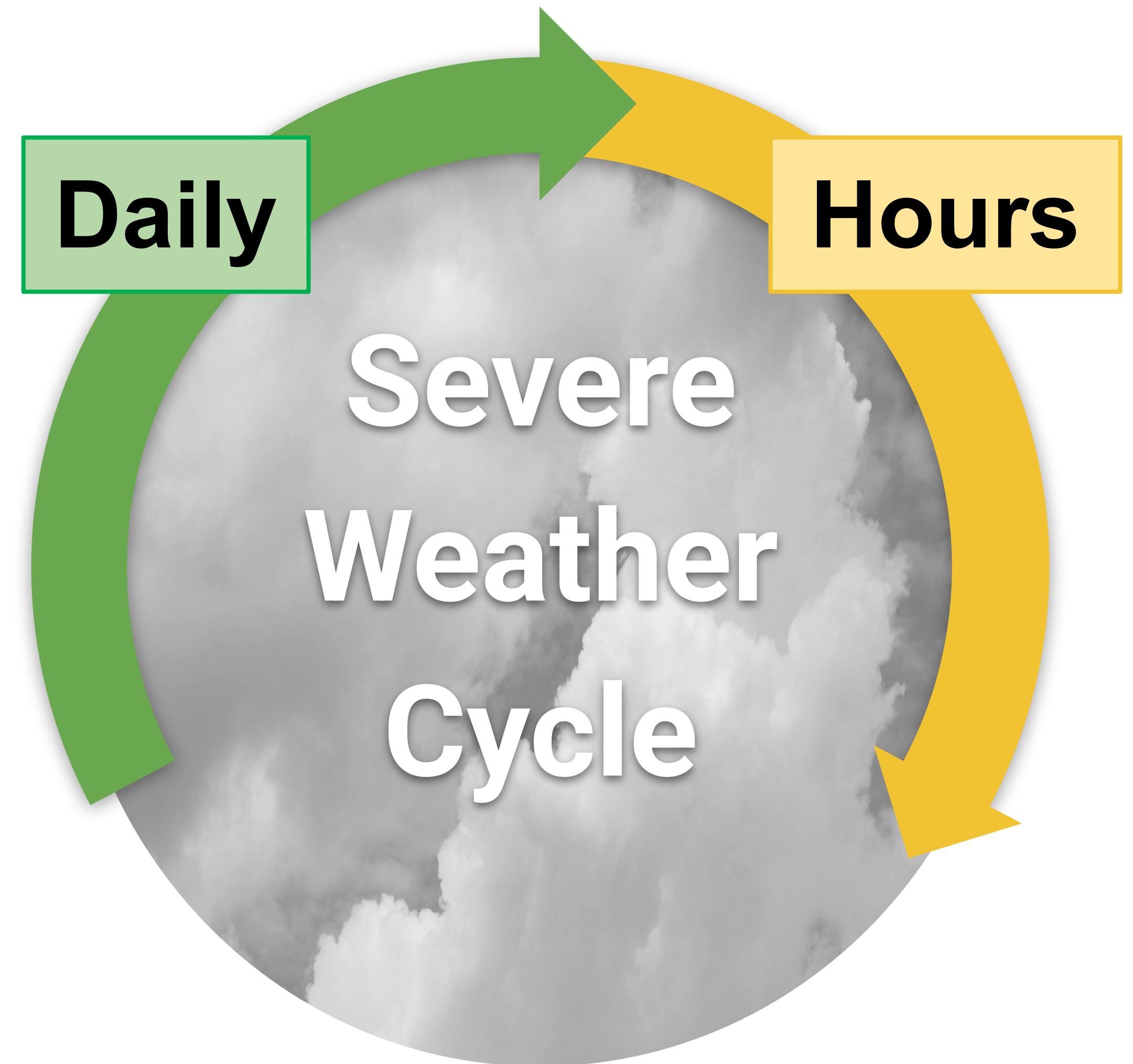
Have a Plan!

Stage 2: Watch

Monitor SPC Mesoscale Discussions and Severe Weather Watches, NWS Graphical Forecasts, Radar.

Stay informed and monitor closely for warnings

Be Prepared!



