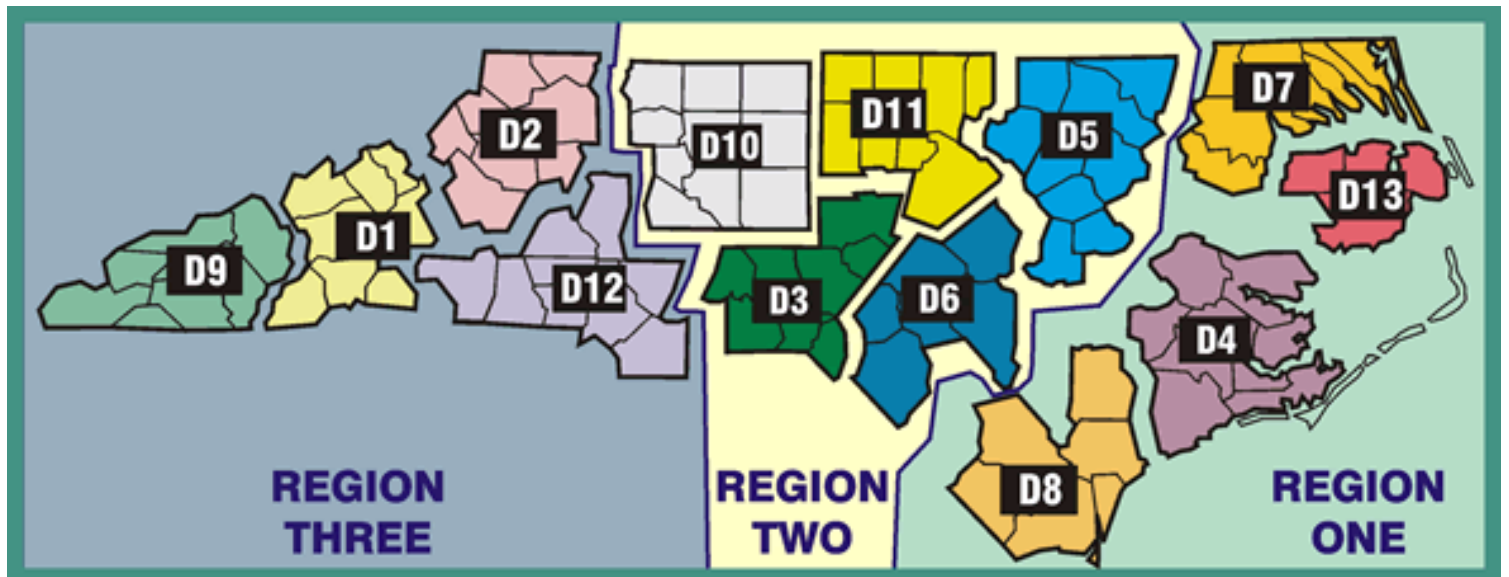
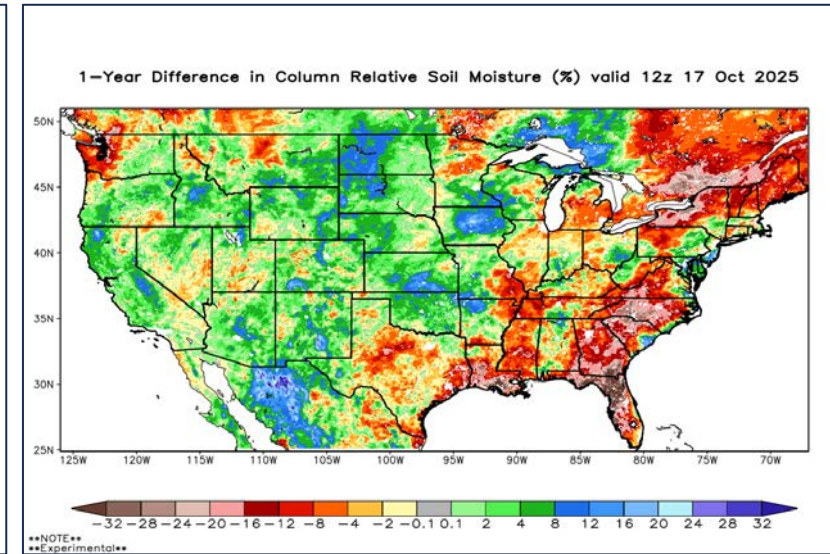
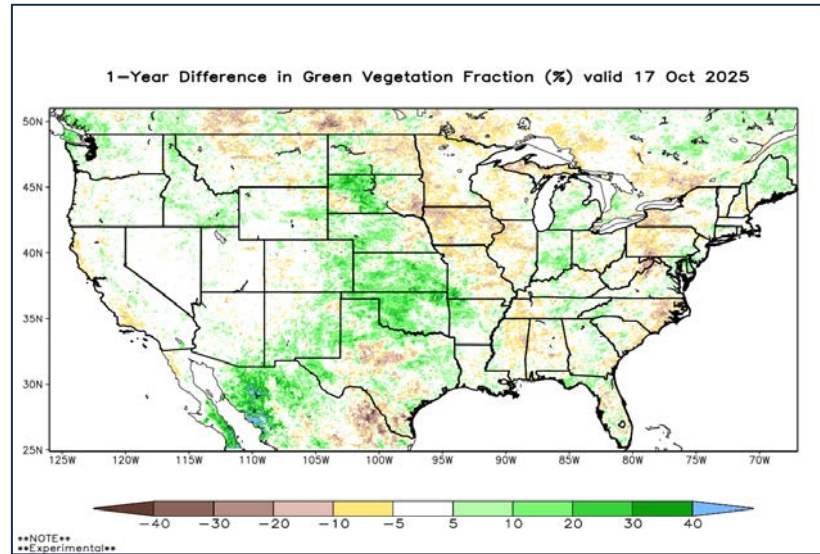


October - 2025

Monthly Fire Danger Assessment NCFS – All Regions



Date: October 17, 2025

Created by: Jamie Dunbar
Fire Environment Staff Forester
NC Forest Service

Statewide Wildfire Context

January: 10-yr avg is 309 fires for 530 acres

February: 10-yr avg is 618 fires for 1,598 acres

March: 10-yr avg is 891 fires for 4,784 acres

April: 10-yr avg is 629 fires for 6,546 acres

May: 10-yr avg is 293 fires for 1,161 acres

June: 10-yr avg is 243 fires for 2,424 acres

July: 10-yr avg is 193 fires for 645 acres

August: 10-yr avg is 138 fires for 395 acres

September: 10-yr avg is 173 fires for 377 acres

***October: 10-yr avg is 236 fires for 1,962 acres**

November: 10-yr avg is 462 fires for 6,035 acres

December: 10-yr avg is 305 fires for 580 acres

September: 356 incidents for 741 acres ~ *about double 10-yr avg.*

MTD Activity: 137 incidents for 212 acres

7-Day Activity: 37 incidents for 24.5 acres

All wildfire activity data is preliminary

Does not include additional federal wildfires/acres

2015-2024 CY Average

****Largest incidents by discovery date, MTD:**

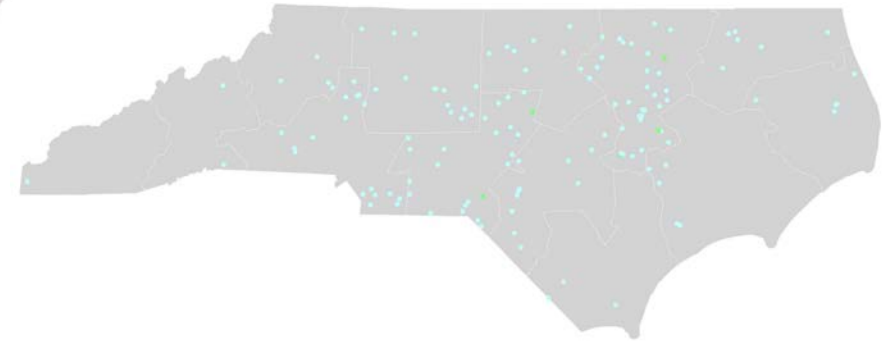
from fiResponse & preliminary reporting only

Incident Name	Discovery Date	Region	District	County	Acres
Shallow Cove Gameland	10/9/2025	Region 2	District 3	Chatham County	50.00
Fire Tower Road	10/2/2025	Region 2	District 5	Greene County	30.00
Party	10/8/2025	Region 2	District 5	Halifax County	28.00
Richard oak	10/7/2025	Region 2	District 3	Scotland County	25.00
Turkey Vineyard Two	10/10/2025	Region 2	District 5	Wayne County	10.00
Lenoir County - 7425 55 West	10/9/2025	Region 1	District 4	Lenoir County	8.00
Edgecombe County - Webbs Chapel Road	10/2/2025	Region 2	District 5	Edgecombe County	5.00
Edgecombe County - Webbs Chapel Road	10/3/2025	Region 2	District 5	Edgecombe County	5.00
White Oak Rd	10/6/2025	Region 2	District 6	Johnston County	5.00
Never Ending	10/9/2025	Region 2	District 5	Wayne County	5.00
Edwards Store	10/16/2025	Region 2	District 3	Anson County	3.00

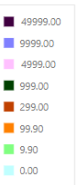
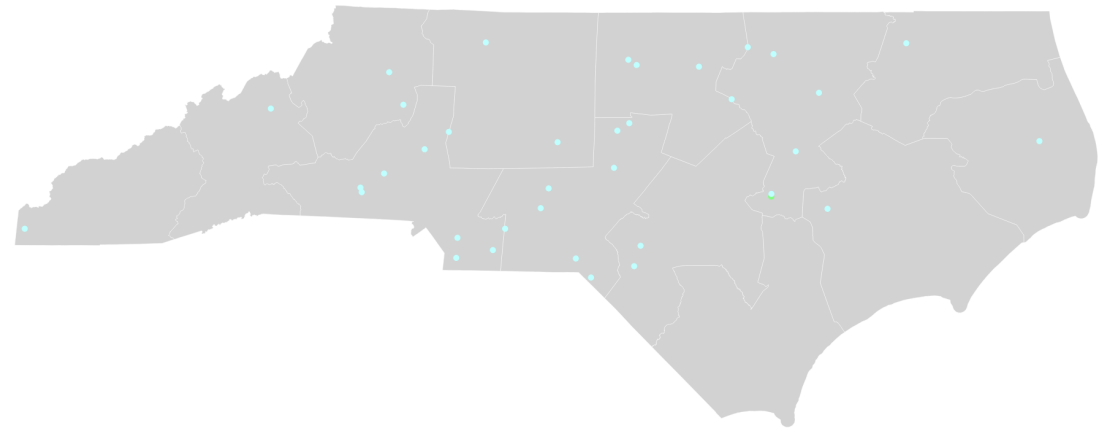
September 2025



October MTD

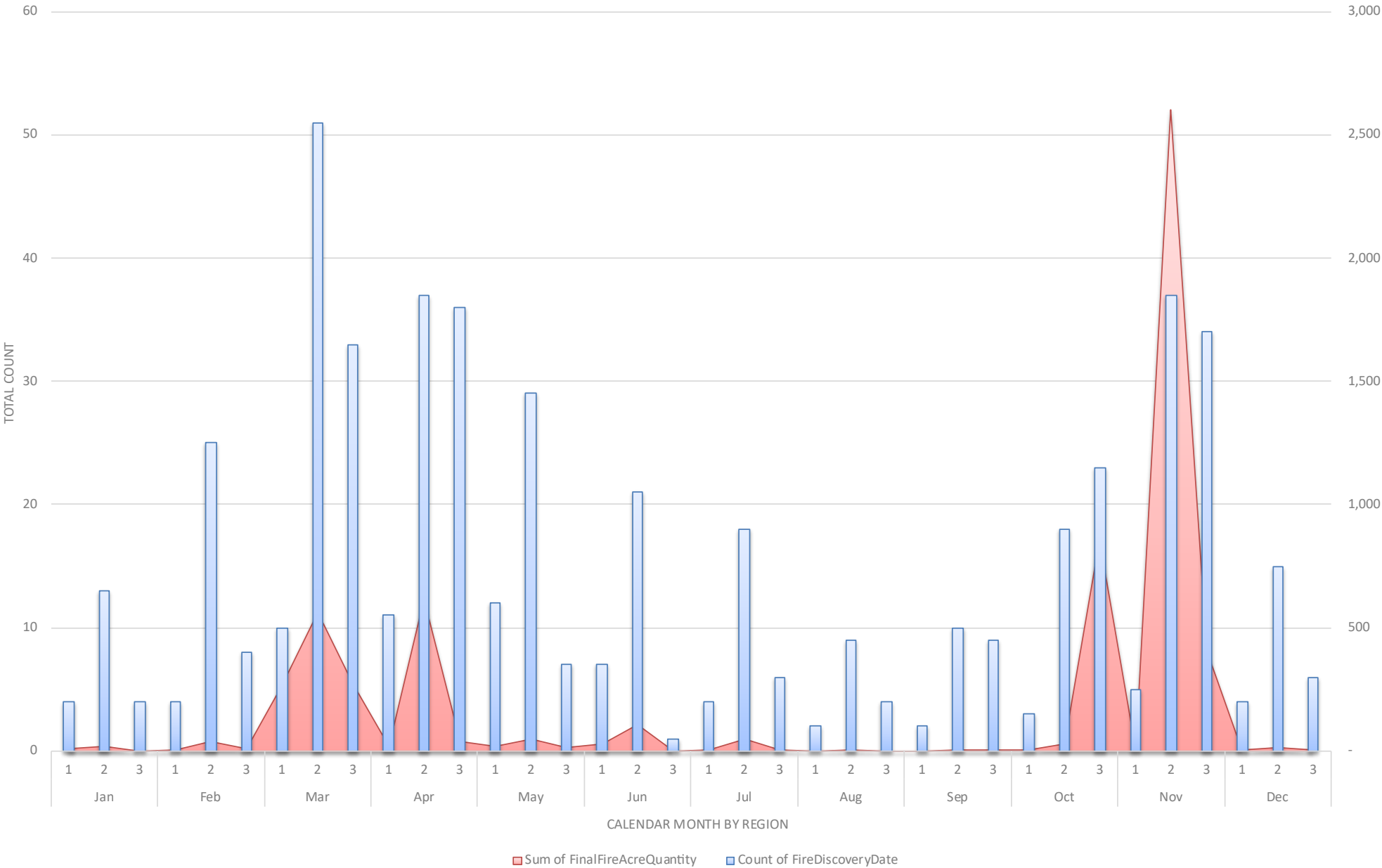


Last 7-Days (10/10 – 10/16)



****Note: DOD & other entirely federal ownership wildfires not shown on fiResponse**

Regional Fire Count & Acres by Month - CY 15' -24'
Cause = Campfire



Statewide
Distribution of
**Fires & Acres for
Jan-Dec**
from 2015 - 2024

Example of seasonal
pattern of campfire
related ignitions.

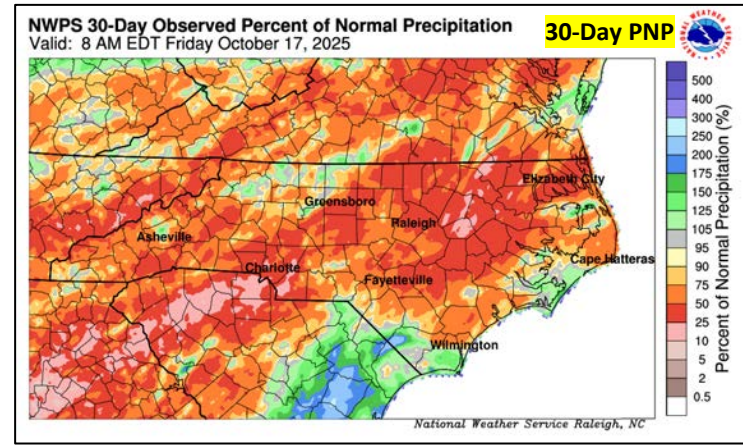
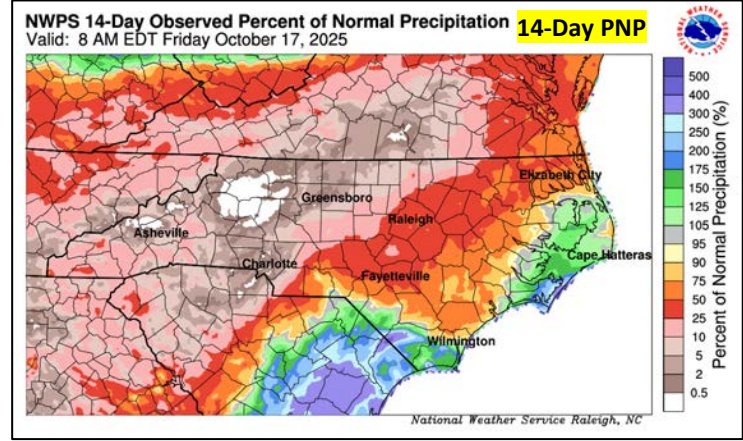
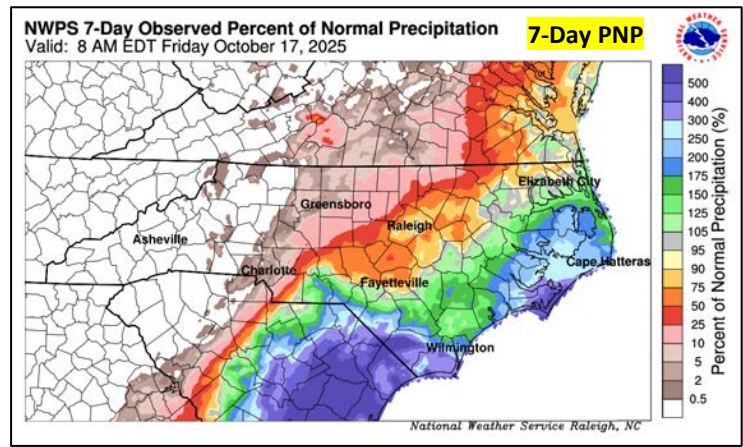
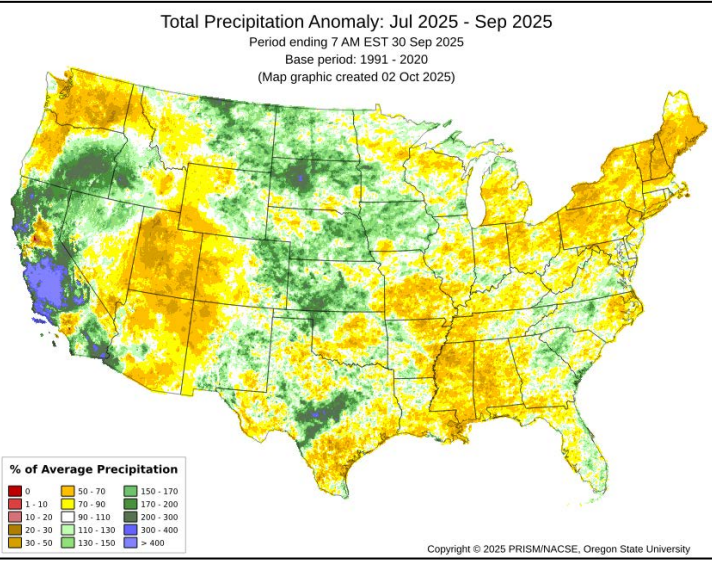
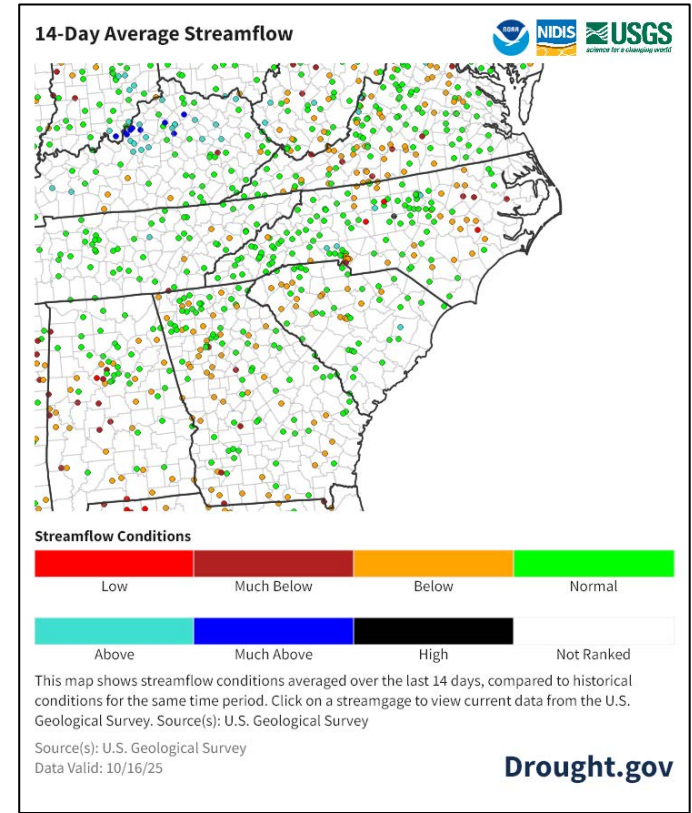
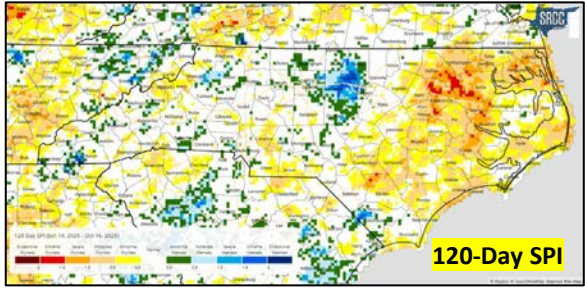
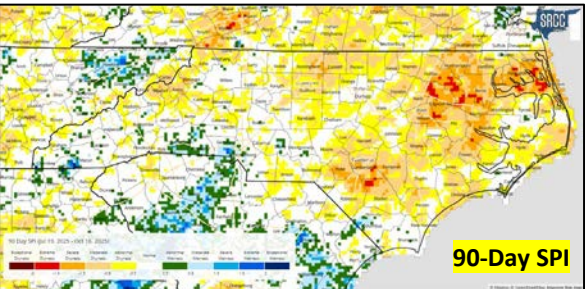
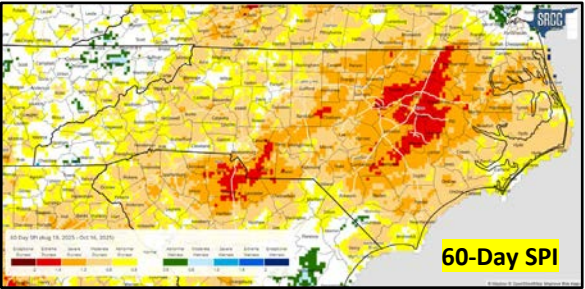
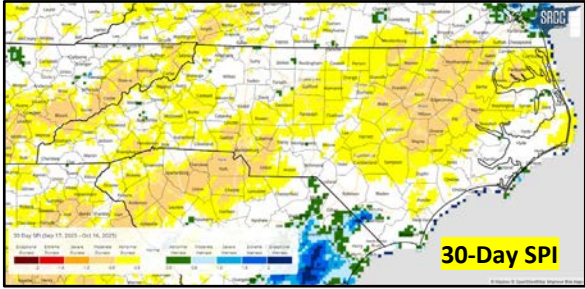
Cause: Campfire Cause Code,
All Regions, NCFS Reported
Fires Only using FARS NASF
Query. Preliminary Data.