NWS Watch vs Warning: Cupcake Analogy

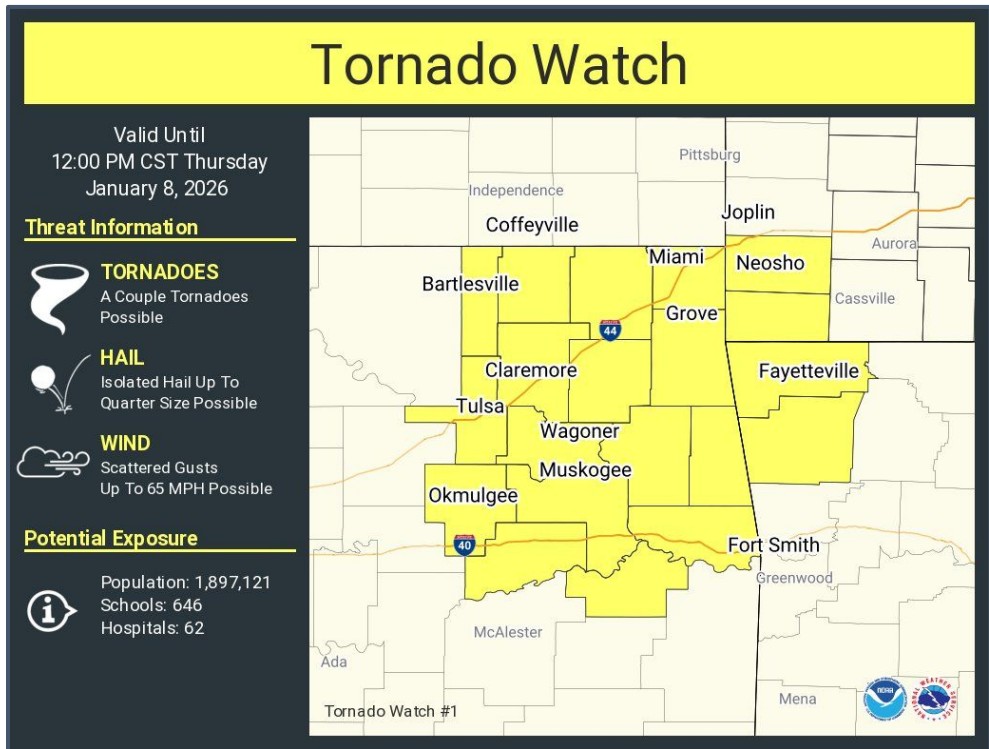


NWS Products in Cupcake Terms

Outlook



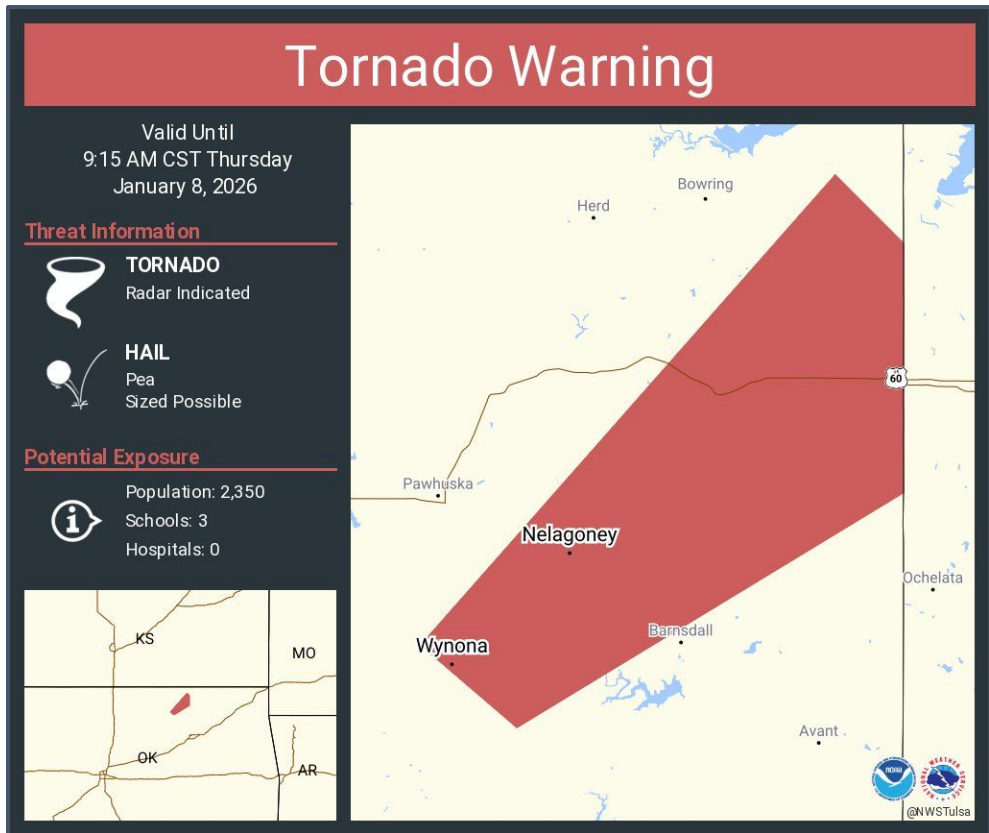
thinking about making
cupcakes...
it may happen



Watch



all the ingredients are
there for cupcakes...
it is likely



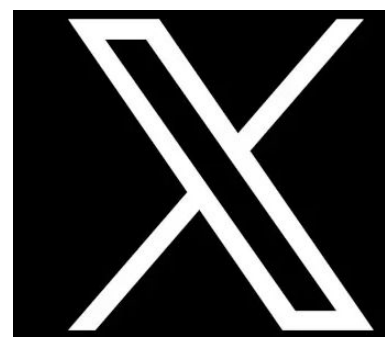
Warning



the cupcake is there...
it is here
TAKE ACTION

Severe Thunderstorm & Tornado Watches

- Issued day of potential impacts
- Duration typically 6-8 hrs
- Ingredients are coming together for severe thunderstorms and/or tornadoes to form
- **MONITOR** for warnings & **BE READY TO SHELTER**



Tornado Watch

Through 1:00 PM Today



Portions of Southeast Georgia



- Isolated tornadoes
- Wind Gusts 40-60 mph
- Small Hail

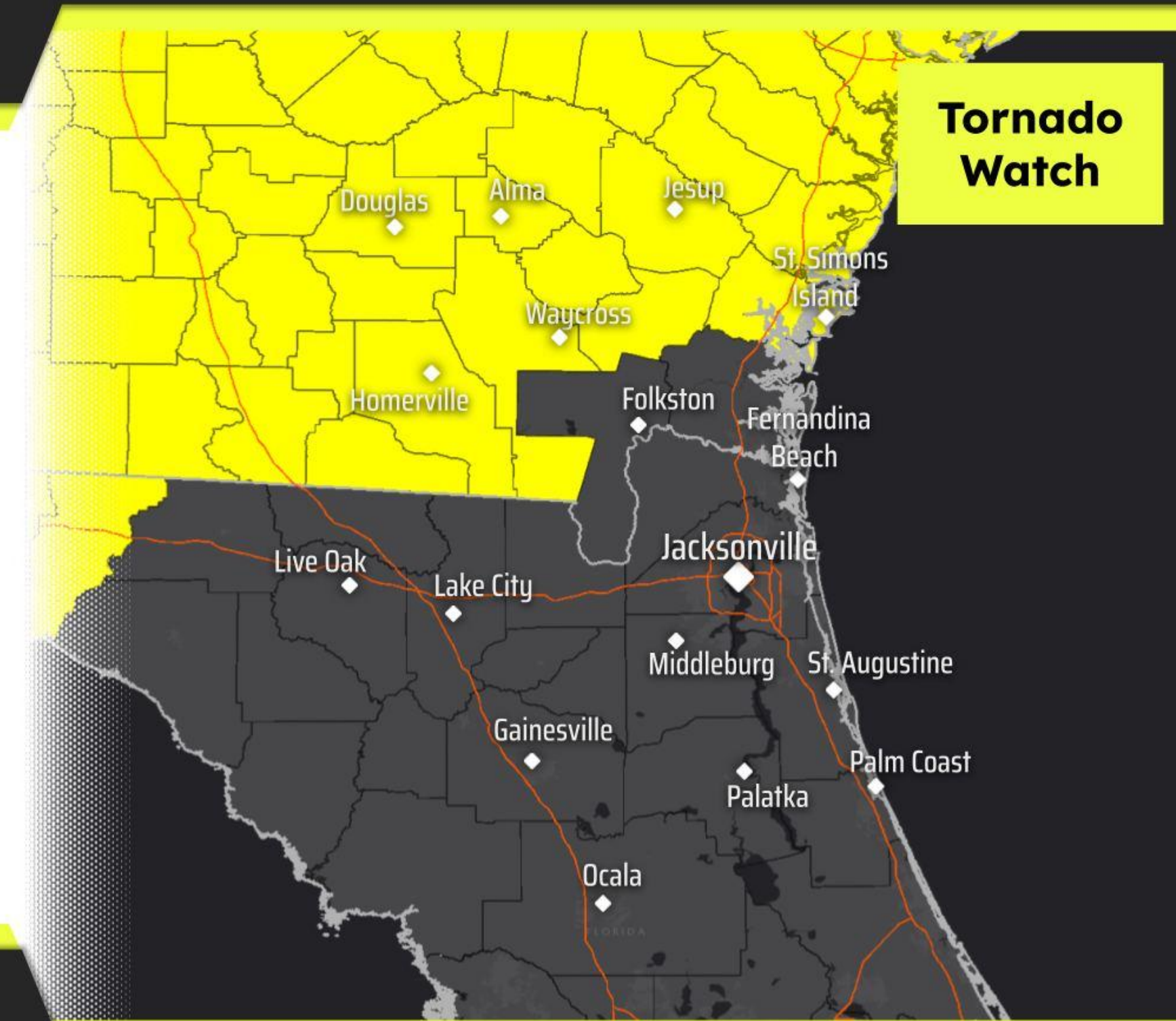