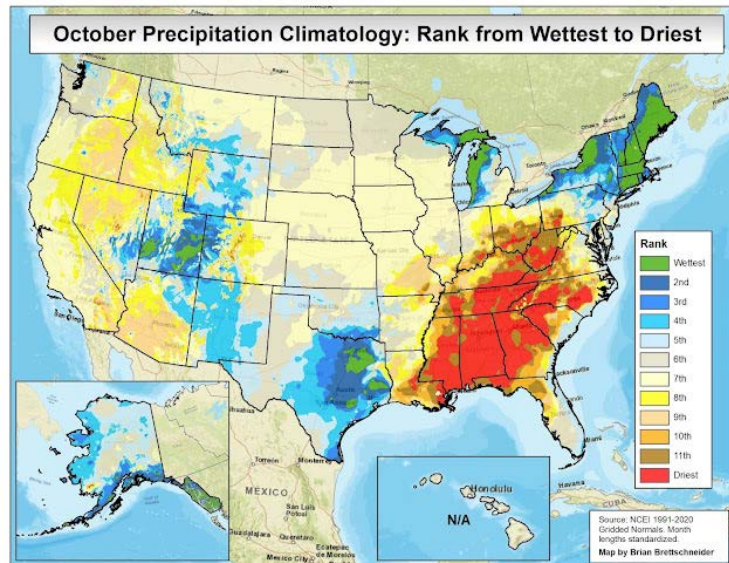
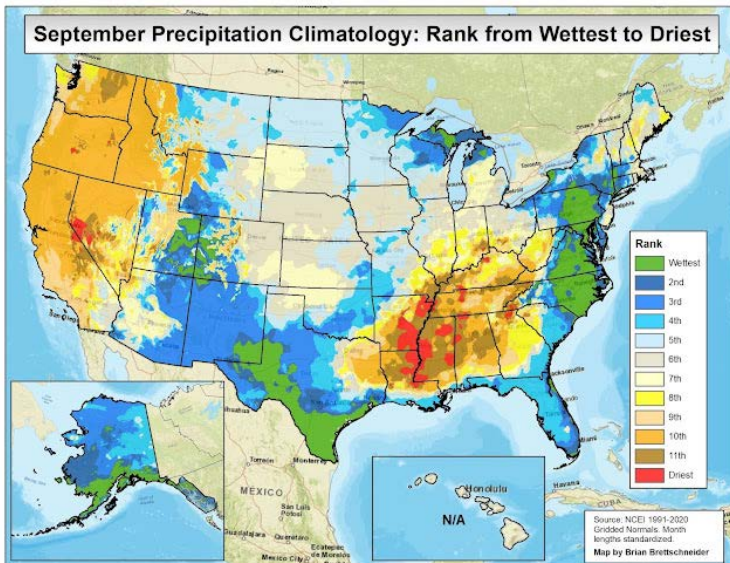
The forecast Air Quality Index value for each pollutant represents the highest value expected within each county, so some areas and monitors may see lower values. We use the best information and techniques available to ensure the quality and accuracy of the forecasts we provide to the public. Note that ranges do not include the nine-county Triad region, which is covered by the Forsyth County Office of Environmental Assistance and Protection.

Forecast Day	View Maps	Max AQI Range	Category Range	Download KML
Thursday (Oct 16)	Max AQI • Ozone • PM2.5	35 to 45	Green	download
Friday (Oct 17)	Max AQI • Ozone • PM2.5	35 to 50	Green	download
Saturday (Oct 18)	Max AQI • Ozone • PM2.5	45 to 55	Green to Yellow	download
Sunday (Oct 19)	Max AQI • Ozone • PM2.5	30 to 50	Green	download

Maximum Air Quality Index for Oct 17, 2025

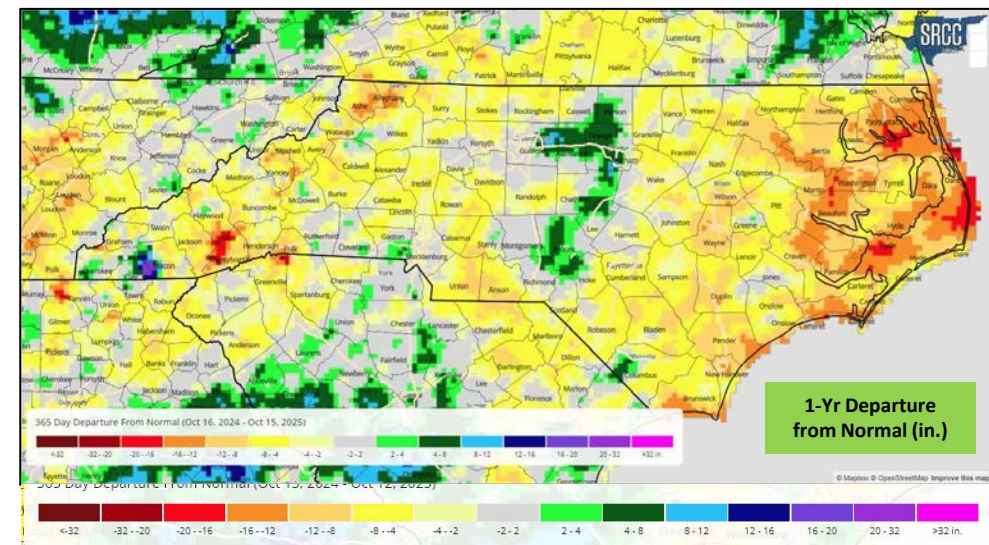
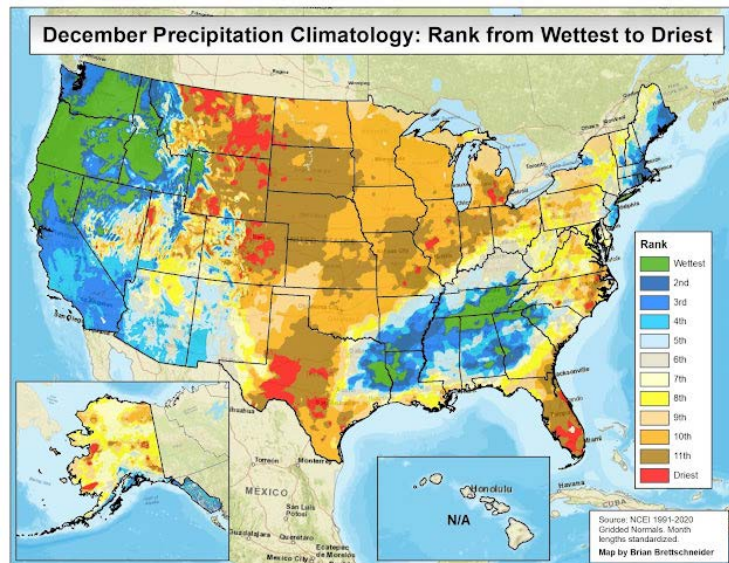
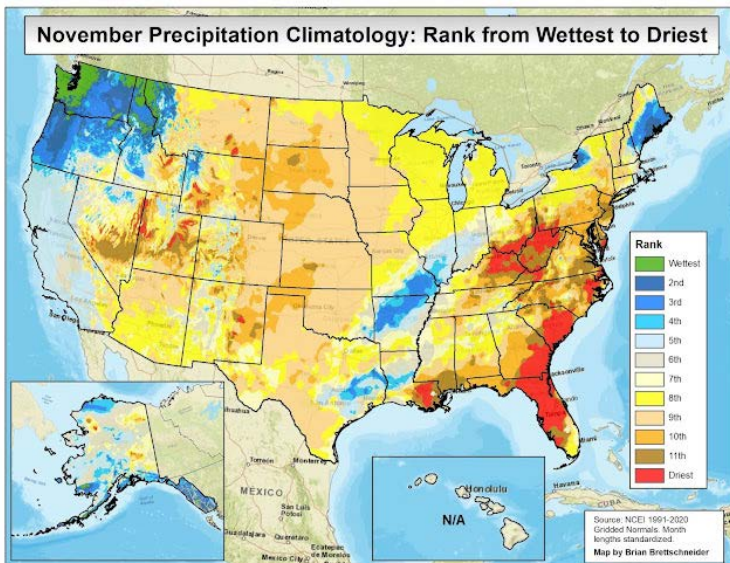
<https://airquality.climate.ncsu.edu/discussion/?view=latest>

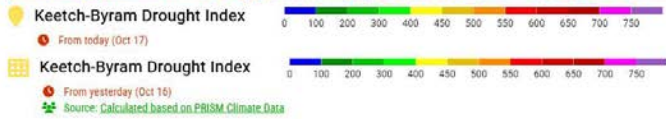
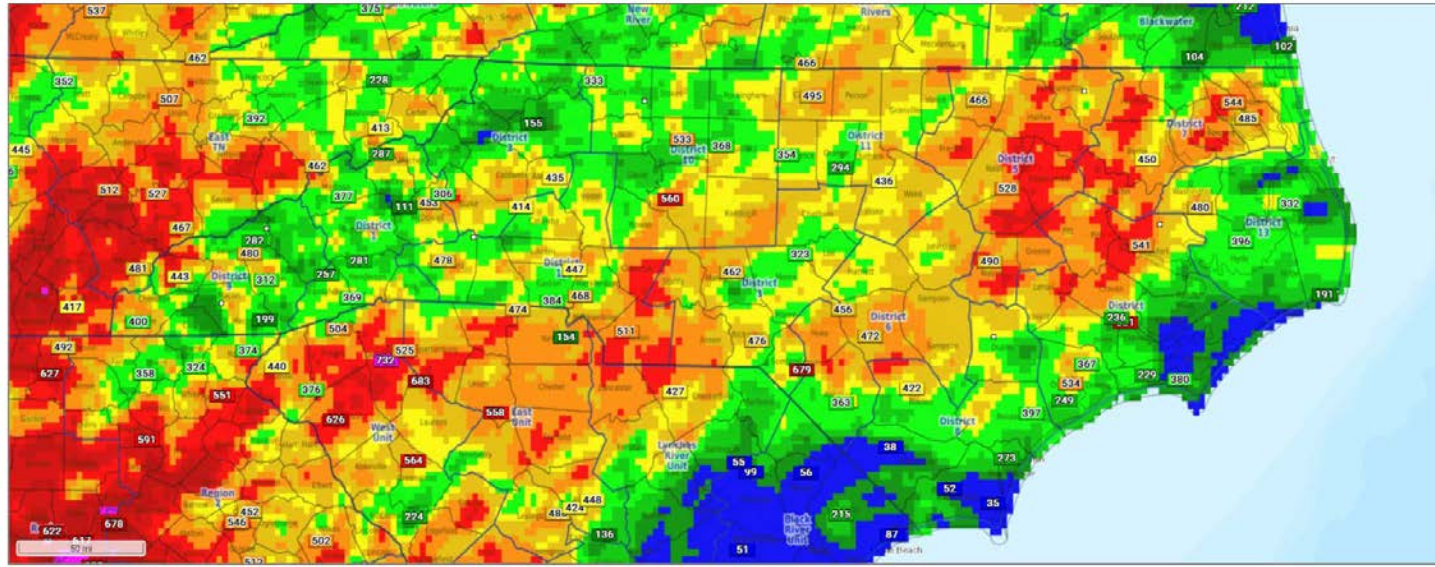




Rainfall Rankings by Month (1991-2020 Climatology)

Note that September is generally the wettest month on average for much of NC, followed by October being the driest.

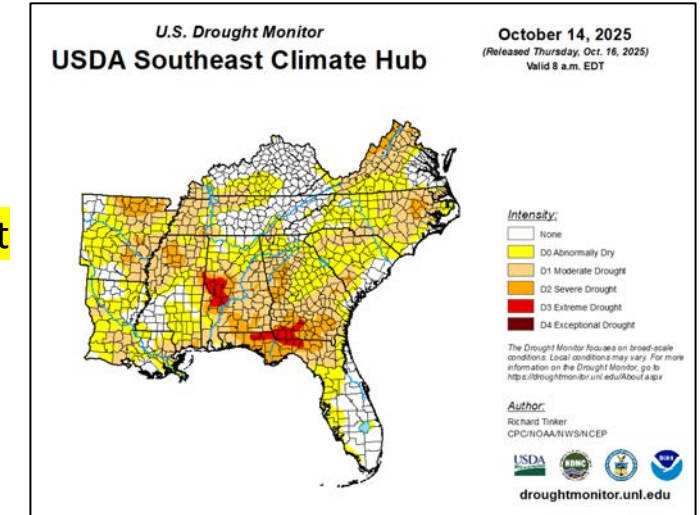




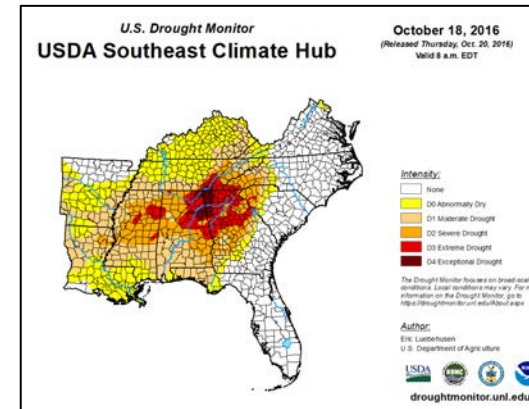
Points from 10/17, Grid from 10/16

- KBDIs have steadily increased in several pockets, the largest of which is in portions of D5, D4, D7. Recent heavy rain associated with the low from last weekend < values significantly in Brunswick, Columbus, Carteret Counties. (Remember that this is only a model & can't consider local conditions relating to absorption/runoff during extremely heavy/short duration events.)
- Note modeled 0-200 cm soil moisture percentile, representing the ~0-6 ft. soil profile across the landscape (bottom center).
- USDM Map comparison – 2016, 2024, 2025.

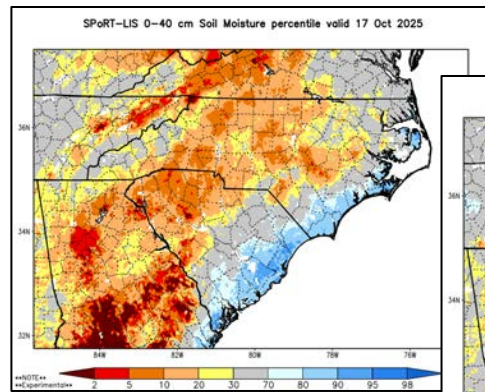
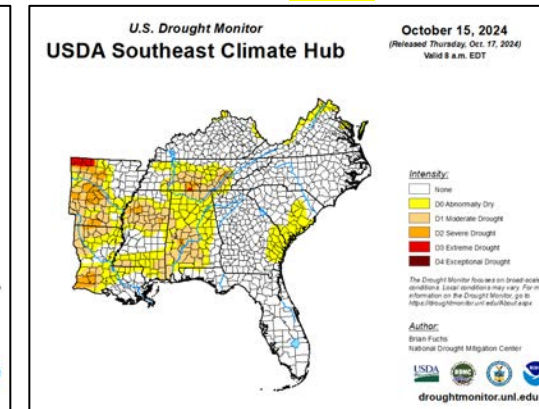
Current



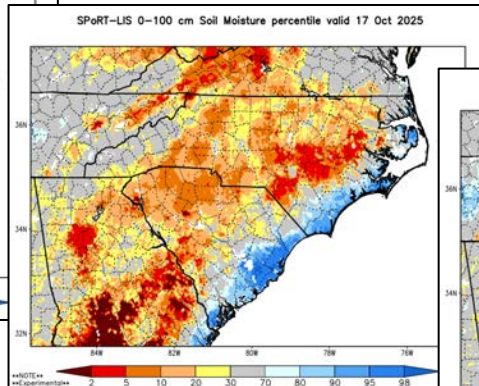
2016



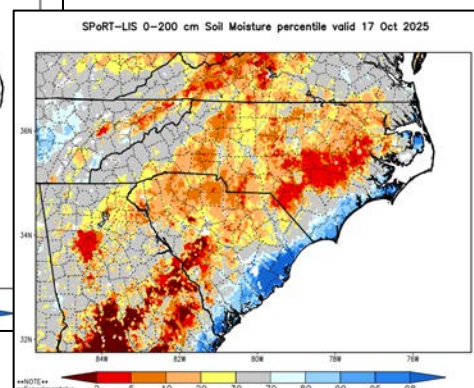
2024



0-40 cm



0-100 cm



0-200 cm

North Carolina Drought Update

For the assessment period ending **Oct. 14, 2025**
From the US Drought Monitor, with input from the NC DMAC

The Main Takeaway

Some dry and drought conditions improved along the coastline thanks to last weekend's rain, but western areas saw further degradations after a drier week.

This Week's Summary

The weekend Nor'easter brought rainfall totals of more than 2 inches along the coast, but totals dropped off quickly inland, with areas west of Raleigh seeing less than half an inch. The rain was welcome for recently dry eastern areas, which saw a boost in soil moisture and a reduction in fire danger. But we still need more rain to make a bigger dent in our entrenched drought.

Next Week's Outlook

A cold front moving through on Sunday night will bring slightly cooler temperatures but limited moisture, with less than half an inch of rain expected in most areas.

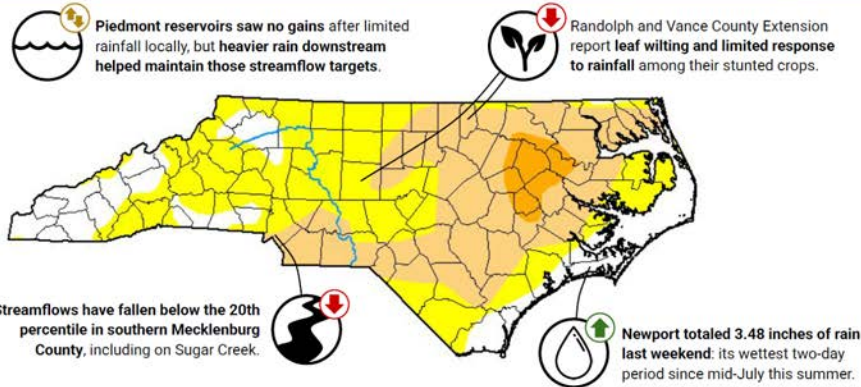
For your local drought status, visit www.ncdrought.org

Created By:

North Carolina
Drought Management Advisory Council
www.ncdrought.org

North Carolina
CLIMATE OFFICE
climate.ncsu.edu @NCSCO

NC STATE

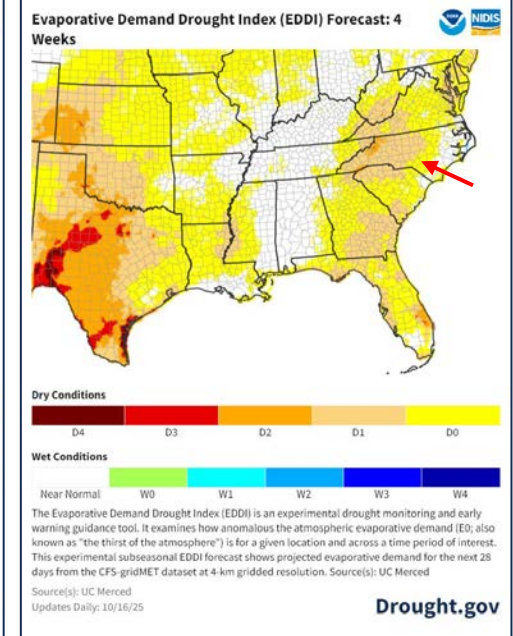
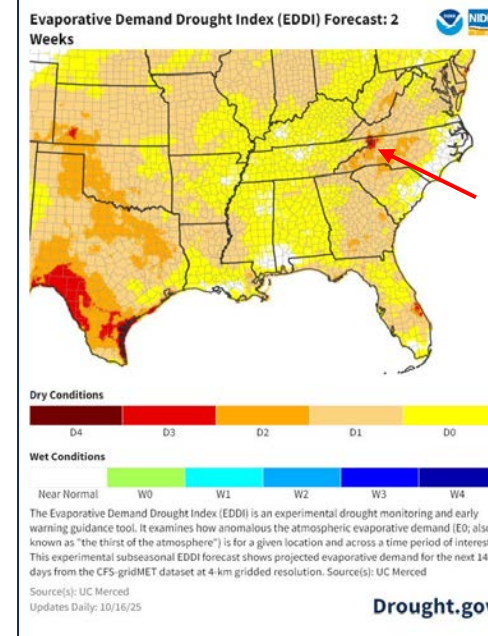


Last Week's Drought Status



Statewide Coverage by Category

Category	Current Coverage	Change Since Last Week
D0: Abnormally Dry	42.44%	-0.59%
D1: Moderate Drought	37.07%	+0.70%
D2: Severe Drought	4.40%	0.00%
D3: Extreme Drought	0.00%	0.00%
D4: Exceptional Drought	0.00%	0.00%