- Be ready to seek safe shelter quickly if warnings are issued
- Shelter indoors on lowest floor away from windows



NATIONAL WEATHER SERVICE
Jacksonville Florida

Monitor for warnings



Issued: Thu, Mar 12, 2026 7:21 AM

Stage 1: Outlook

Review NWS Products and Services.

Have a plan and know where to shelter in the event severe weather strikes. Make sure you have emergency supplies.

Have a Plan!

Stage 2: Watch

Monitor SPC Mesoscale Discussions and Severe Weather Watches, NWS Graphical Forecasts, Radar.

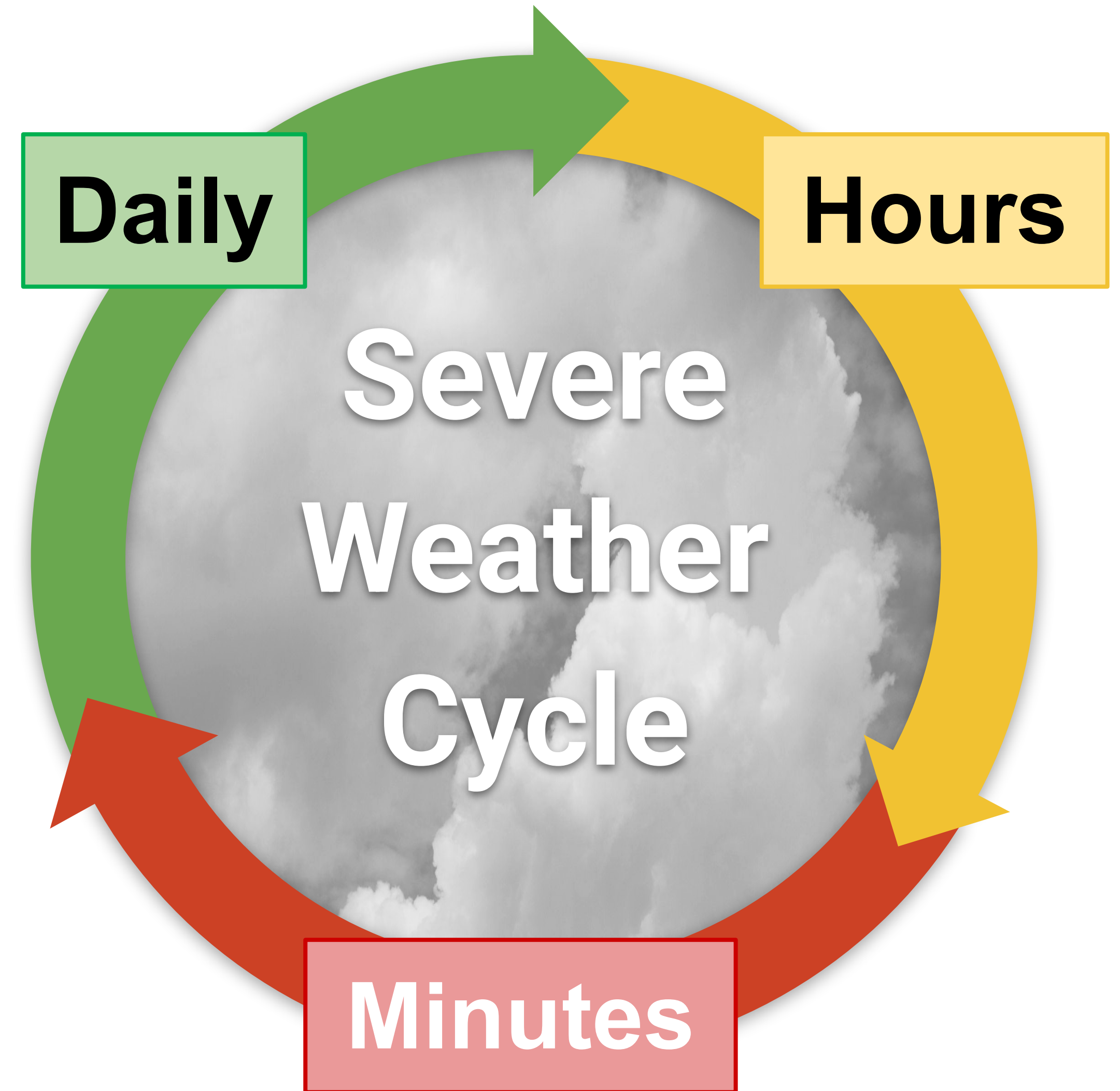
Stay informed and monitor closely for warnings