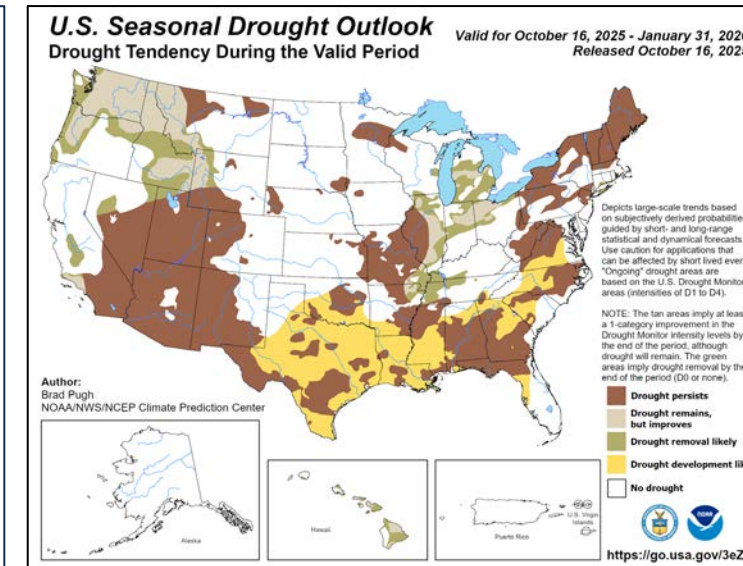
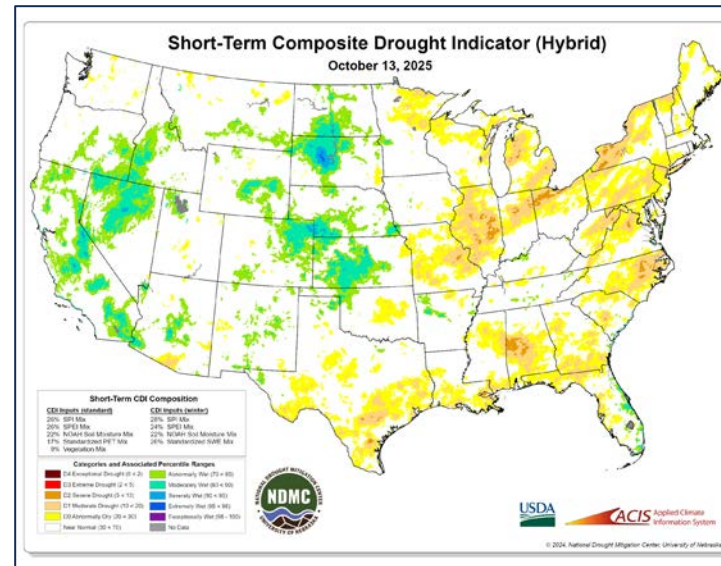


EDDI & Drought

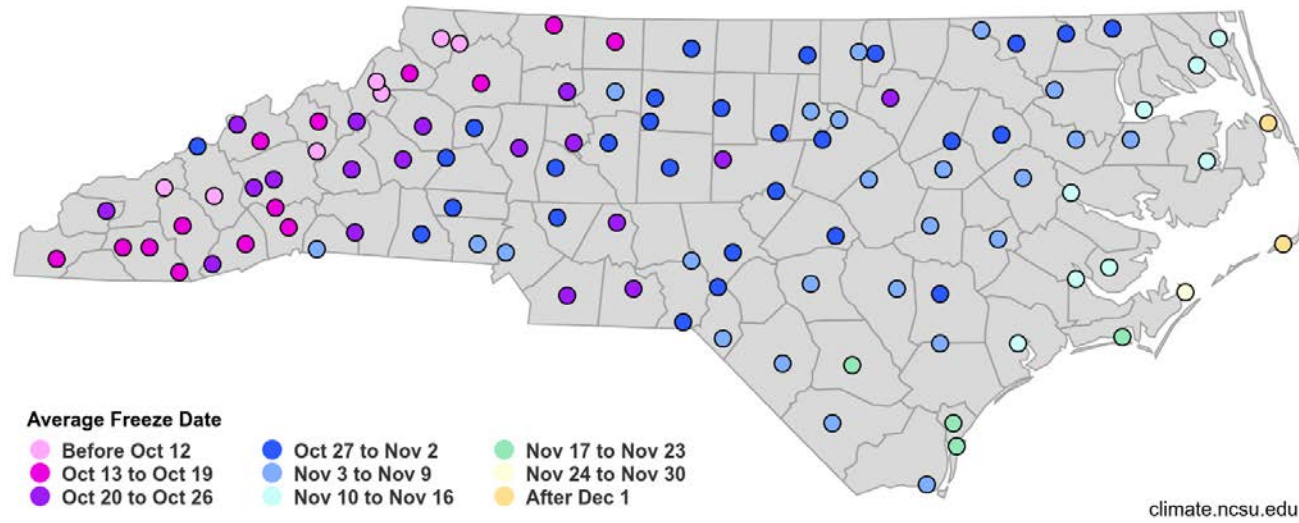
EDDI Maps - The EDDI maps at the top right illustrate modeled evaporative demand at the two-week and four-week avg level. They are trending drier than normal in Western NC at both time scales (especially NW counties). Warmth, lack of precip and dry air accelerates this index.

US Drought Monitor – USDM map released last week, note map has added an area of D-2.

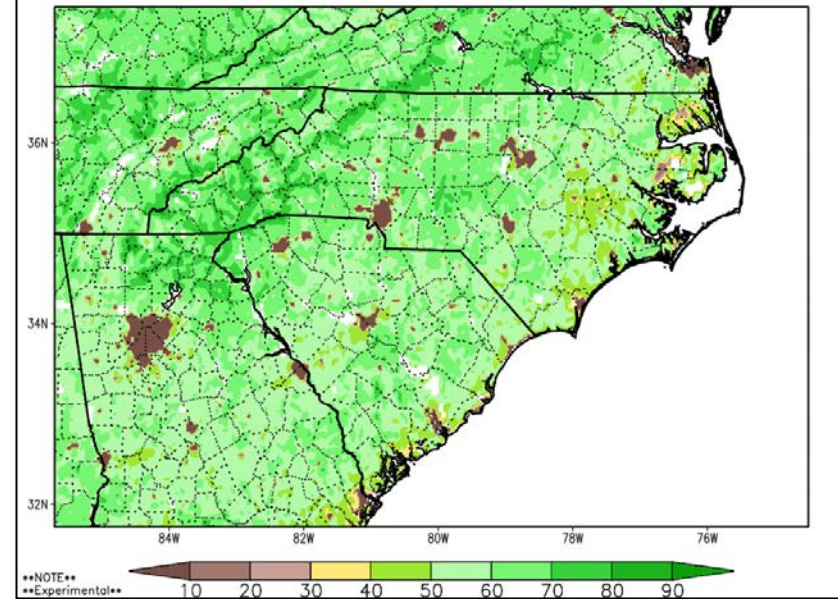
Short-Term Composite Drought Indicator Map & Seasonal Drought Outlook - shown at right. See detailed state/regional discussions [here](#). Conditions are favoring drought to extend and continue for much of the Southeast. *All of this is dependent upon any future tropical storm tracks and seasonal variability we see moving through Fall/Winter.*



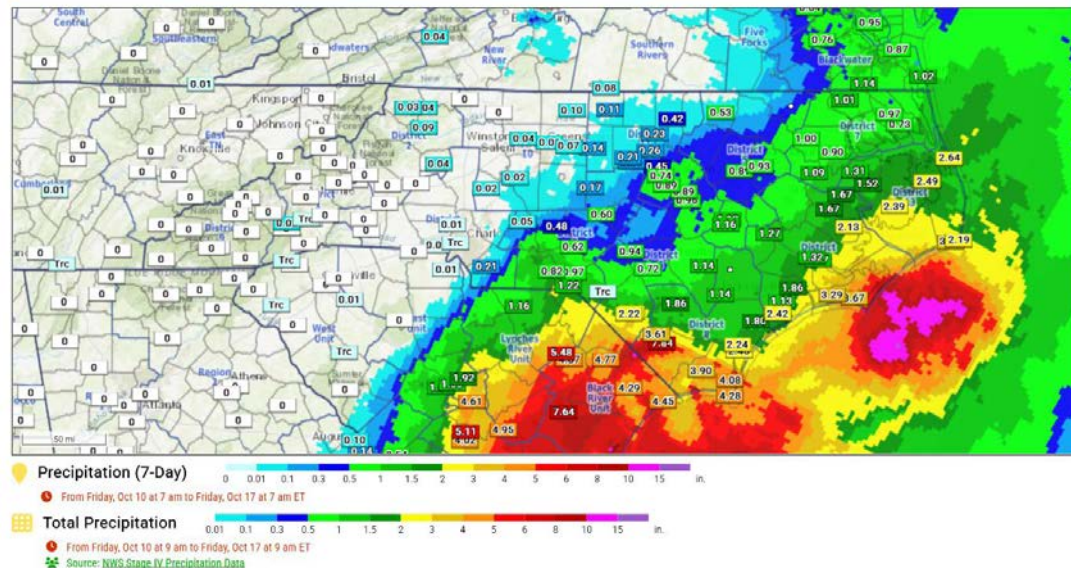
Average First Fall Freeze Dates in North Carolina



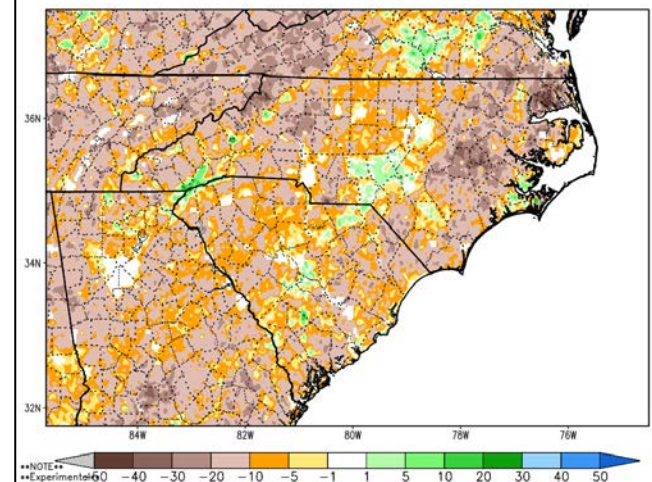
Green Vegetation Fraction (%) valid 17 Oct 2025



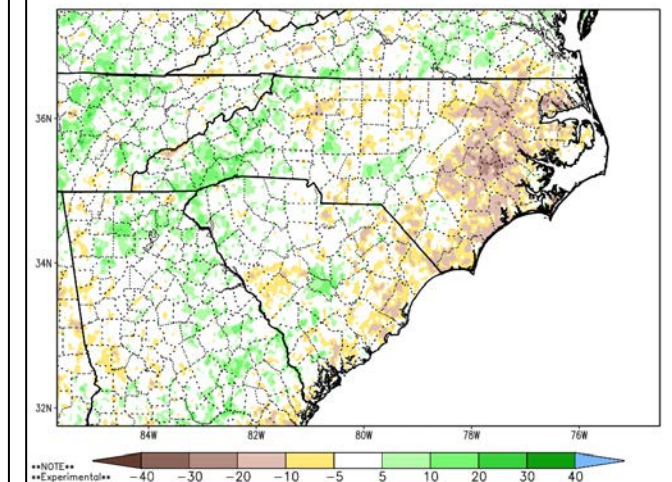
From the Fire Weather Intelligence Portal • products.climate.ncsu.edu/fire

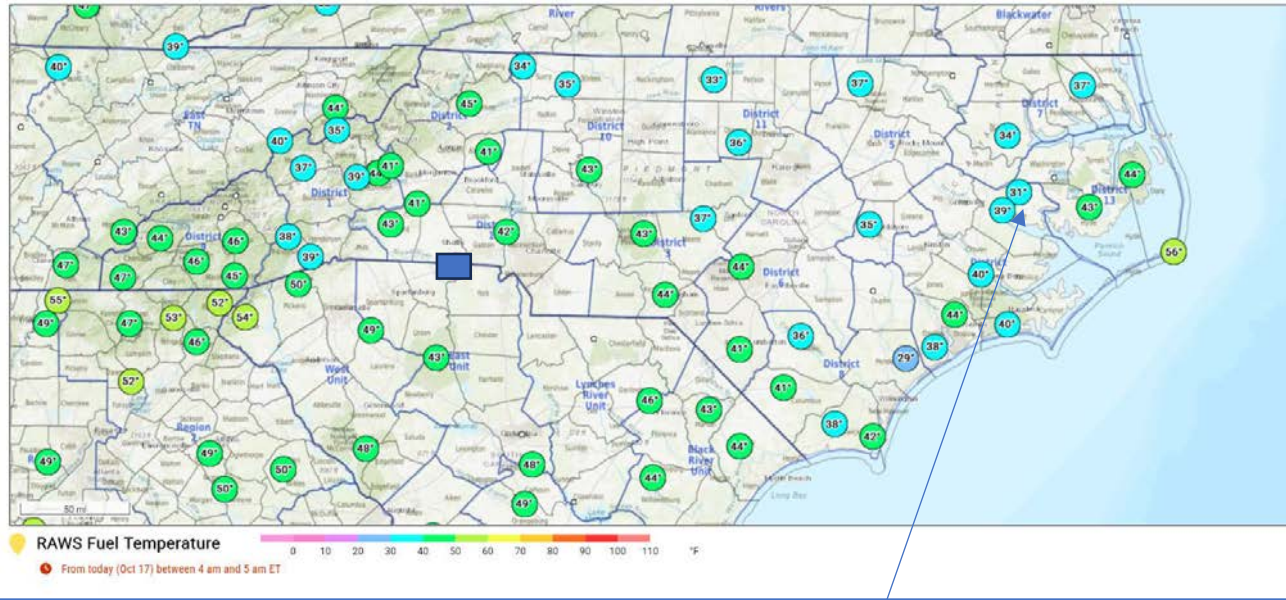


1-Month Difference in Green Vegetation Fraction (%) valid 17 Oct 2025



1-Year Difference in Green Vegetation Fraction (%) valid 17 Oct 2025





Electronic Fuel Stick Temperature for 0400 Observation, 10/17

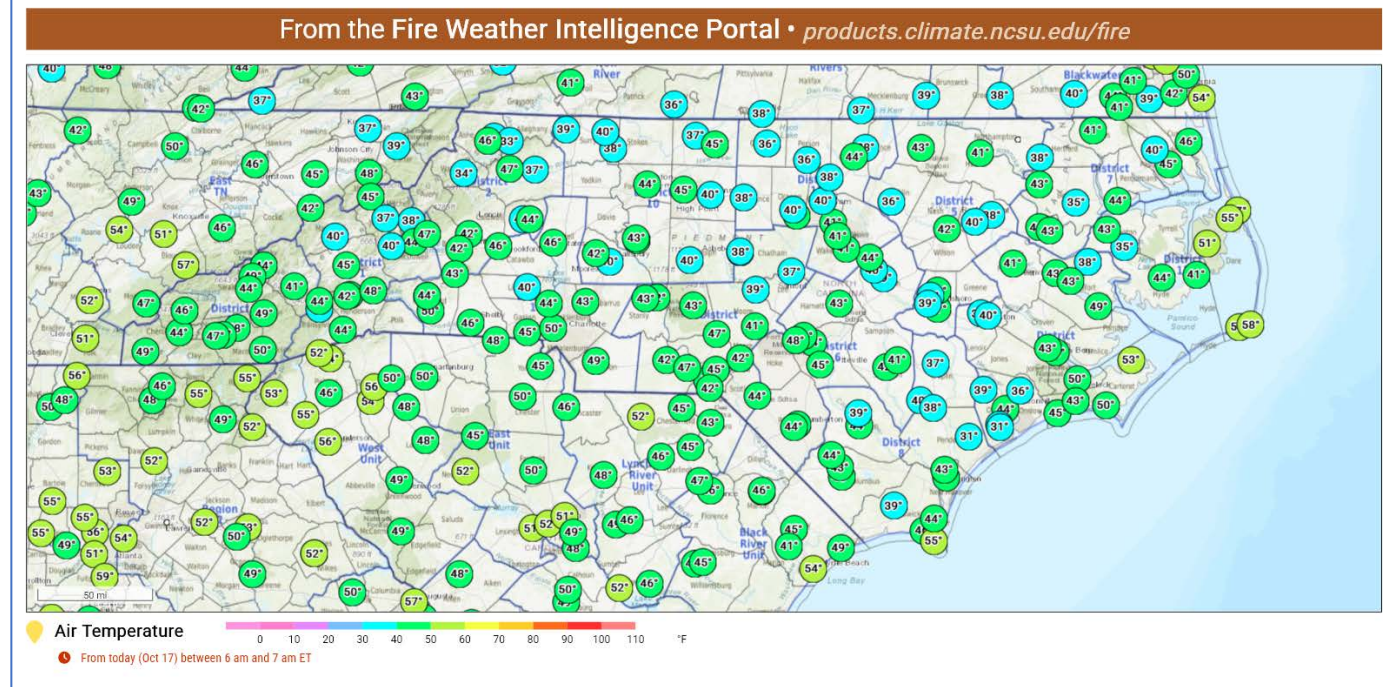


First widespread cool-down of Fall 2025 – 10/17.

Scattered frost overnight in typical exposed cold pockets with good radiational cooling/light wind. Shallow soil temperatures are still generally warm.

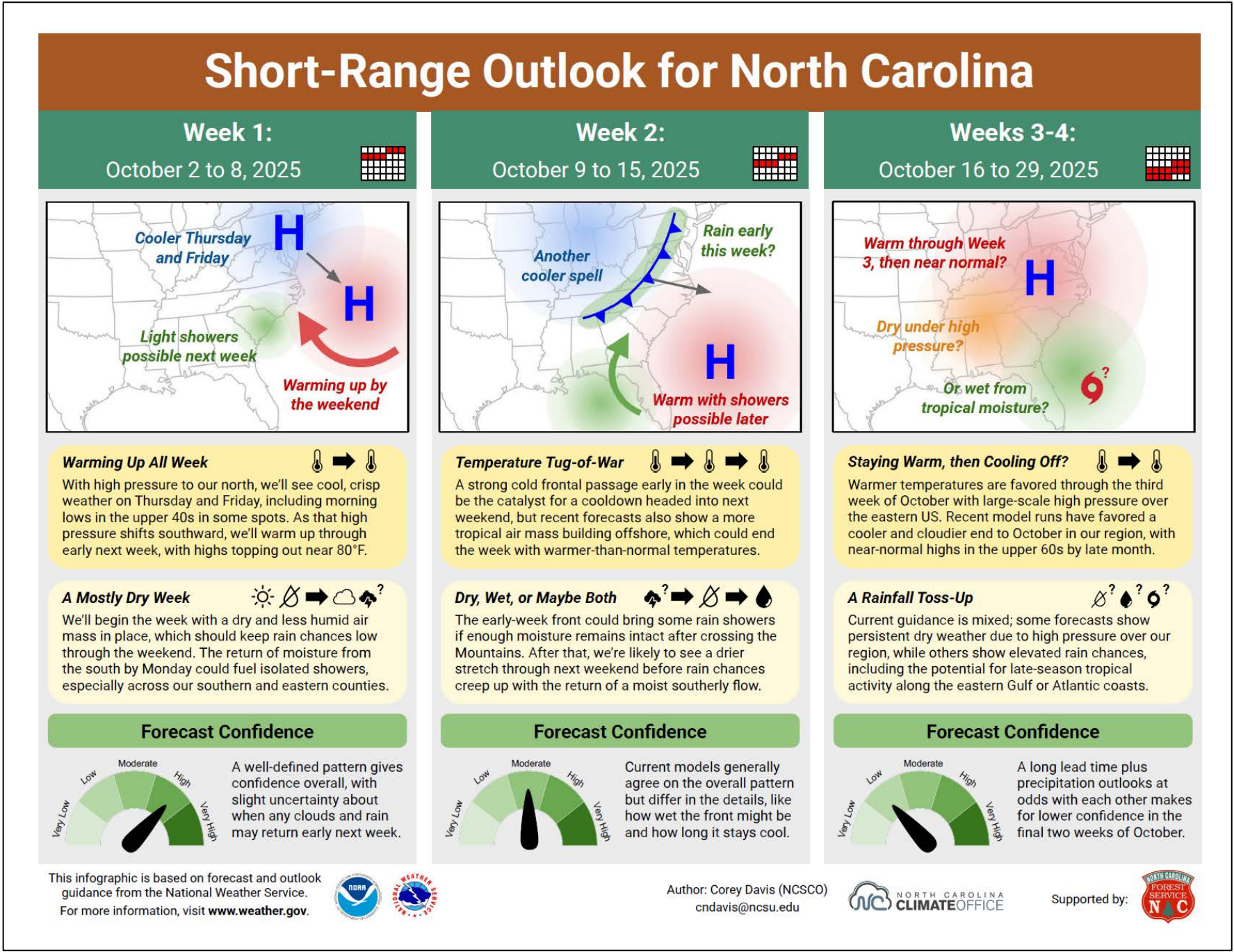
May see an earlier response to limited freeze/frost events when sensitive species are already significantly drought stressed.

Air Temp for 0600 Observation, 10/17



State Climate Office:
Short-Range Monthly
Outlook for NC

Released 10/2/25
Location: <https://climate.ncsu.edu/fire/outlooks/>



ENSO Notes from the CPC (10/14/25 Update)

ENSO Alert System Status: **La Niña Advisory**

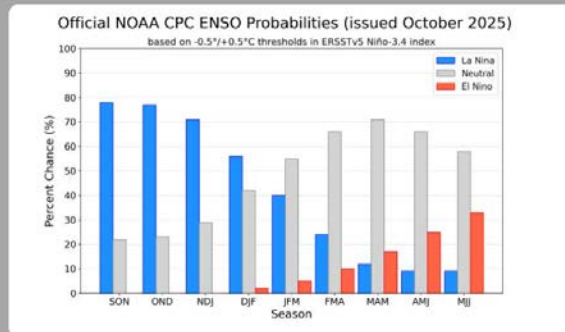
La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance).

ENSO, or El Niño Southern Oscillation, is a fluctuation in the sea surface temperature (SST) in the equatorial Pacific Ocean. Research has shown that even slight changes in the SST, particularly in area 3.4, can influence weather in North America. Generally, when SSTs are lower than normal, known as La Niña, NC has drier than normal conditions and can have more fire occurrence. However, La Niña also can lead to more tropical activity. El Niño, on the other hand, usually means wetter weather for NC, but less opportunity for tropical landfalls due to increased wind shear. In order to declare a La Niña, the departure from average SST must be at least -0.5°C (line shown in green) for 3 consecutive months. For El Niño, the departure must be at least 0.5°C above average for 3 consecutive months.

CPC Probabilistic ENSO Outlook

Updated: 9 October 2025

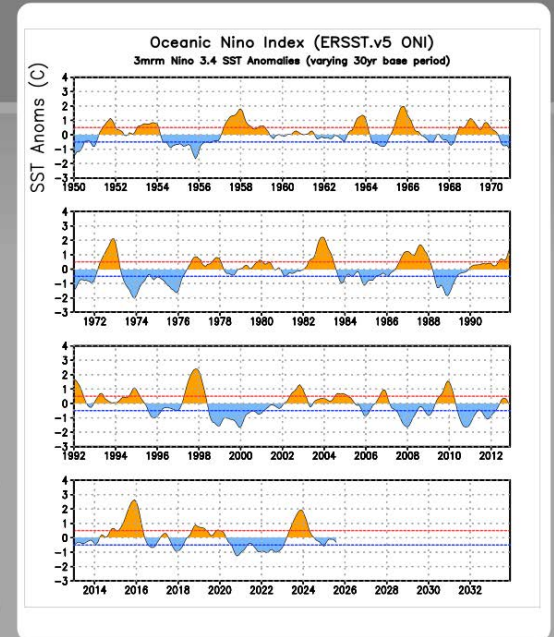
La Niña is favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance).