Be Prepared!

Stage 3: Warning

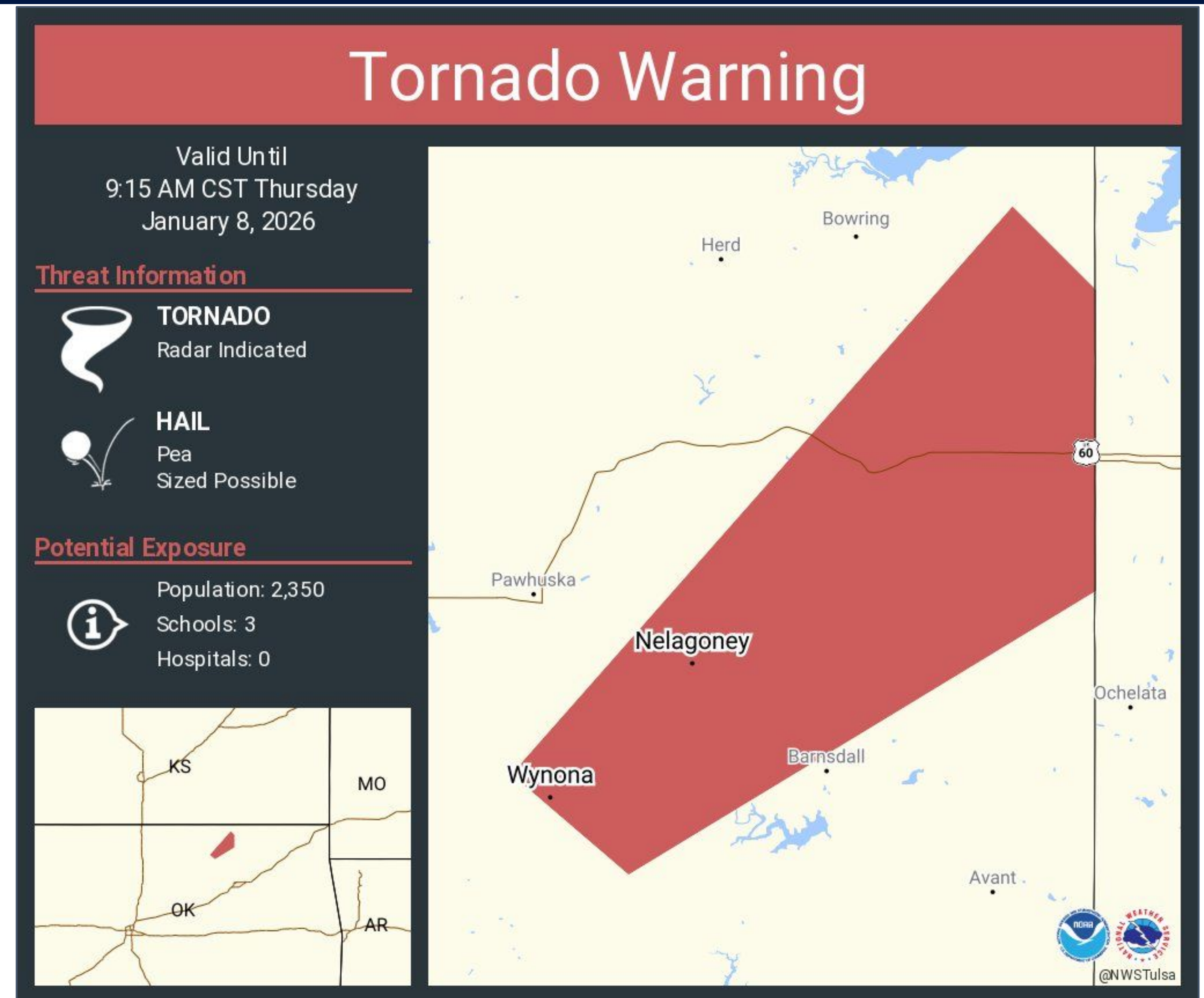
When a Severe Thunderstorm Warning, Tornado Warning, or Flash Flood Warning is issued for your area, take shelter!

Take action & seek shelter now!



Severe Thunderstorm & Tornado Warnings

- Issued within minutes of potential impacts
- Duration typically 30 to 45 minutes
- Can be shorter for tornado warnings or longer for squall lines and/or behaved supercells
- Seek shelter immediately if in a warned area



NWS Severe Storm Warnings & Advisories

Severe Thunderstorm Warning

**T-Storm Wind Gusts ≥ 58 mph &/or
Hail ≥ 1 " Diameter (Quarter Size)**



Tornado Warning

**Doppler Radar Indicated Rotation
Confirmed Reports of a Tornado**



Special Weather Statement

**Strong, but sub-severe thunderstorm.
Gusts of 40-57 mph & small hail (≤ 1 inch)**

Warning Messaging via SLACK

- Tornado circulations very small compared to warning polygon
- Downscaled, realtime messaging helps show where rotation is and where is heading



10:06 PM **NWS - Jacksonville - Lauren Villafane** A super cell is developing over Needmore and Fargo moving east at 20 mph. Mostly mid-level rotation at this time. Sticking with a Severe Thunderstorm Warning. Not enough confidence to issue anything more at this time. (edited)

10:19 PM **NWS - Jacksonville - Alex Boothe** Rotation toward the lower levels, still monitoring the potential for tornado however the circulation is fairly weak. Expect to push into Fargo by 10:25 PM. Severe t-storm warning with tornado POSSIBLE is still in effect.

image.png ▾

A weather radar map showing a super cell over Needmore and Fargo. The map displays radar returns with a color scale on the left ranging from -120 to 120 dBZ. A yellow polygon outlines the warning area. A white circle with an arrow points to the super cell, indicating the area of rotation. The map also shows the locations of Needmore, Fargo, and Council.

1

Wireless Emergency Alerts



- WEAs are emergency messages sent by authorized government alerting authorities, include NWS
- WEAs are automatically sent to WEA-capable phones for:
 - ◆ Tsunami Warnings
 - ◆ Tornado Warnings
 - ◆ Severe Thunderstorm Warnings (Destructive *Tag*)
 - ◆ Flash Flood Warnings (Considerable & Catastrophic *Tags*)
 - ◆ Storm Surge Warning
 - ◆ Hurricane Warning
 - ◆ Extreme Wind Warning



Emergency Alert

National Weather Service: TORNADO WARNING in this area until 6:30 PM CST. Take shelter now in a basement or an interior room on the lowest floor of a sturdy building. If you are outdoors, in a mobile home, or in a vehicle, move to the closest substantial shelter and protect yourself from flying debris. Check media.

Additional Details

To repeat, a large, extremely dangerous and potentially deadly tornado is on the ground. To protect your life, TAKE COVER NOW! Move to a basement or an interior room on the lowest floor of a sturdy building. Avoid windows. If you are outdoors, in a mobile home, or in a vehicle, move to the closest substantial shelter and protect yourself from flying debris.