ONI ($^{\circ}\text{C}$): Evolution since 1950

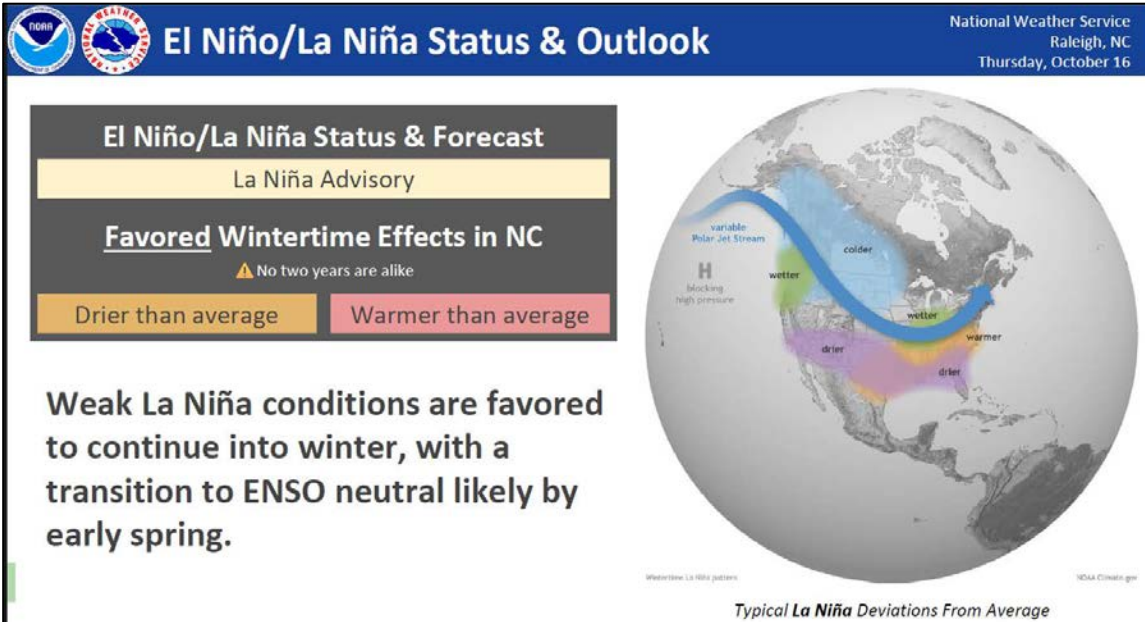
The most recent ONI value (July - September 2025) is -0.3°C .

El Niño ↑
Neutral
La Niña ↓

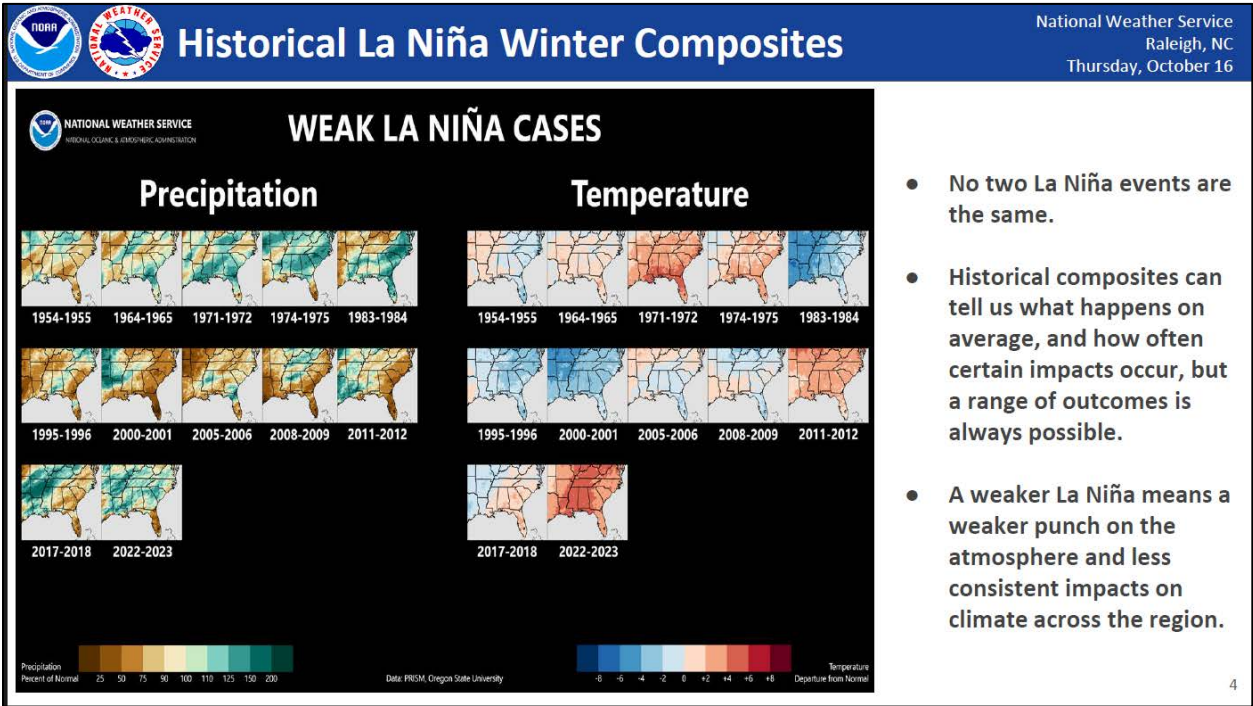
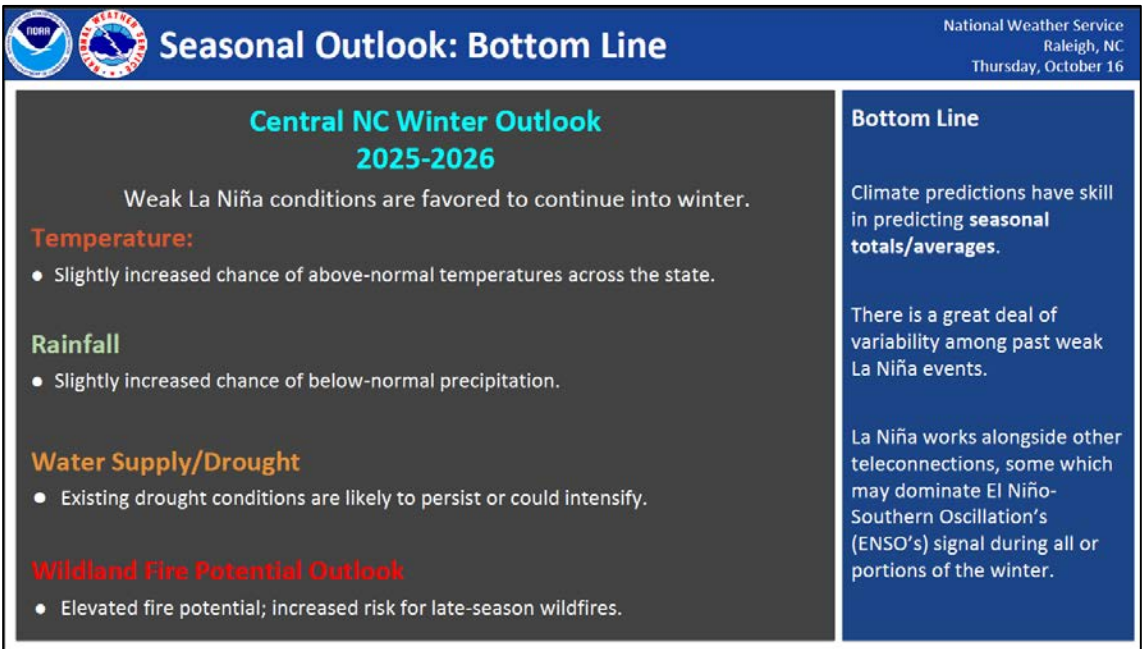


From the most recent CPC Diagnostic Discussion ([ENSO Diagnostics Discussion](#)):

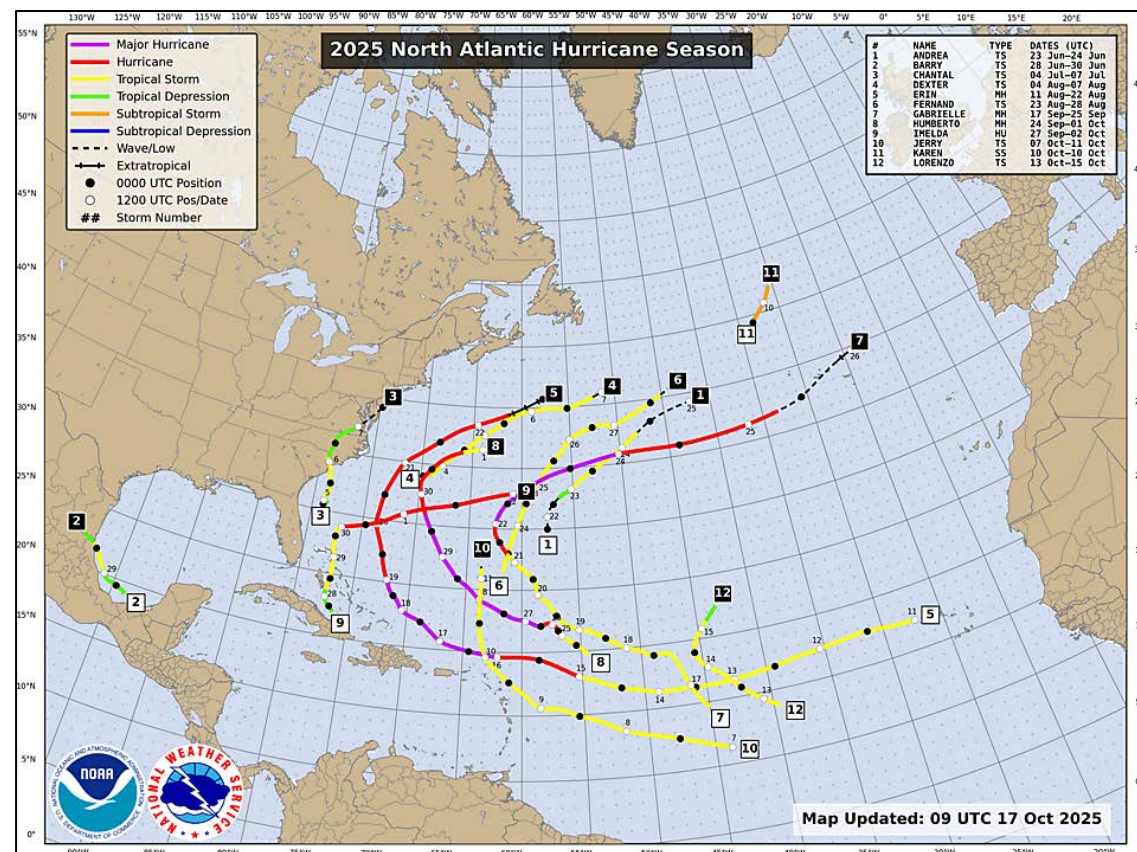
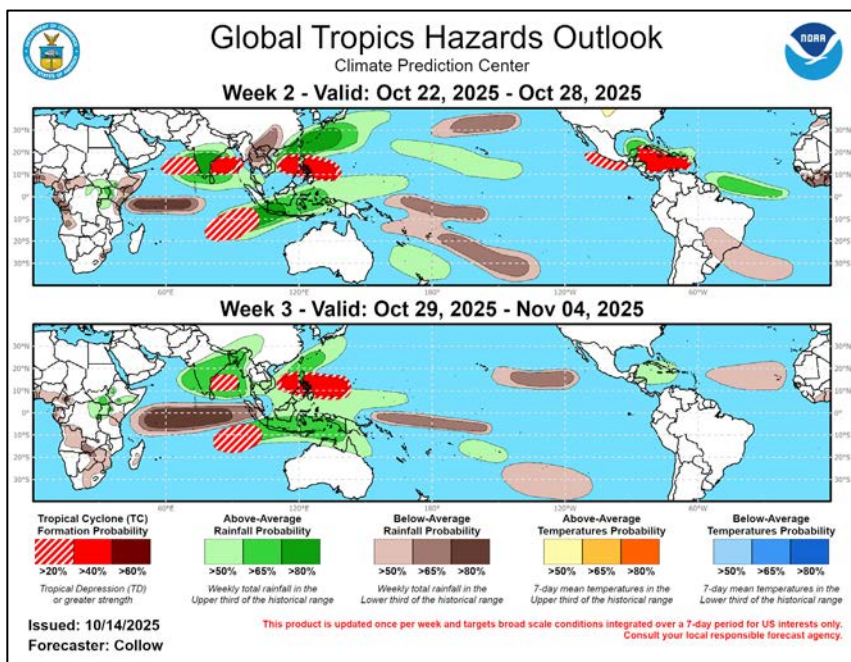
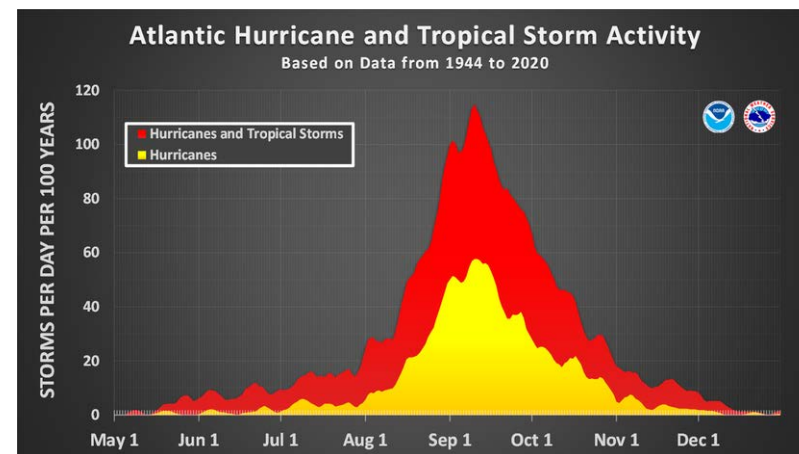
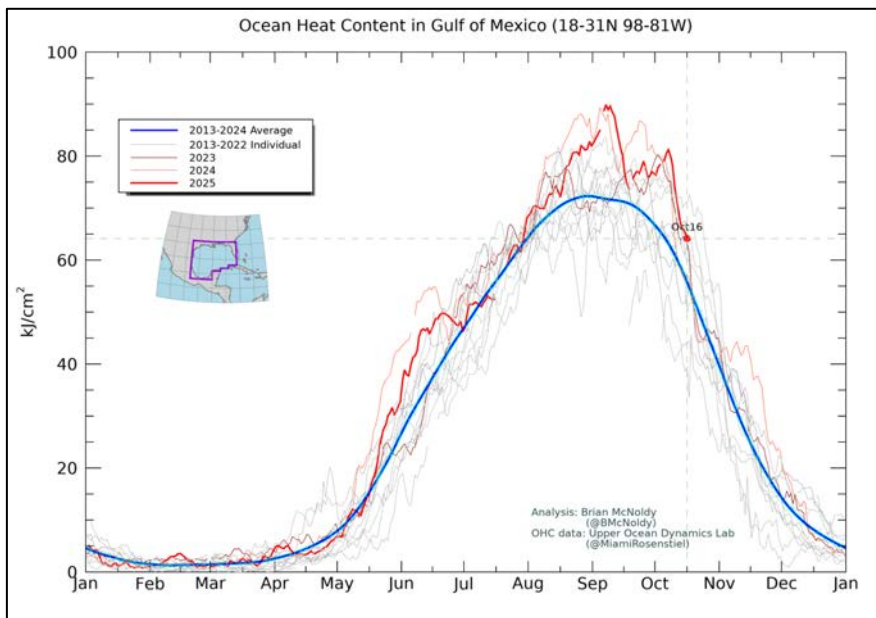
The IRI multi-model predictions favor La Niña through the Northern Hemisphere winter 2025-26 (Fig. 6). The North American Multi-Model Ensemble is also in agreement, and based on recently observed anomalies, the team favors La Niña to continue through winter. At this time, La Niña is expected to remain weak (3-month average Niño-3.4 index value at or between -0.5°C and -0.9°C). **A weak La Niña would be less likely to result in conventional winter impacts, though predictable signals could still influence the forecast guidance** (e.g., CPC's seasonal outlooks). In summary, La Niña conditions are present and favored to persist through December 2025 - February 2026, with a transition to ENSO-neutral likely in January-March 2026 (55% chance; Fig. 7).



Slides from NWS Raleigh's Area 2025-2026 Winter Outlook



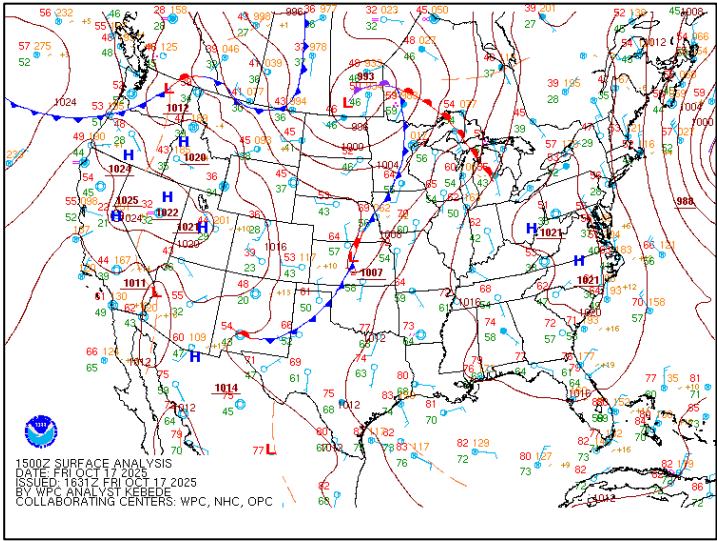
Tropical Related



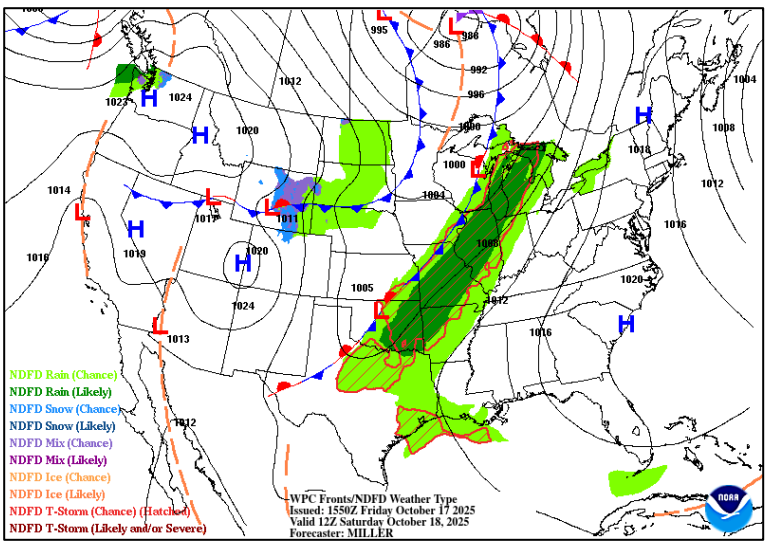
<https://www.nhc.noaa.gov/data/tcr/?tex>

WPC Forecasted Surface Fronts & Sea-Level Pressures

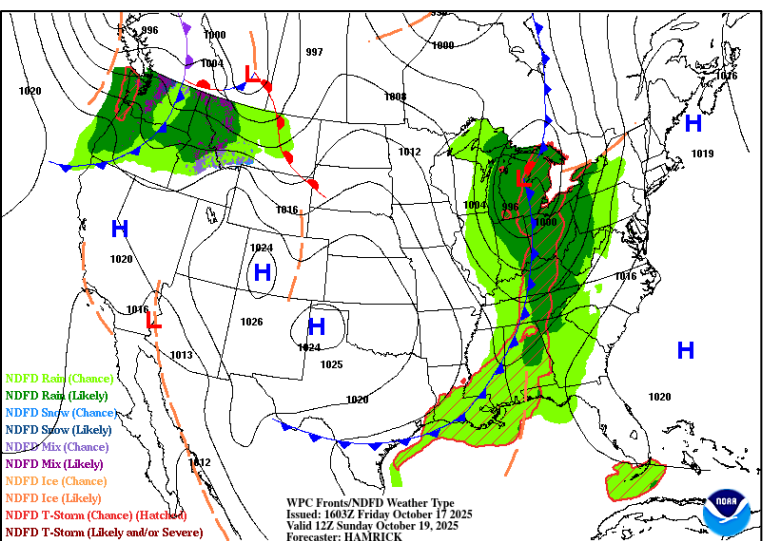
Day-1 @ 15Z Surface Analysis



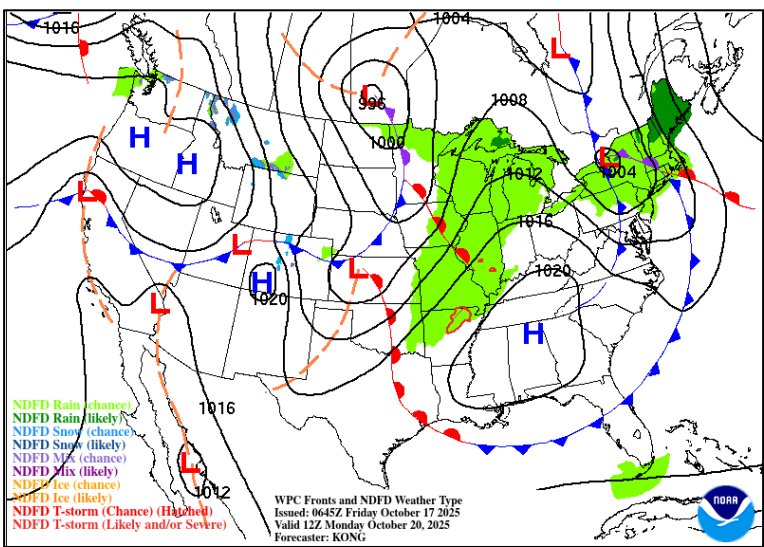
Day 2 - @ 12Z (0800 EDT)



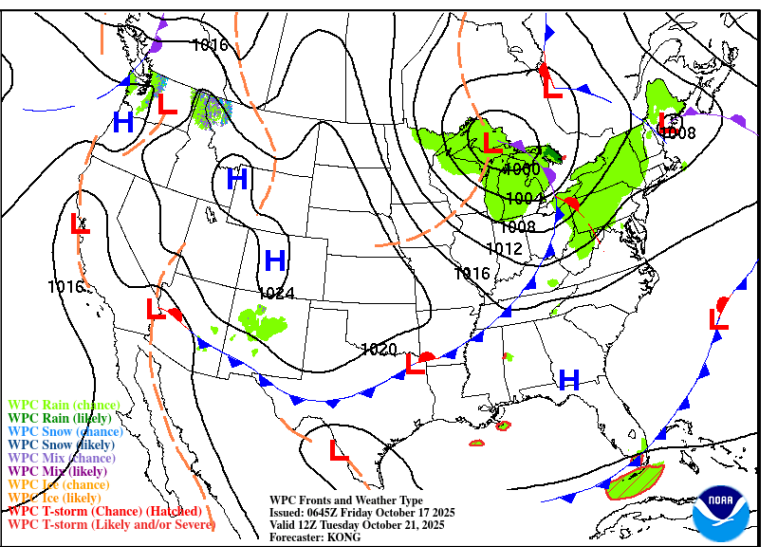
Day 3 @ 12Z (0800 EDT)



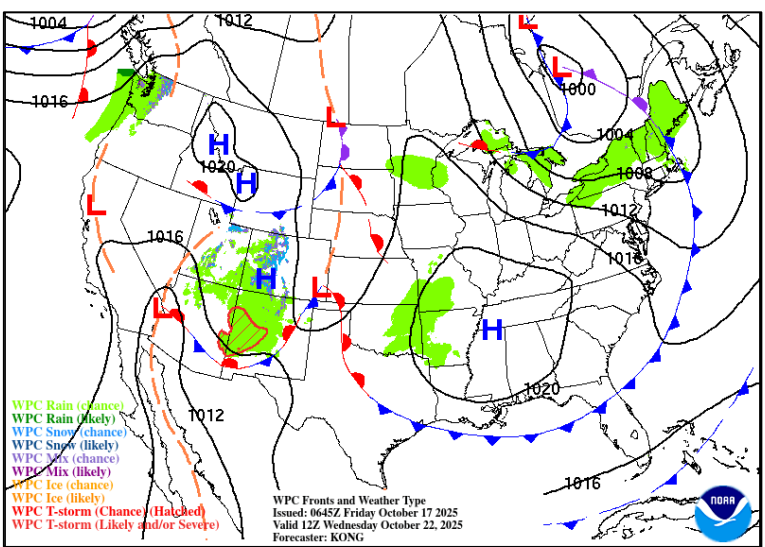
Day 4 @ 12Z (0800 EDT)



Day 5 @ 12Z (0800 EDT)



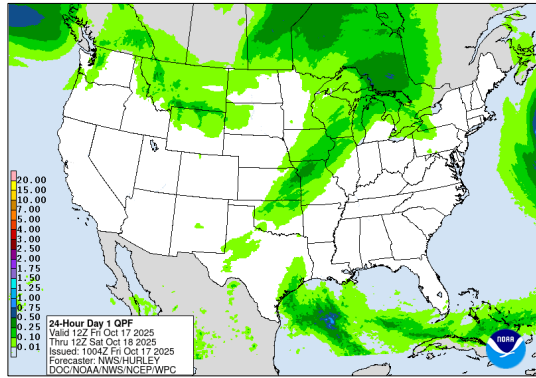
Day 6 @ 12Z (0800 EDT)



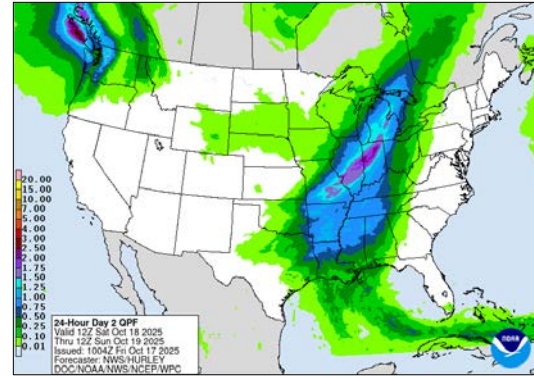
Quantitative Precipitation Forecast, 7-Day

Location: <https://www.wpc.ncep.noaa.gov/#>

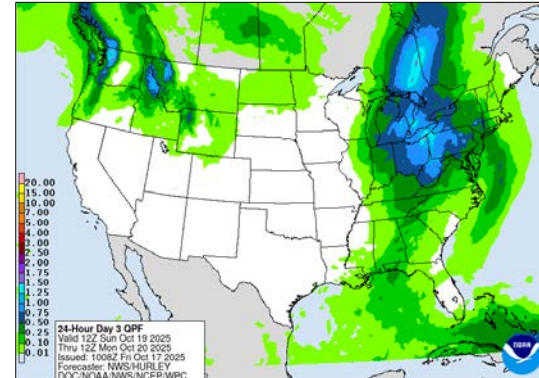
Day - 1



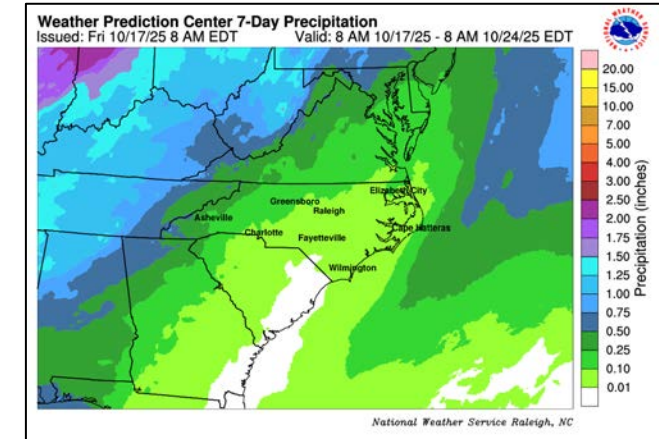
Day - 2



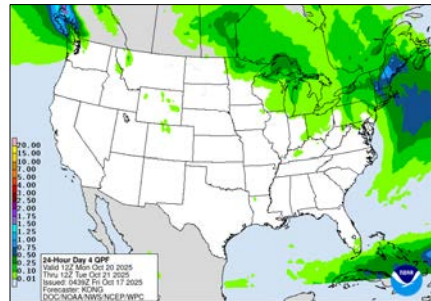
Day - 3



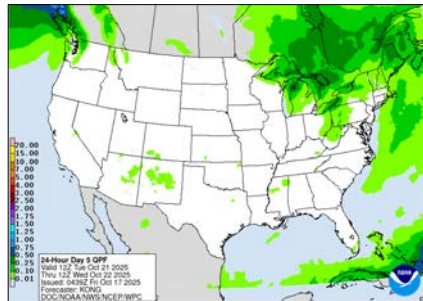
Zoom - Days 1 - 7 QPF



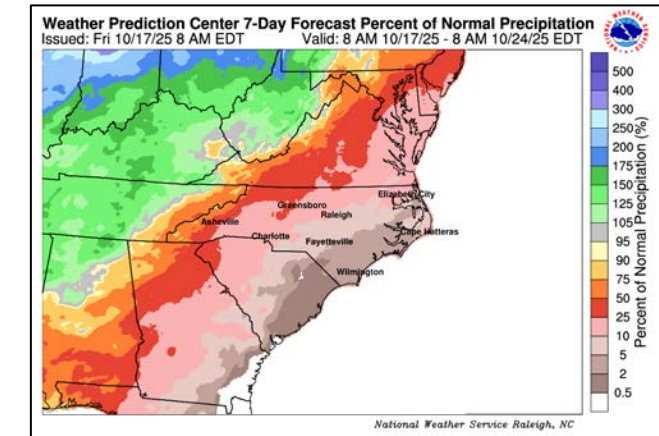
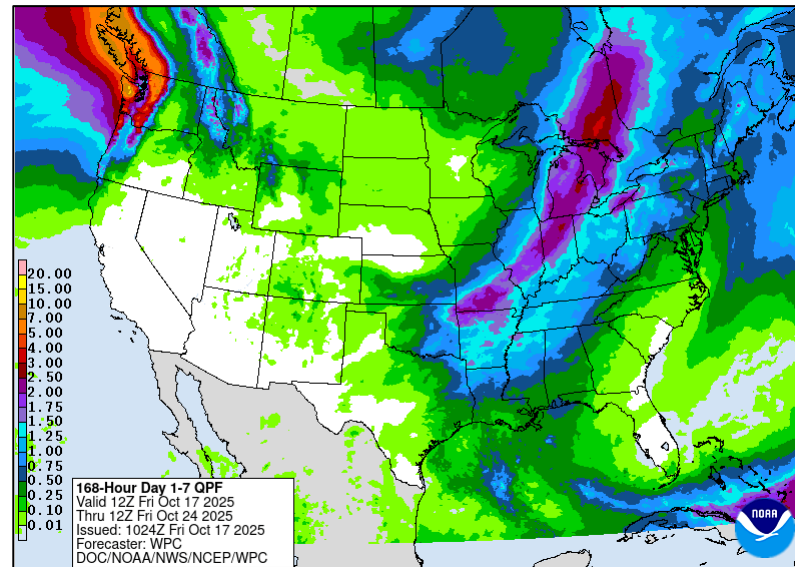
Day - 4



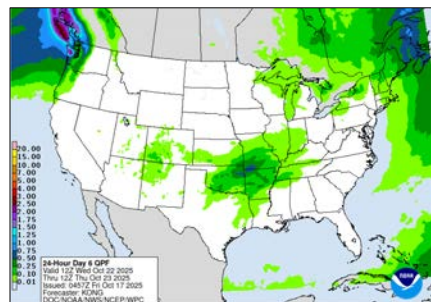
Day - 5



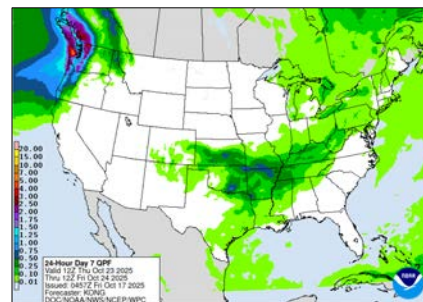
Days 1 - 7 QPF



Day - 6

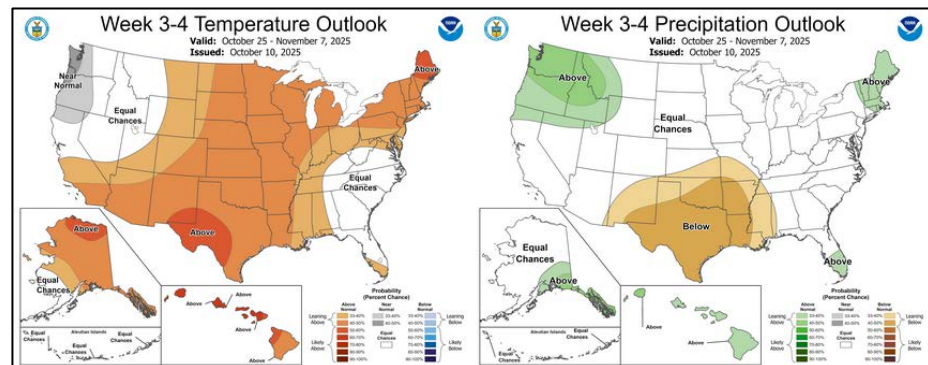
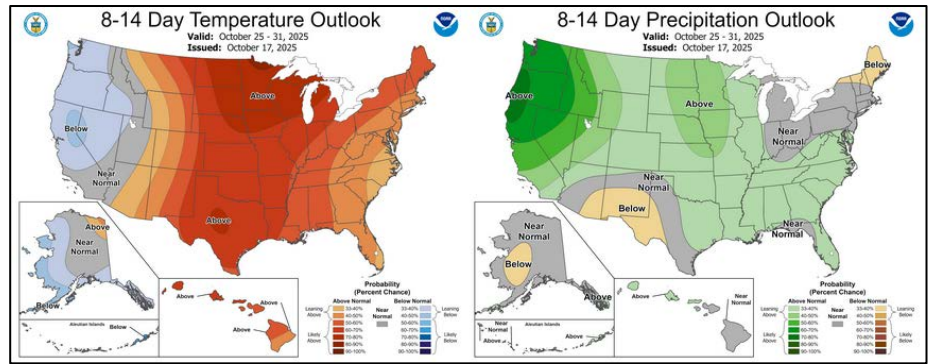
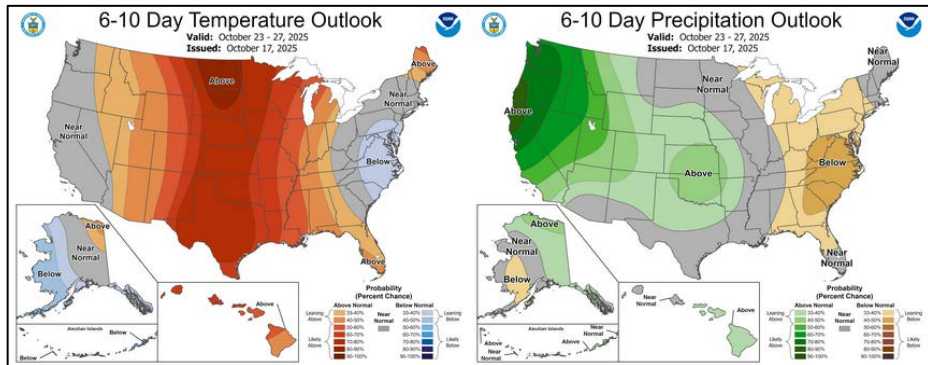


Day - 7

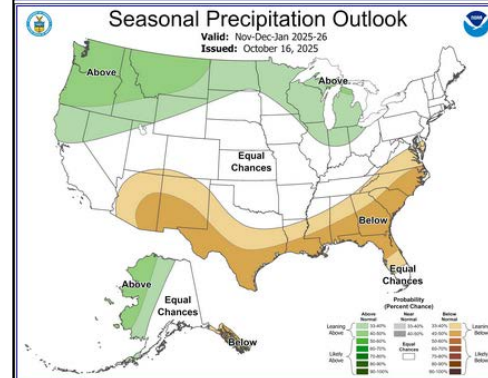
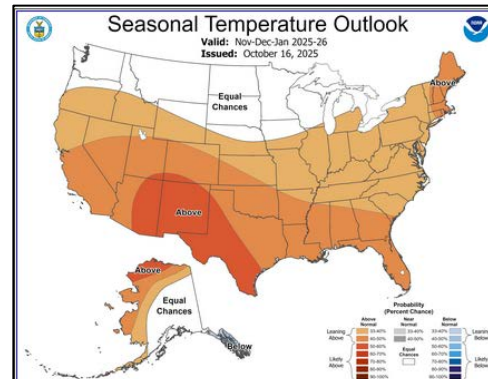


Temp & Precip Outlook

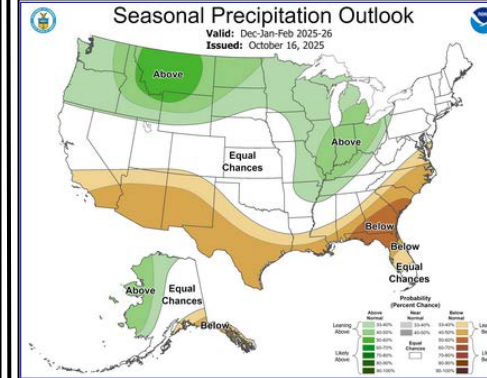
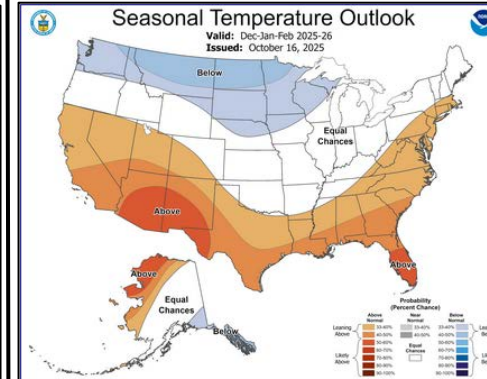
6-10 Day, 8-14 Day, Weeks 3-4, Seasonal (N/D/J, D/J/F, J/F/M)



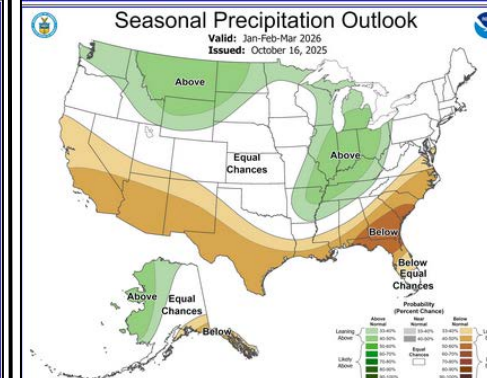
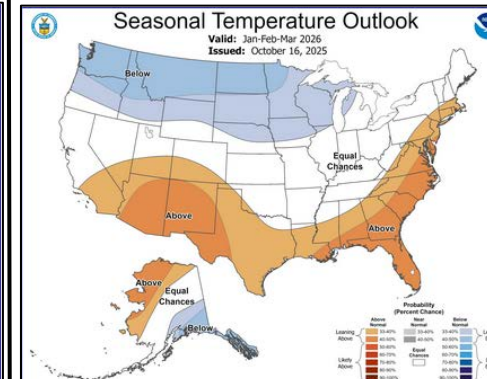
Nov-Jan



Dec-Feb



Jan-Mar



Last Updated by CPC on October 16th

Source: <https://www.cpc.ncep.noaa.gov/>

FEMS Integration Notes



Fundamental Differences with FEMS:

Weather Forecasts & Data Management

- **Forecast Source & Updates**
 - Hourly forecasts are provided directly from the **Office of Atmospheric Research (OAR)**, not from local weather service offices.
 - Forecast periods align with **NWS Midnight–Midnight** windows (not 1300–1300).
 - Forecasts are updated daily at **0400z**.
- **Snow Flags**
 - Snow flag observations are automated and updated daily at **1600z**.
 - Snow flags are **not part of the NOAA forecast**.
- **Weather Observations & Station Metadata**
 - Data and metadata are linked from **WXx-weather**; field users cannot adjust them directly in FEMS.
 - Station metadata can be updated in WXx by field staff and will sync to FEMS daily.
 - Missing or incorrect observation data **cannot be corrected at the field level**.
 - Large data gaps (e.g., due to transmission issues) must be downloaded from the station and submitted to the national program via coordinators for inclusion in FEMS.
 - The national program is developing a **standard process for gap-filling and quality control (QC)**.
- **System-Level Management**
 - FEMS uses **catalog-based fire danger parameters**; multiple stations can be assigned to a single catalog.
 - Regional-level catalogs (e.g., Southeast, Midwest, Northwest) will be developed to tailor GSI and related settings.
 - The old method of individual station adjustments created wide inconsistencies across agencies, regions, and from station to station.
 - A **QA/QC'd climatological dataset** provides consistent historical weather records (2005–2022, or from station establishment if later - through 2022). Currently limited to permanent Satellite RAWs.
- **Access & Use Differences: FEMS vs WIMS**
 - Most field staff will **not need a FEMS login** via FamAuth.
 - Field staff will not edit catalogs, weather observations, or individual station parameters (not same format as WIMS).
 - A **public-facing FEMS site** allows staff to manipulate maps, view stations, and download most data.
 - The FEMS portal is intuitive and provides a variety of **graphs, tables, and visualization tools**. (V 3.4 update just released)
 - Pay close attention to the FEMS Map Legend & if you are looking at hourly or daily min/max: Circles = Observed Values & Diamonds = Forecasted Observations.
 - Daily Max/Min & precip accumulation values are moved from “forecast” version to “observed” version shortly after midnight local station time the next day.
 - Hourly Observed Values are moved from “forecast” to “observed” version shortly after transmission from the RAWs Station, why there is a mixture displayed depending on transmission timing (see next slide).
 - Nationally, the seasonal Trend Chart Percentile rankings for each station **in the FEMS portal** run from the 2005-2022 Period of Record Analysis (if available).



The diagram illustrates the data flow and processing for the DRI Snowflag system. It shows a timeline starting from historical data and moving towards the current moment in time.

Historical Data:

- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag
- historical snowflag

Current Data and Forecasts:

- current snowflag + forecasts (7 days)
- NOAA Forecast once daily @0400UTC
- observation forecasts (8 days)
- WX raws data every 5 min
- NFDRS for raws data every 5 min
- NFDRS historical record
- NFDRS for forecast once daily @0400UTC
- NFDRS forecasts (7 days)
- Daily min/max/avg (plus current forecast) once daily @0000
- NFDRS forecasts (previous day)

A yellow arrow indicates the flow of data from historical records to the current moment in time, and then to the various forecast and processing steps.

Please refer to the [Transition Materials](#) link for briefing materials, updating as needed by the national program. Please read the [“Summary of Changes from WIMS to Fire Environment Mapping System \(FEMS\)”](#) document.

Current Limitations (at present)

- [FEMS](#) is operational, but not yet fully built out (see referenced briefing documents).
- Mesonet stations are not currently included in FEMS.
 - ASOS and AWOS stations have recently been added as additional data sources but include no historical period of record.
 - State mesonet networks (such as the NC State Climate Office “ECONet”) are planned for inclusion in late 2025/early 2026.
- Portable RAWS stations have not yet been incorporated in the FEMS “Weather” display.
 - These stations will not have fire danger calculations generated (unlike WIMS).
 - FWIP is again displaying portable RAWS weather outputs, but not NFDRS.
- The [Fire Weather Intelligence Portal](#) continues to adjust queries and scripts to align with FEMS specifications and available stations.
- Fire Danger is no longer be calculated once per day at 1300 Local Time. As intended with NFDRS V4, calculations now occur hourly from midnight to midnight on a UTC framework (adjusted for local station time).
 - The focus is on capturing daily maximums and minimums, rather than relying on a single 1300 snapshot—which rarely represented the “worst-case” hour.
 - Because of this change, WIMS 1300 NFDRS outputs and FEMS numerical outputs & percentiles should **not** be treated as interchangeable, especially when using fuel models containing live fuels.
- All users remain in a learning phase as the system continues to be developed and refined.
- Transitioning during the start of the Eastern U.S. fall fire season has not been ideal, but necessary due to factors outside of program control.

****Expect some hiccups as the new system continues to be integrated into daily operations.****

Impacts Specific to NC: FDOP and Fire Danger Outputs

Weather Stations

- State Mesonet Stations (e.g., NC ECONet) have not yet been added.
Several North Carolina FDRAs rely on stations from alternate gateway sources (SCO ECONet).
For example, the East Piedmont FDRA utilized four of these ECONet stations.
- FEMS has recently incorporated ASOS and AWOS stations as a stopgap measure; however, these stations (e.g., RDU Airport) have no prior period of record.