Damage Threat Tags

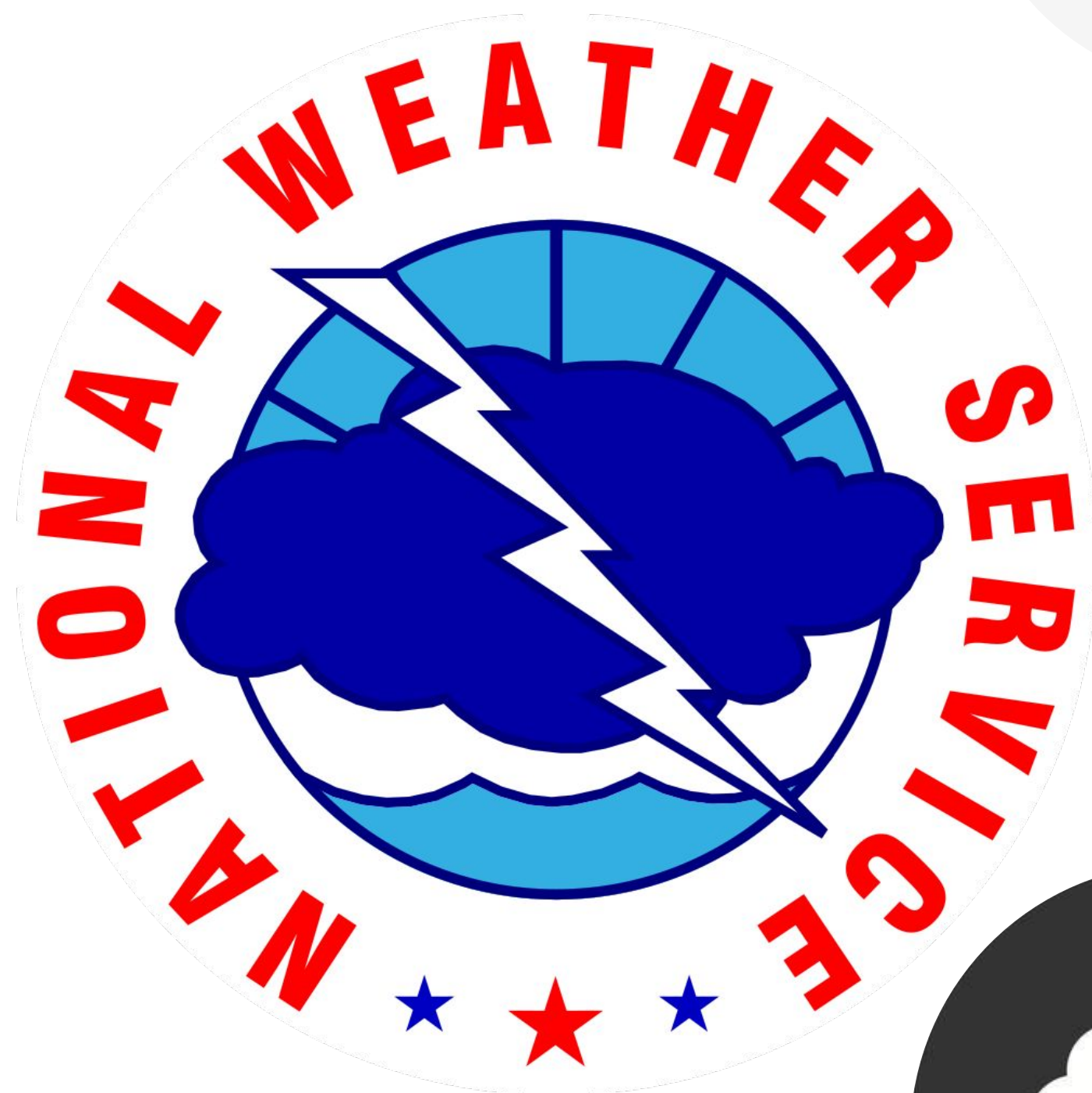
Not every severe storm, tornado, or flash flood is the same. Some situations have an increased potential to bring catastrophic threats to life and property.

How bad is this going to be?



Impact Based Warnings

	Tornado Warnings	Severe Thunderstorm Warnings	Flash Flood Warnings
No Damage Threat Tag	Weak, short-lived tornado 	60 mph wind and/or 1" hail (quarter) No WEA	Minor flash flooding No WEA
Considerable Damage Threat Tag	Strong, confirmed tornado 	70 mph wind and/or 1.75" hail (golf ball) No WEA	More significant flash flooding 
Catastrophic/ Destructive Damage Threat Tag	Strong, confirmed tornado impacting a populated area 	80 mph wind and/or 2.75" hail (baseball) 	Devastating flash flooding 