Live Fuel Moisture (LFM) Model

- Currently set to a national preliminary standard in FEMS.
- Four main drivers are used: Day Length, Minimum Temperature, Vapor Pressure Deficit, and Running Total Precipitation.
- The GSI-derived LFM Model standard settings create fundamental limitations that directly affect FM-V, FM-W, and FM-X.
- National standard settings do not allow regional adjustments for local growing conditions. This will evolve over time as bugs are addressed, stations are added, and further analysis is completed.

Data and Modeling Updates

- FF+ Databases have been recalculated to align with new FEMS standards (see earlier documentation).
- For this interim update of the NC FDOP's data, only dead fuel models will be used due to the known LFM limitations in the initial FEMS rollout.
- A reevaluation will be necessary over the next year as additional alternate gateway station types are integrated & regional GSI calibrations are carried out.

FDOP Revision Status

- NC FDOP updates were started but then paused to allow time for FEMS development through early summer 2025.
- This pause has been recommended nationwide to ensure consistency as development progresses.
- Interim breakpoints and model combinations have been established, with a complete revision needed once FEMS is adjusted (earlier topics).

Current FDOP Work and Next Steps

- Weather and fire occurrence data (**2010–2024**) have been processed to establish initial working breakpoints for FEMS/V4 outputs.
- These breakpoints will drive fire danger products (e.g., adjective ratings and hazard levels) moving into Fall 2025 and Spring 2026.
- Updated values will be incorporated into FWIP products currently in use.
- Pocket Cards type products will be updated to reflect changes in the new period of record, fuel models and associated breakpoints.
- FWIP product updates may be delayed depending on station availability and data connections.

Work at the national, regional, state, and FDRA levels will continue as FEMS is updated following rollout.

Fire Danger Rating Area Summaries:

Analysis Settings				Matrix Combinations	
FDRA	Time Range	Daily Extremes	FM	Staffing/Hazard Level	Adjective Rating
Northern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Southern Coastal Plain	2010-2024	Y	Z	ERC/BI	ERC
Eastern Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Sand Hills	2010-2024	Y	Z	ERC/BI	ERC
Western Piedmont	2010-2024	Y	Z	ERC/BI	ERC
Blue Ridge Escarpment	2010-2024	Y	Z	ERC/IC	ERC
Central Mountains	2010-2024	Y	Z	ERC/IC	ERC
Northern Highlands	2010-2024	Y	Z	ERC/BI	ERC
Southern Highlands	2010-2024	Y	Z	ERC/IC	ERC

FDRA	Special Interest Group Stations (SIG Stations)	Missing SIG Stations
Northern Coastal Plain	Dare Bomb Range, Elizabeth City, Fairfield, Greens Cross, Pocosin Lakes NWR	0
Southern Coastal Plain	Beaufort, CL1 Sandy Run, New Bern, Turnbull Creek, Hofmann, Whiteville, Sunny Point, Finch's Station	0
Eastern Piedmont	Central Crops RS**, Lake Wheeler**, Oxford Tob RS**, Upper Coastal RS**, Warrenton, ASOS RDU AP, ASOS RM-Wilson AP	4
Sand Hills	Fort Bragg, Horseshoe House, Rockingham, Sandhills RS**, ASOS Laurinburg-Maxton AP	1
Western Piedmont	Caswell Game Land, Duke Forest, Lexington, Mt Island Lake	0
Blue Ridge Escarpment	North Cove Pinnacle, Raven Knob, Redezvous Mtn, Rutherford Co Hq, Taylorsville (Lenior)	0
Central Mountains	Davidson River, Guion Farms, Mtn Hort RS**, Seven Mile Ridge, ASOS Asheville Regional AP	1
Northern Highlands	Busick, Jessen Station, Upper Mtn RS**, Laurel Springs*	2
Southern Highlands	Highlands, Jackson County, Locust Gap, Tusquitee	0

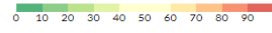
- Period of Record Issues, ASOS Airport Stations added as a stop-gap.
- East Piedmont and Northern Highlands most impacted.
- Red Colored Stations = Added Satellite RAWS, Blue Colored Stations = ASOS Stations, ** Denoted Stations = ECONet Stations Missing from SIG, * Denoted Station = Historical/Inactive Station

NFDRS Max/Min Daily Forecast Observations for tomorrow, October 18th, 2025

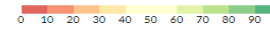
(Averaged for each FDRA by SIG Group & “All Days Filter” for the 2010-2024 Period of Record)

Averages by FDRA																	
FDRA	STATION_COUNT	NFDR_DATE	BI	ERC	IC	SC	KBDI	1HR	10HR	100HR	1000HR	HRB	WOODY	MAX TEMP	MIN RH	MAX GUST	PRECIP
Southern Highlands	3	2025-10-18	36.96 58.9%	43.17 57.1%	9.31 55.8%	5.45 47.5%	317.00	11.23 51.3%	14.08 57.7%	17.83 50.9%	19.37 39.4%	82.33	93.33	74.0°F	51.0%	SSW 13.3 mph	0.00 in.
Central Mountains	4	2025-10-18	40.67 81.9%	47.19 67.7%	12.22 74.5%	6.36 80.0%	329.00	10.11 40.3%	13.36 46.5%	16.68 38.2%	19.36 40.1%	80.50	91.75	75.3°F	48.0%	SSW 14.5 mph	0.00 in.
Northern Highlands	2	2025-10-18	30.02 52.8%	44.56 71.4%	7.83 65.5%	3.35 35.0%	211.00	10.76 38.6%	13.17 37.5%	17.46 29.9%	20.26 48.5%	80.00	91.50	74.0°F	50.5%	S 12.0 mph	0.00 in.
Blue Ridge Escarpment	5	2025-10-18	37.24 56.6%	52.58 71.3%	10.78 58.9%	4.78 54.6%	350.20	10.13 51.1%	12.12 43.4%	15.85 31.9%	18.56 51.2%	56.60	76.80	75.0°F	49.2%	S 10.6 mph	0.00 in.
Western Piedmont	4	2025-10-18	41.15 58.2%	48.91 57.2%	12.21 51.5%	6.08 54.4%	454.00	10.17 58.7%	12.16 45.0%	16.74 49.2%	20.01 65.2%	44.00	68.25	74.3°F	47.5%	SSW 12.5 mph	0.00 in.
Sandhills	3	2025-10-18	46.39 69.4%	48.61 56.4%	15.13 60.4%	7.93 71.7%	540.67	9.62 61.9%	11.77 47.5%	16.88 44.5%	20.69 78.3%	43.00	68.00	73.7°F	43.7%	SSW 11.0 mph	0.00 in.
Eastern Piedmont	3	2025-10-18	44.13 61.2%	48.15 59.3%	14.16 63.6%	7.26 51.8%	479.67	9.80 53.0%	11.55 42.5%	16.93 44.5%	21.30 82.0%	44.33	68.67	71.0°F	44.0%	S 9.7 mph	0.00 in.
Southern Coastal	8	2025-10-18	34.55 46.2%	46.00 64.0%	10.77 57.3%	4.51 37.5%	306.75	9.69 46.7%	11.39 17.7%	17.15 35.1%	22.54 91.4%	38.63	65.38	71.4°F	41.9%	SSE 6.6 mph	0.00 in.
Northern Coastal	5	2025-10-18	33.28 30.2%	44.81 63.0%	10.73 56.9%	4.41 11.9%	445.00	9.43 25.6%	11.52 30.8%	17.59 51.3%	23.11 92.7%	50.80	73.00	69.8°F	41.0%	SSW 7.4 mph	0.00 in.

BI/ERC/IC/SC
Percentiles (%)



Fuel Moisture
Percentiles (%)

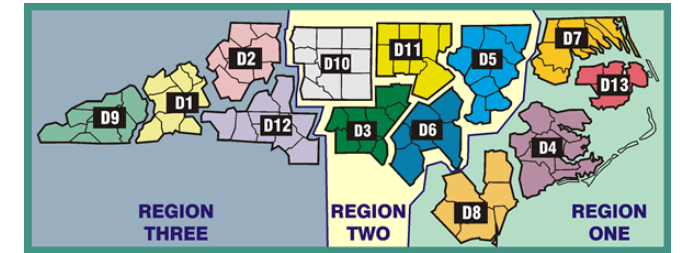


A few General Reminders related to FEMS Implementation as you look at the above graphic:

- NCFS is now utilizing interim breakpoints/analysis created to meet initial FEMS implementation Standards for Fall 2025, reminder that WIMS was shutdown on 9/30.
 - New percentiles have been created based on the new period of record, FEMS standards & stations in each FDRA’s “Special Interest Group” (SIG)
 - Some SIGS lost important ECONet Stations, but are being temporarily supplemented by using ASOS stations that are available (ex: East Piedmont FDRA)
- NC is utilizing **FM-Z** for all FDRAs in North Carolina (this fuel model **DOES NOT USE** live fuels in the outputs for its indices, but an even distribution of 1/10/100/1000-hr dead fuels)
- Growing Season Index (GSI) related to Herbaceous & Woody Fuel Moisture Estimates:
 - GSI output is currently set to a national catalog standard – it is **not an accurate representation of Live Fuel Conditions**, as it is set to be the same across the country.
 - Work is being done to allow “regional” adjustments to GSI settings later in 2025/2026, which will allow for more accurate modeling, especially during the shoulders of growing season.
- FEMS produces hourly fire danger – with Daily Max/Min Indices from Midnight-Midnight LST, not for once a day at 1300 LST like in WIMS.
 - The above values represent the max or min forecasted “hourly observed value” for 10/18/25
 - Forecast Observation MAX for indices and MIN for fuel moistures; new forecasts are run once a day around 0400 UTC to generate outputs for the next 7 days.
 - Grid forecast values are applied to station locations. Wind estimates from the gridded forecast may be higher than observed. Part of this is likely due to local station nuances related to vegetation or other obstructions impacting the station sensors. Another aspect may relate to accurately scaling down the 10-meter wind to the RAWS 20-ft wind speed standard.
- The Fire Weather Intelligence Portal continues to update text, internal databases/components, etc. as we move forward into full “FEMS” implementation.
- Adjustments will be made in FWIP as FEMS developers continue building out the system; any significant updates will be posted on the FWIP.
 - ECONet Stations remain unavailable in FEMS (about 45 stations in NC), so will not have NFDRS values produced – we hope to see them added in early 2026.
 - -999 Represents Null Values/place holder, observed weather values are still visible because they are queried from a separate data connection not involving FEMS.

Current ERC, KBDI, VPD-Max, BI, 10-Hr, 100-Hr & 1000-Hr Graphics:

- *Growing Season Index (GSI) and the resulting Woody & Herbaceous Fuel Moisture outputs show up in FEMS & subsequently FWIP. The recommendation is to not utilize these values until regional adjustments can be effectively made/incorporated into the GSI Model. This is especially important on the shoulders of the yearly growing season.



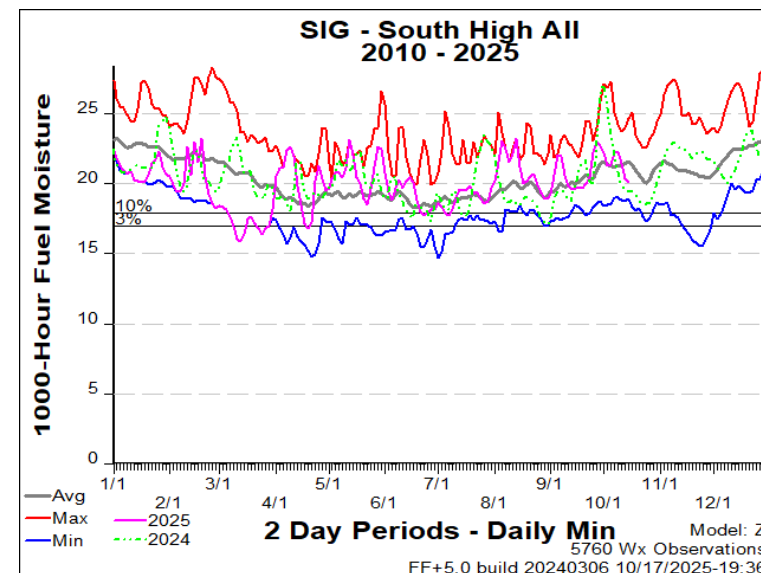
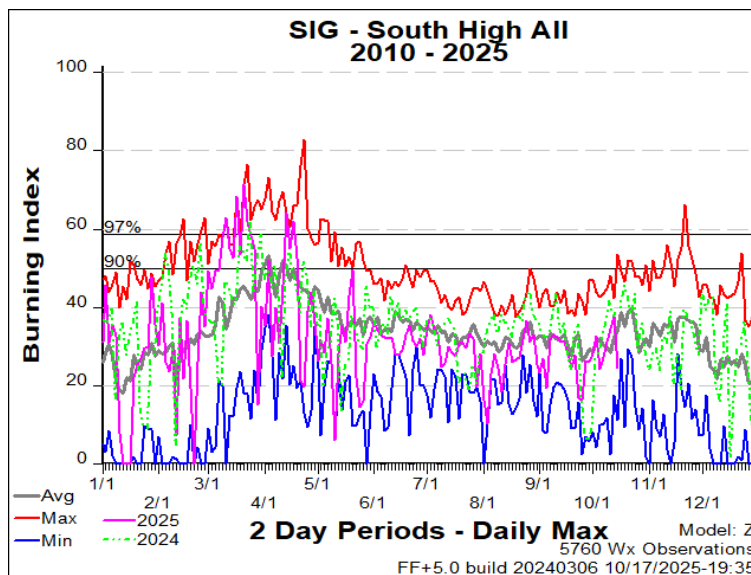
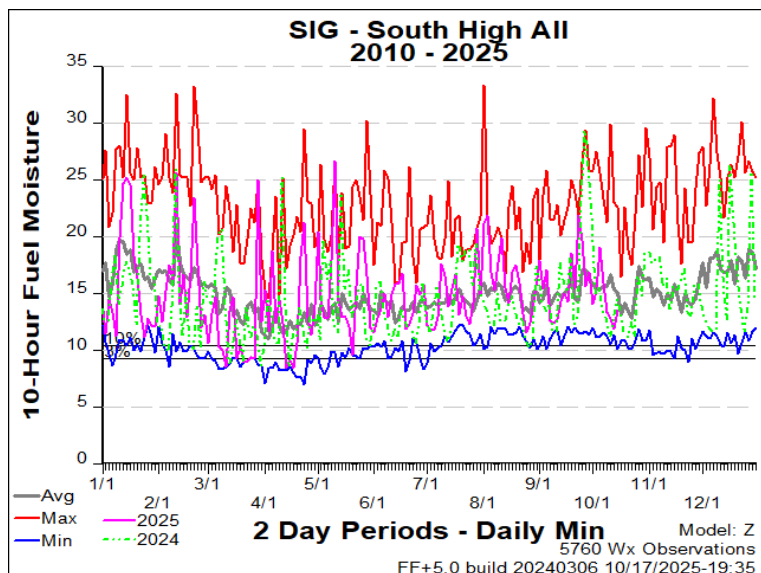
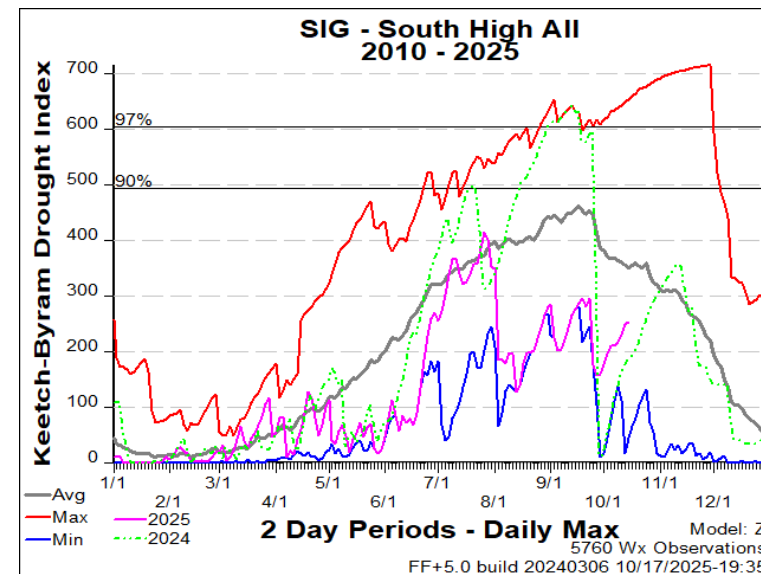
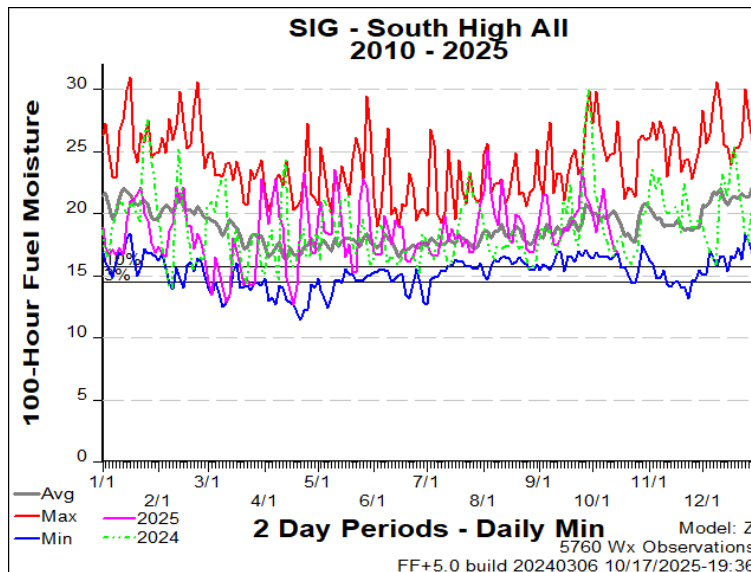
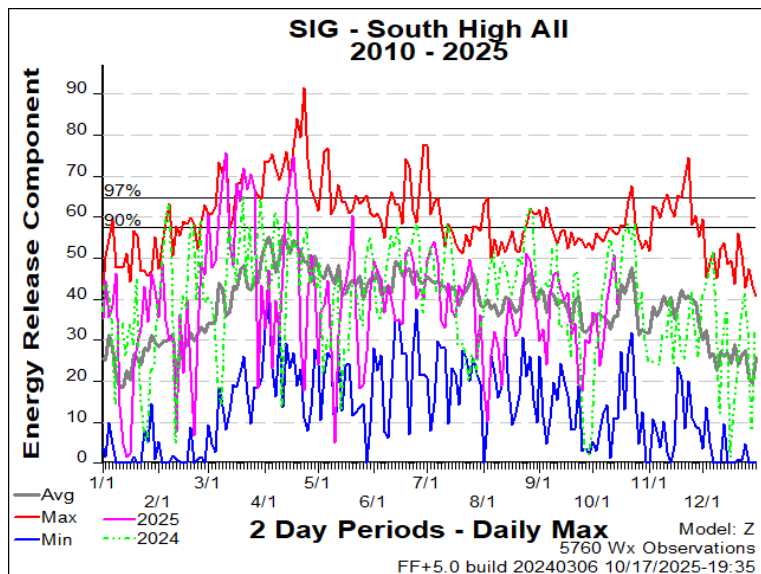
**(R3 = Region 3, R2 = Region 2, R1 = Region 1)*

- Southern Highlands (R3)
- Central Mountains (R3)
- Northern Highlands (R3)
- Blue Ridge Escarpment (R2 & R3)
- Western Piedmont (R2 & R3)
- Eastern Piedmont (R2)
- Sandhills (R2)
- North Coast (R1)
- South Coast (R1 & R2)

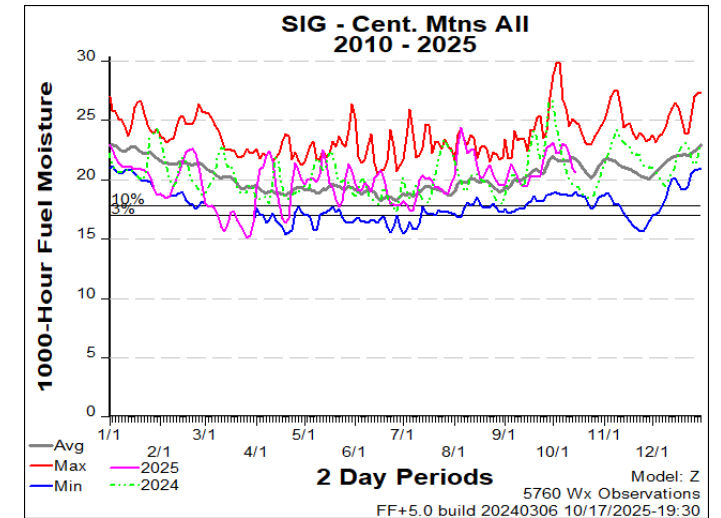
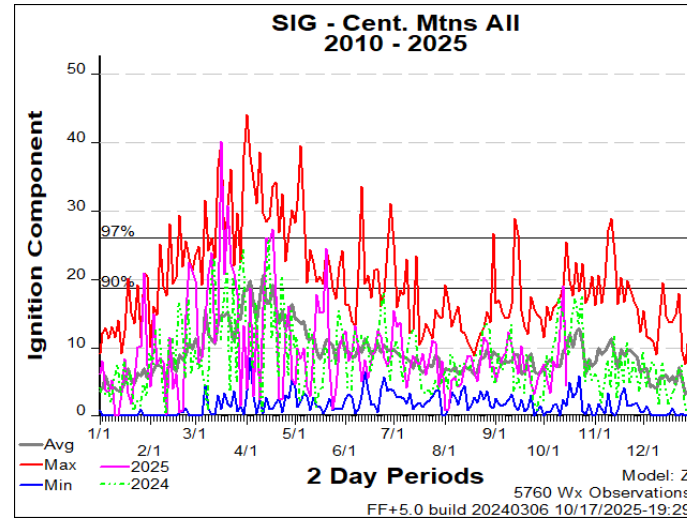
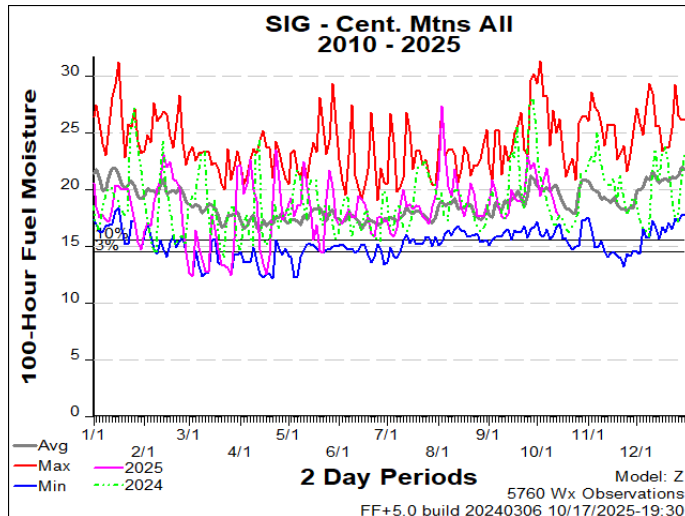
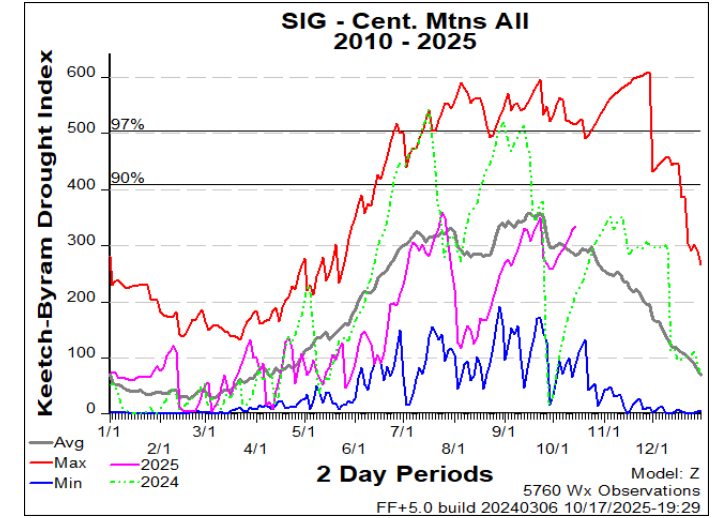
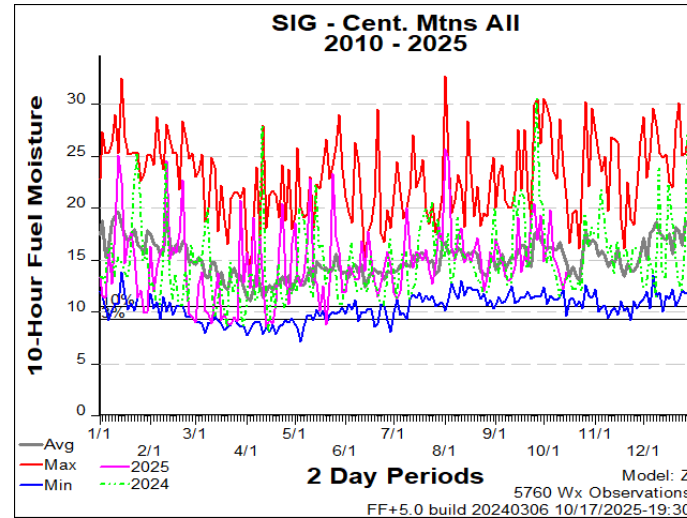
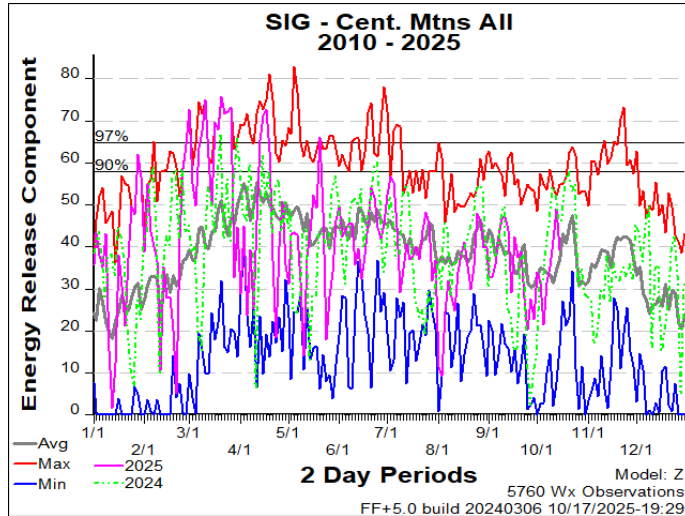
Fuel Model Parameters

NFIIS Fuel Model	Fuel Loading (tons ac ⁻¹)							Surface Area to Volume Ratio (ft ⁻¹)						Fuel Heat Content (BTU lb ⁻¹)	Moisture of Extinction (%)	Fuel Bed Depth (ft)	Wind Adjustment Factor (D _W)	Maximum SC
	1-hr	10-hr	100-hr	1000-hr	Herbaceous	Woody	Drought	1-hr	10-hr	100-hr	1000-hr	Herbaceous	Woody					
V	0.1	0	0	0	1	0	0	2,000	109	30	8	2,000	1,500	8,000	15	1	0.6	108
W	0.5	0.5	0	0	0.6	1	1								15	1.5	0.4	62
X	4.5	2.45	0	0	1.55	7	2.5								25	4.4	0.4	104
Y	2.5	2.2	3.6	10.16	0	0	5								25	0.6	0.2	5
Z	4.5	4.25	4	4	0	0	7							25	1	0.4	19	

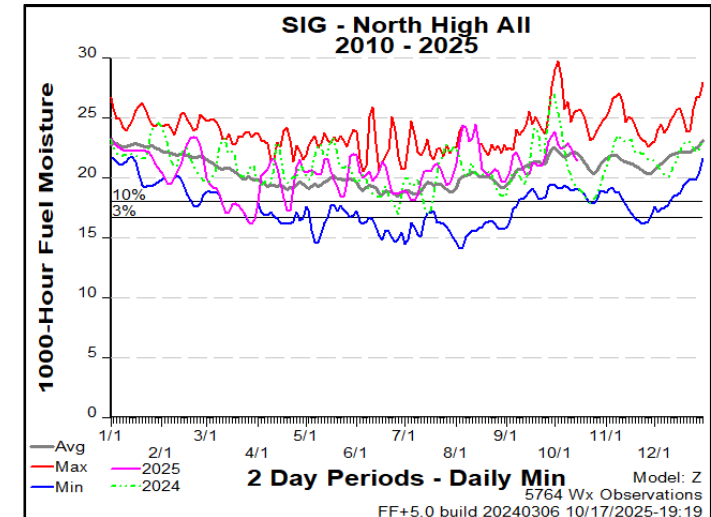
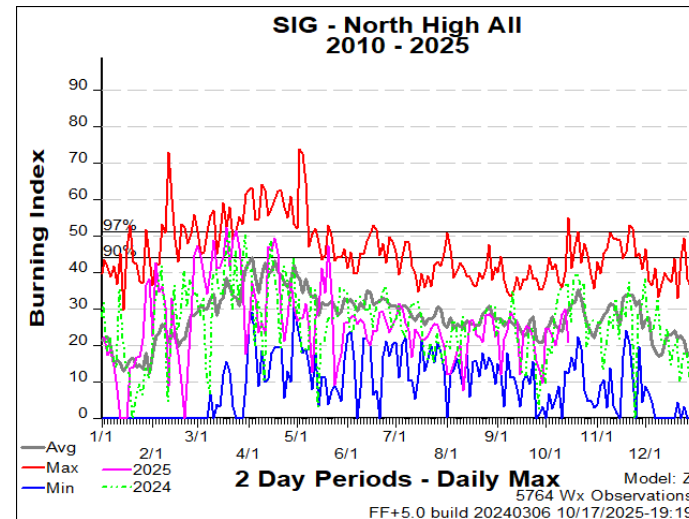
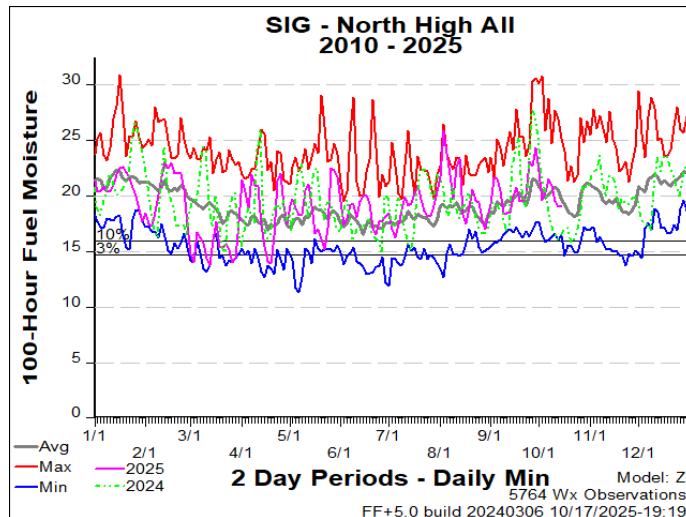
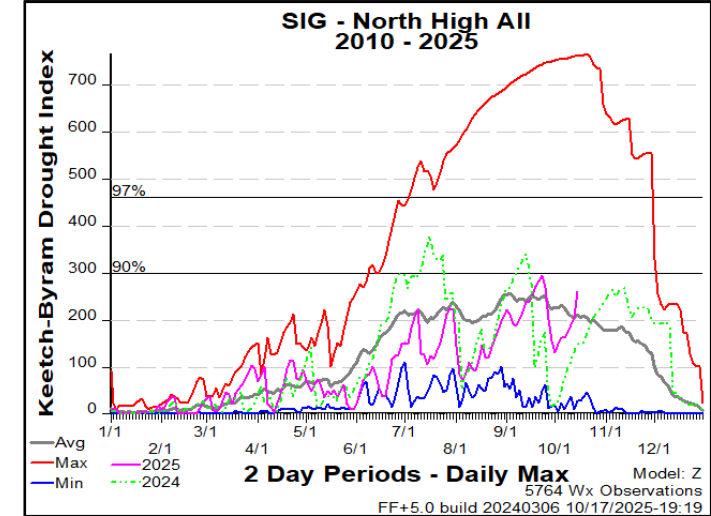
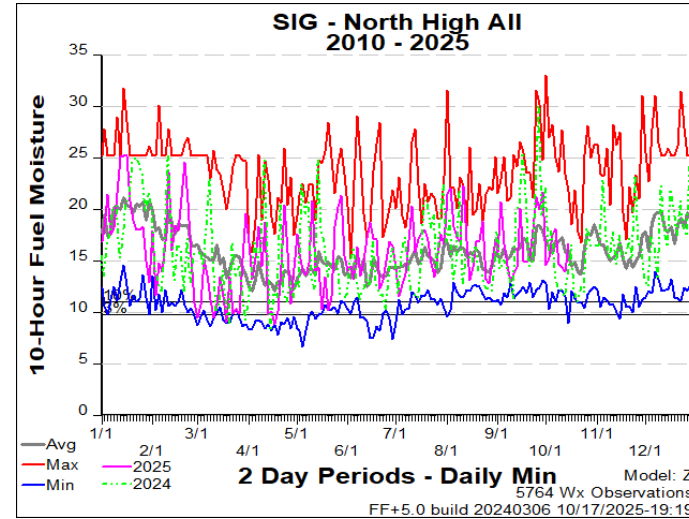
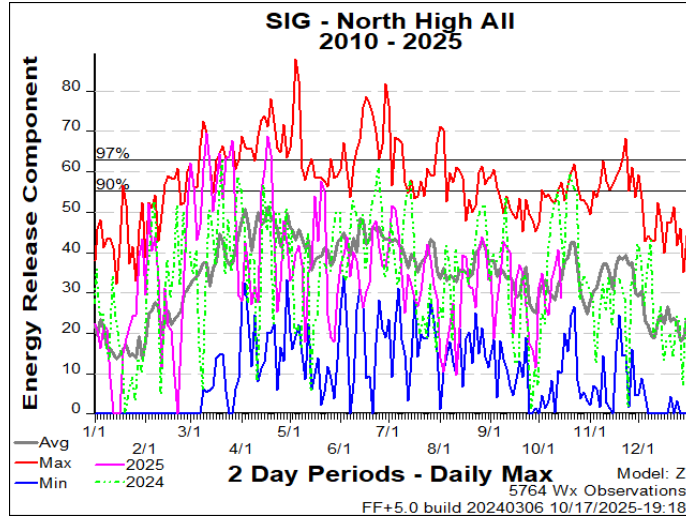
FDRA – Southern Highlands



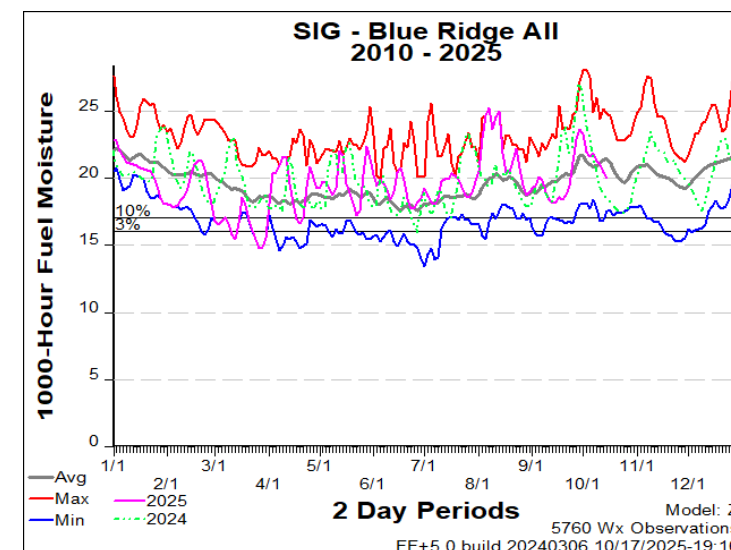
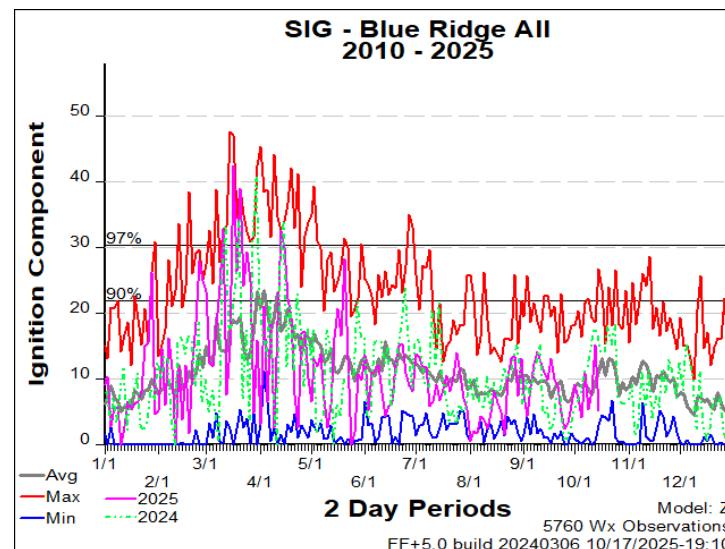
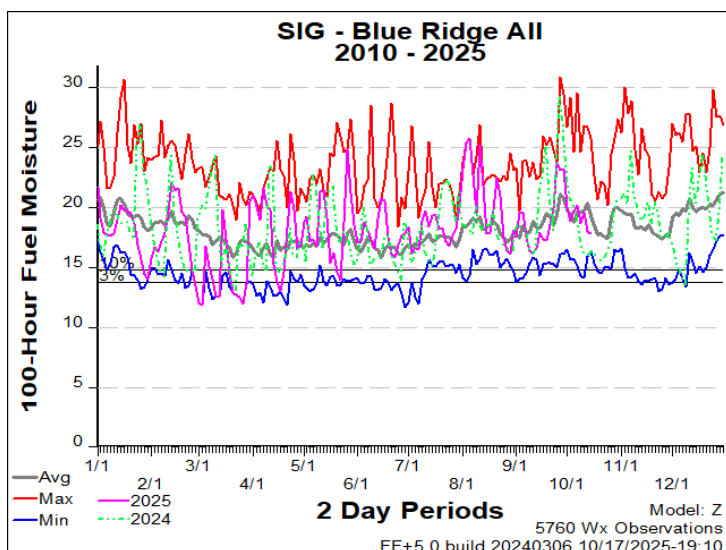
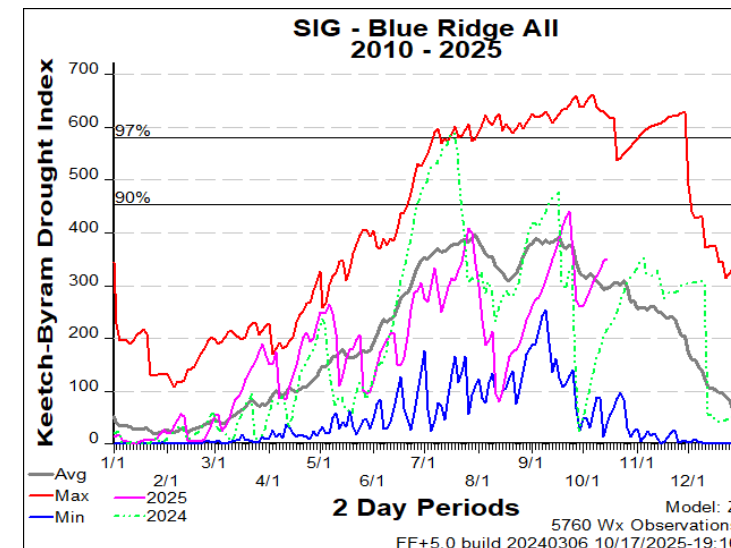
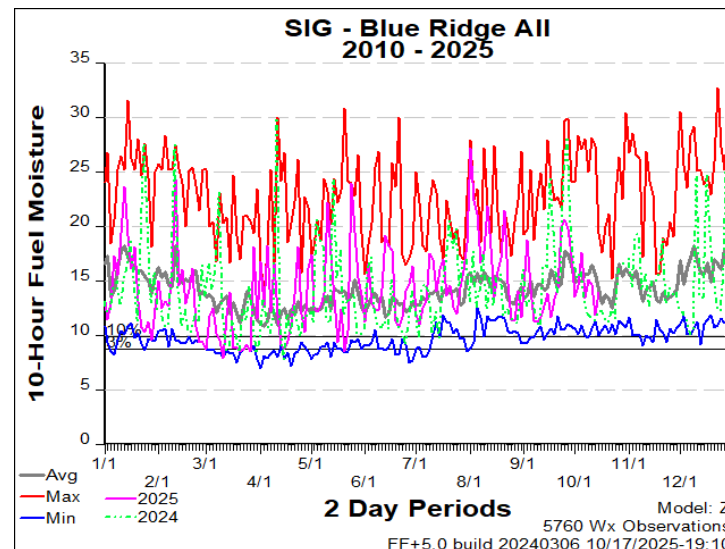
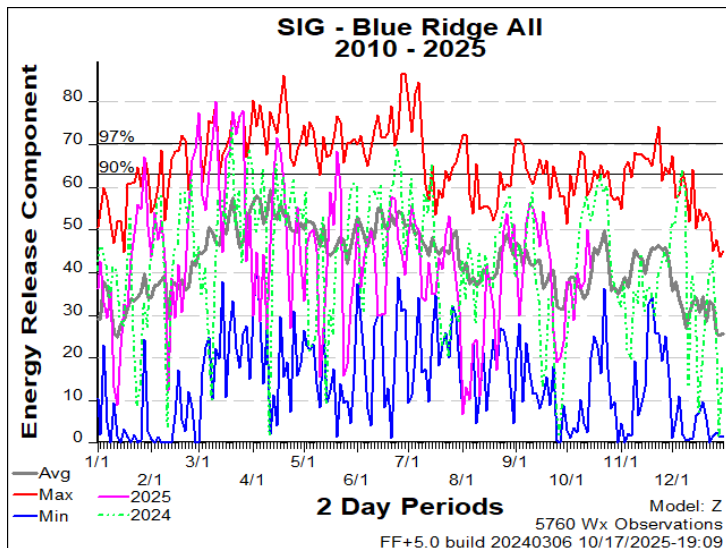
FDRA – Central Mountains