Drought
Conditions



Critical
Wildfire
Weather



Severe Storm
Outlooks & Alerts



Working Together to Save Lives

NWS JAX CONTACTS

Fire Weather & Severe

Alexander.Boothe@noaa.gov

Warning Coordination Meteorologist

Angela.Enyedi@noaa.gov

JACKSONVILLE NWS OPERATIONS TEAM 24/7/365

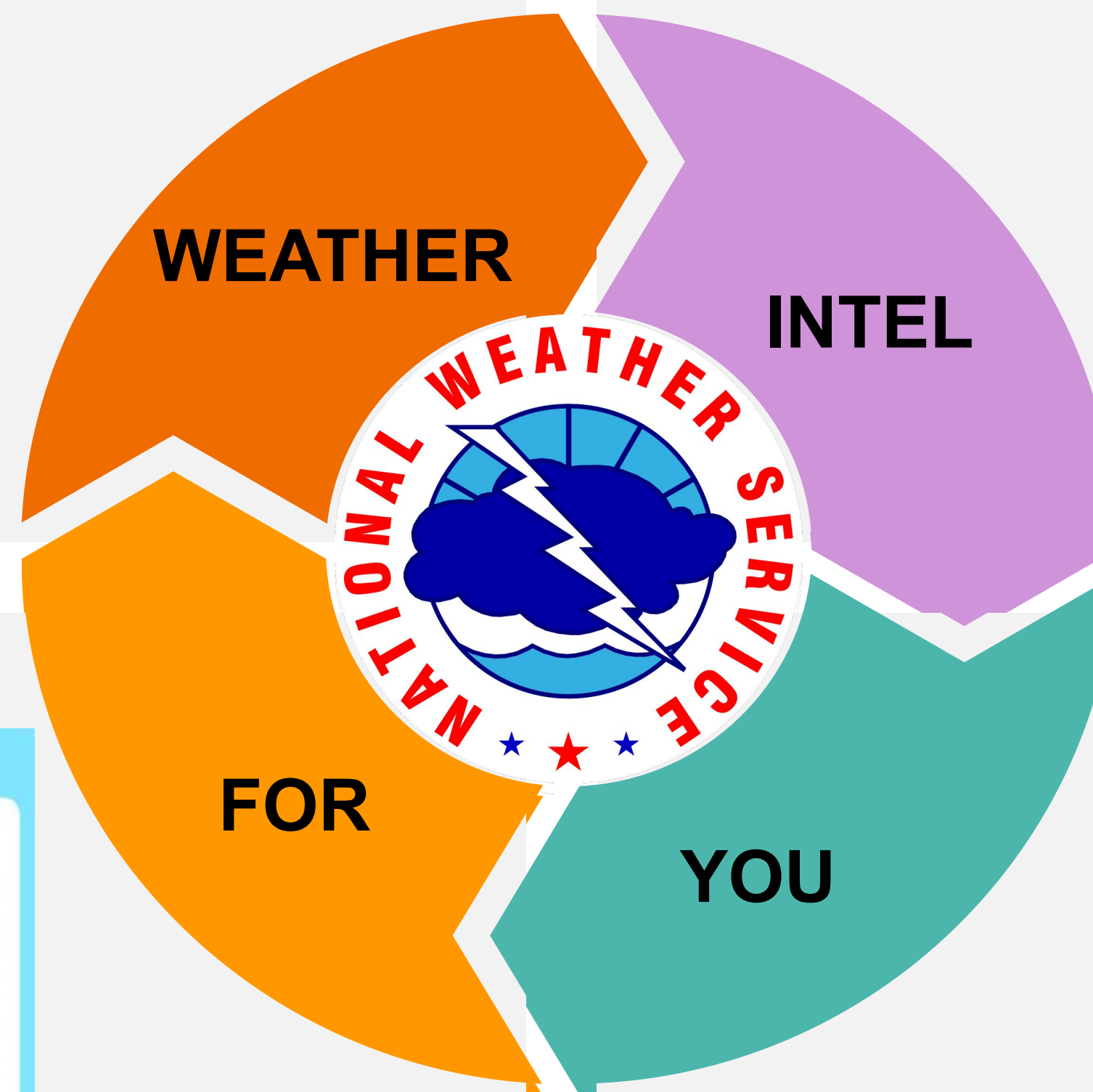
nws.jacksonville@noaa.gov

904-741-4370 ext 1 or 800-499-1594

www.weather.gov/jax

NWS JAX DECISION SUPPORT SERVICES

Planning forecasts, SPOTs,
Event Support Options



NWSChat2.0