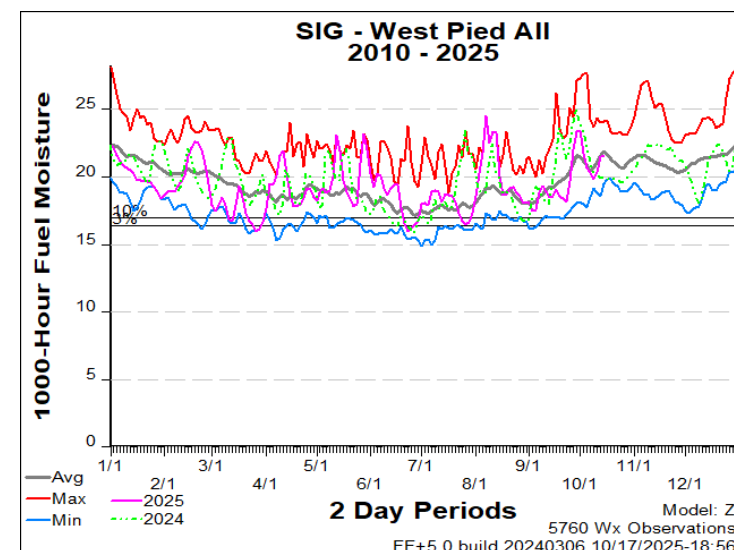
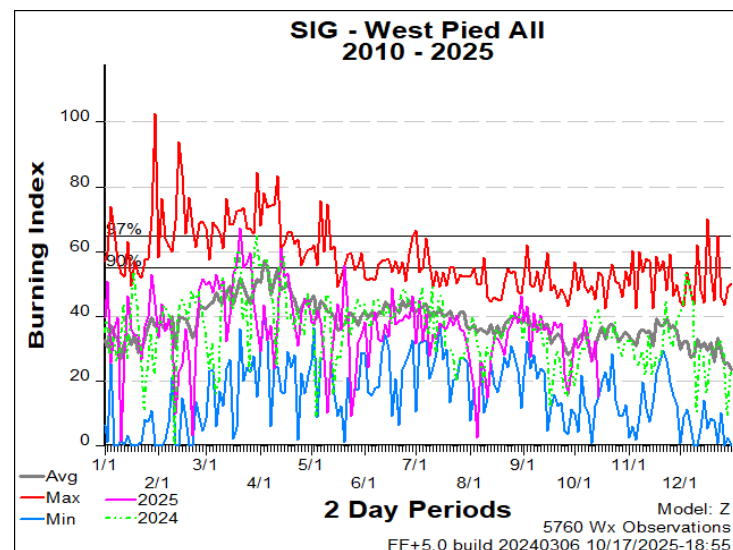
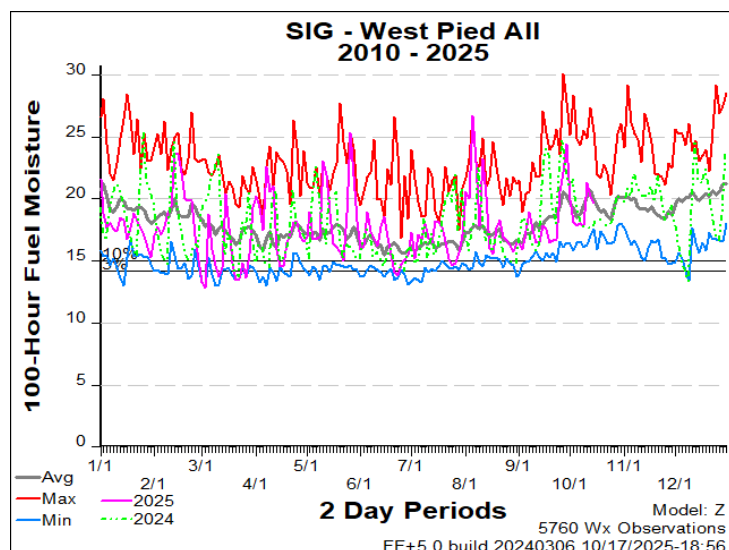
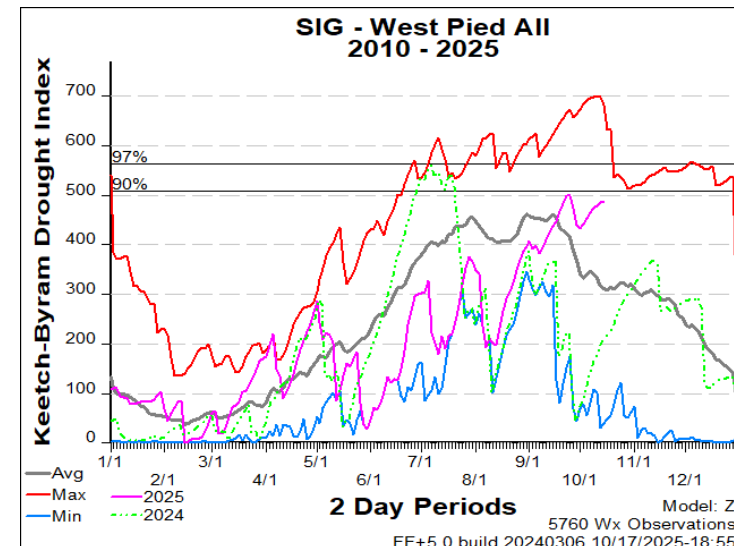
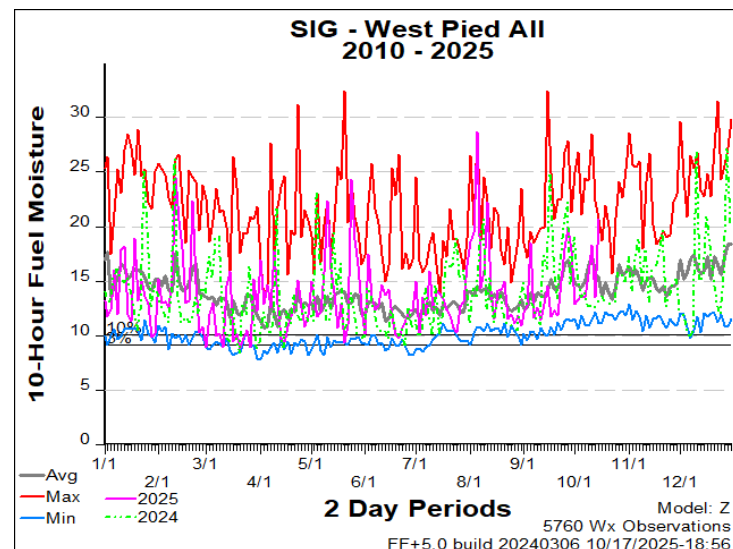
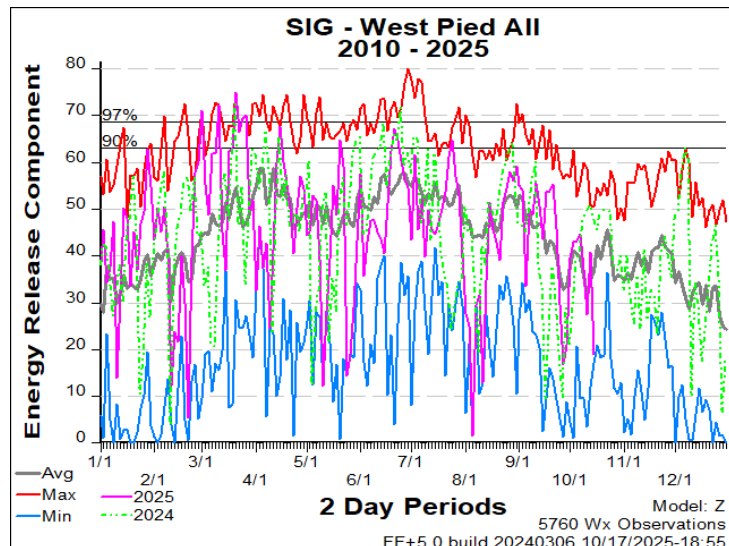
FDRA – Northern Highlands



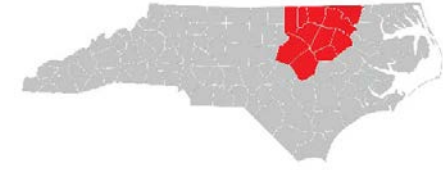
FDRA – Blue Ridge Escarpment



FDRA – Western Piedmont

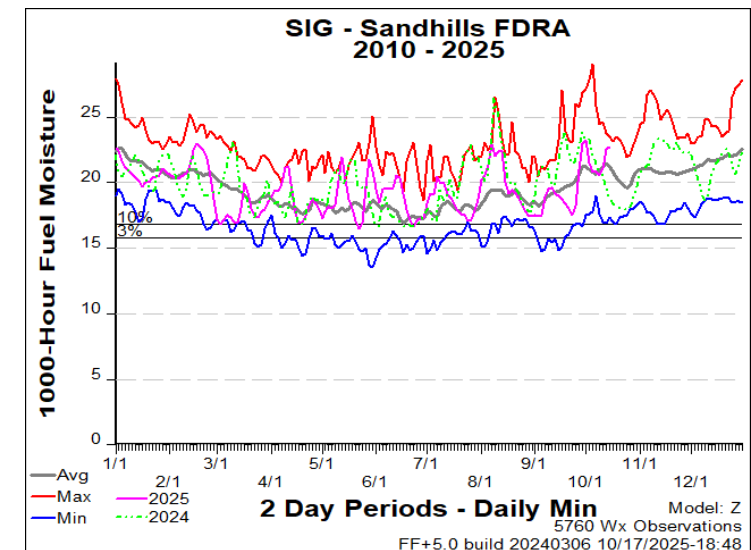
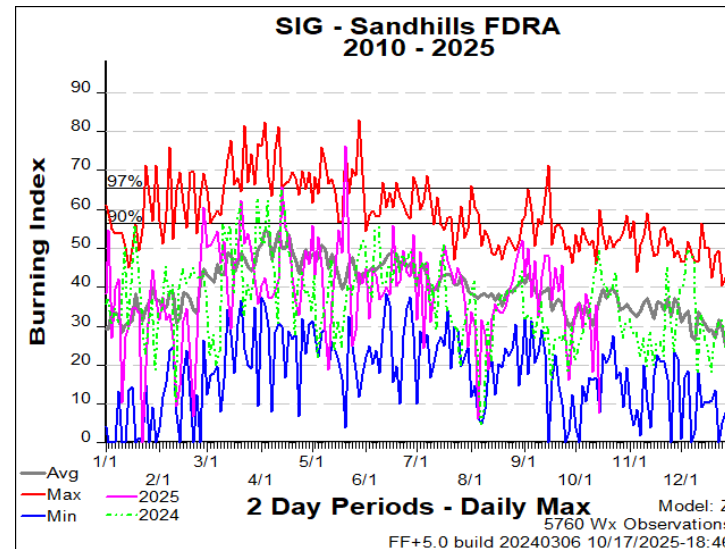
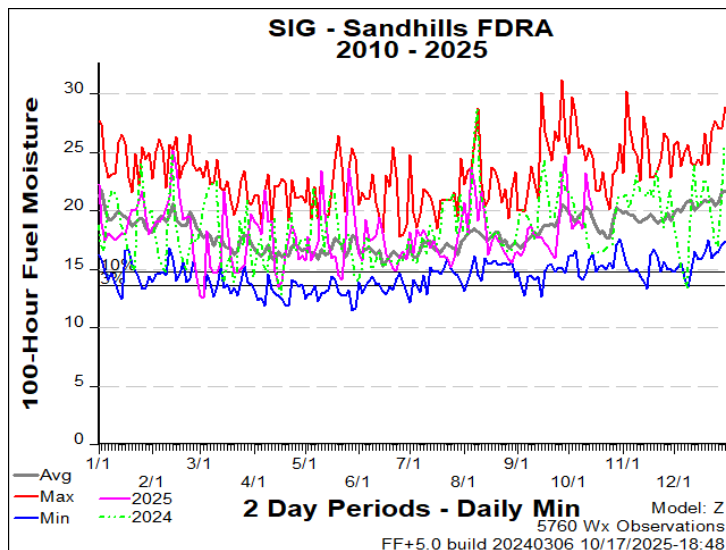
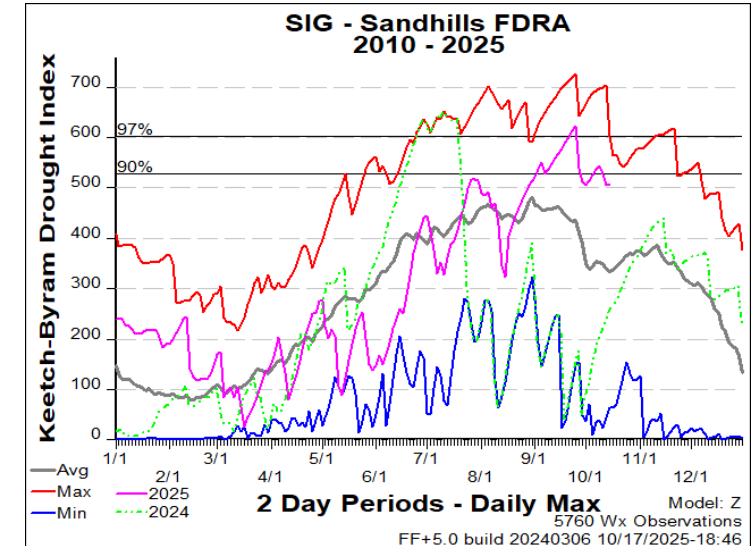
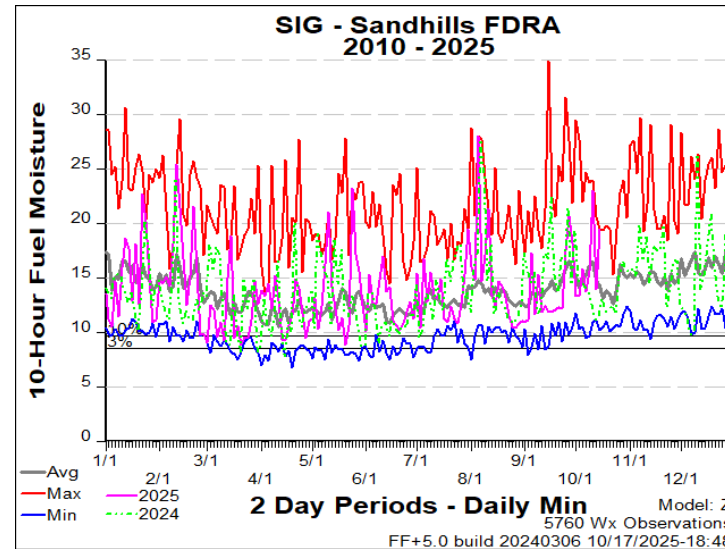
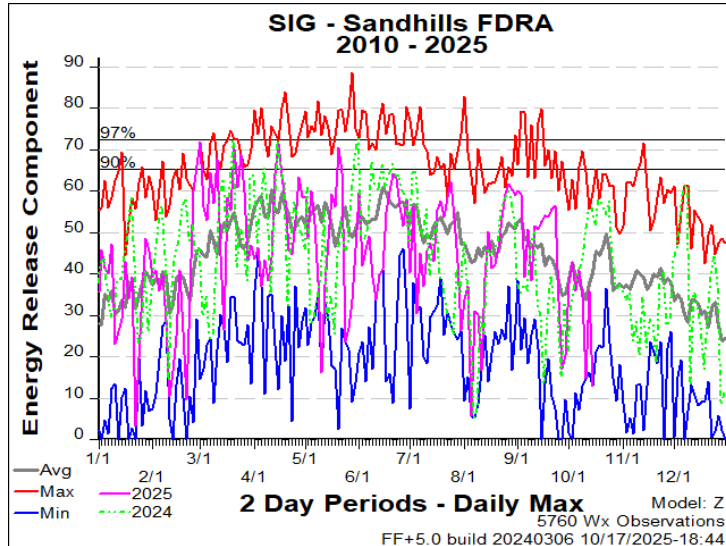


FDRA – Eastern Piedmont

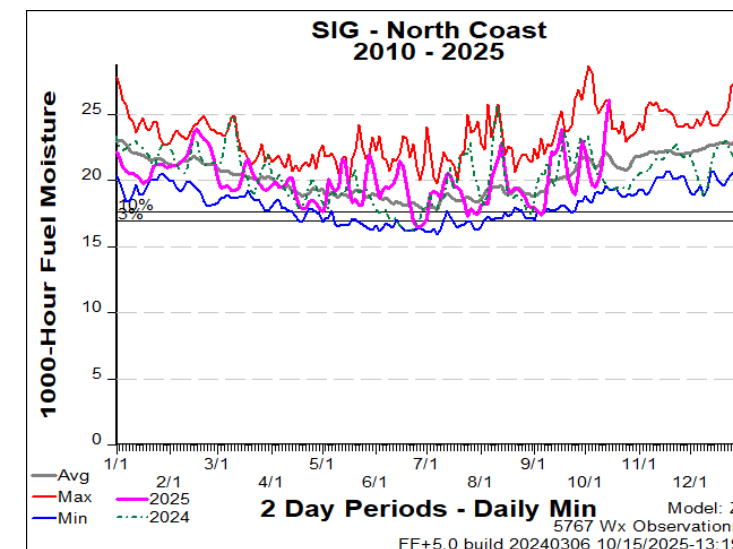
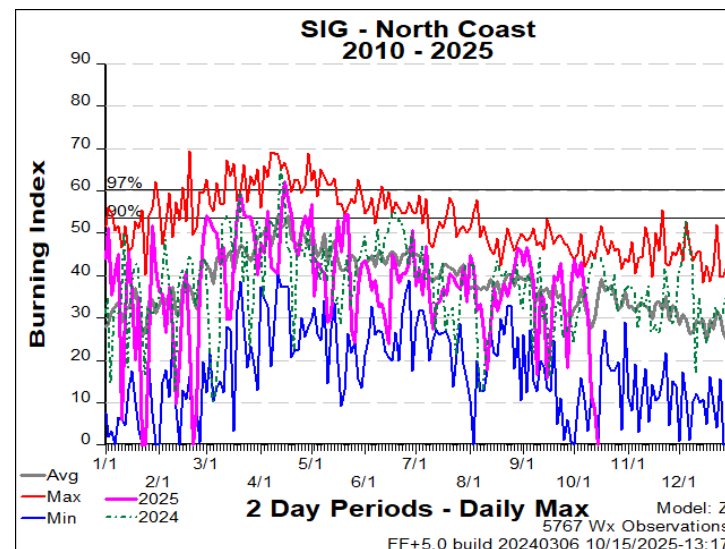
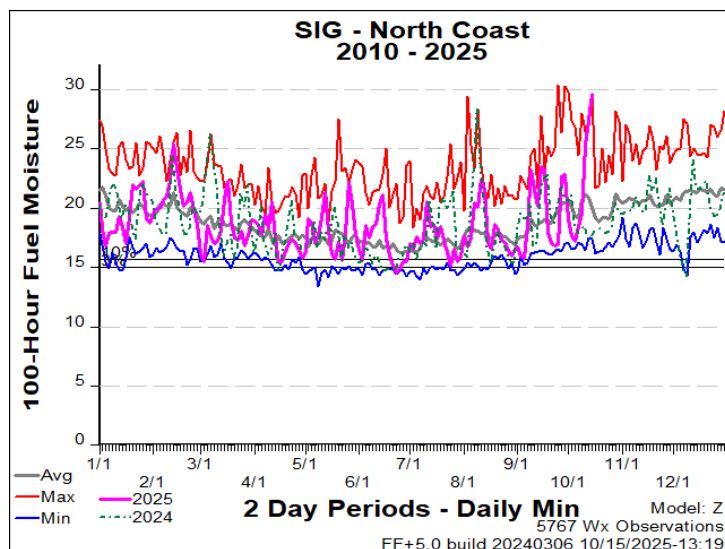
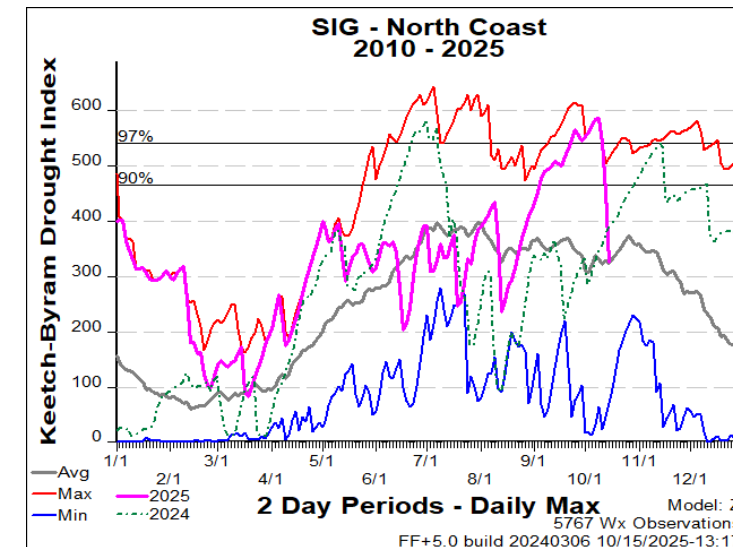
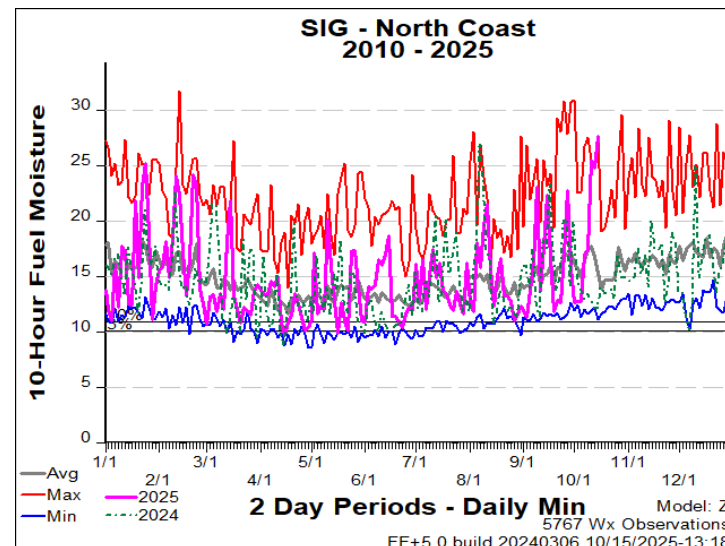
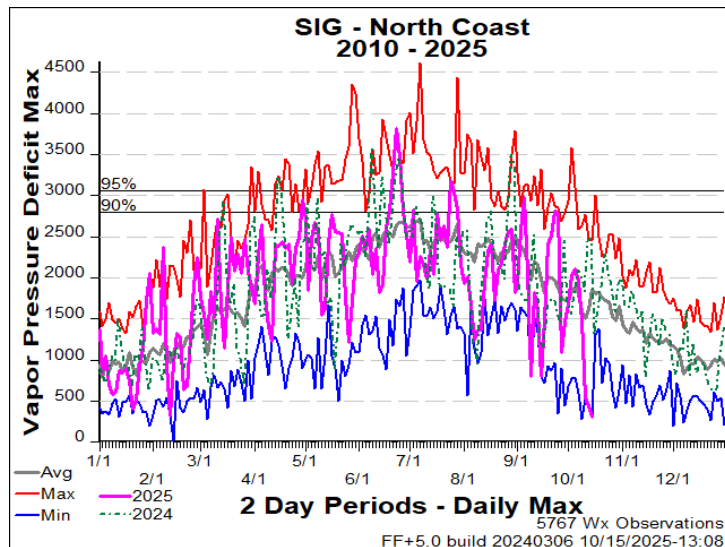


Not Available due to loss of ECONet Stations with FEMS transition & Limited Period of Record for RDU and RM/Wilson ASOS Stations.

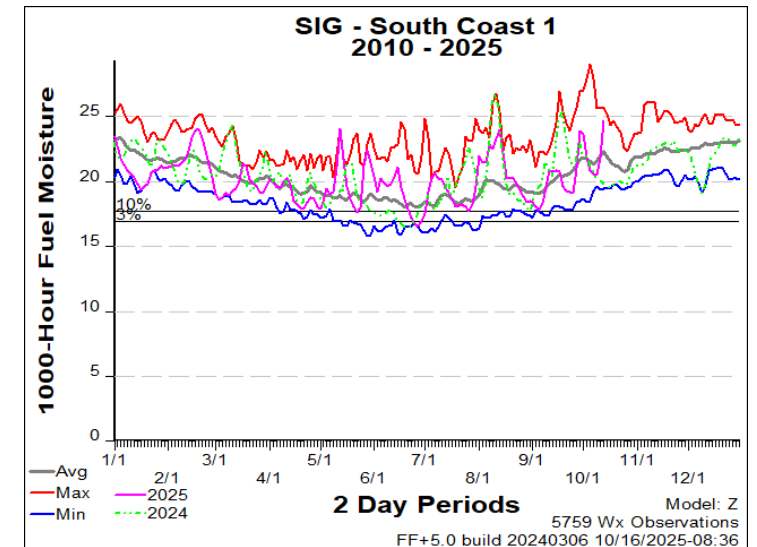
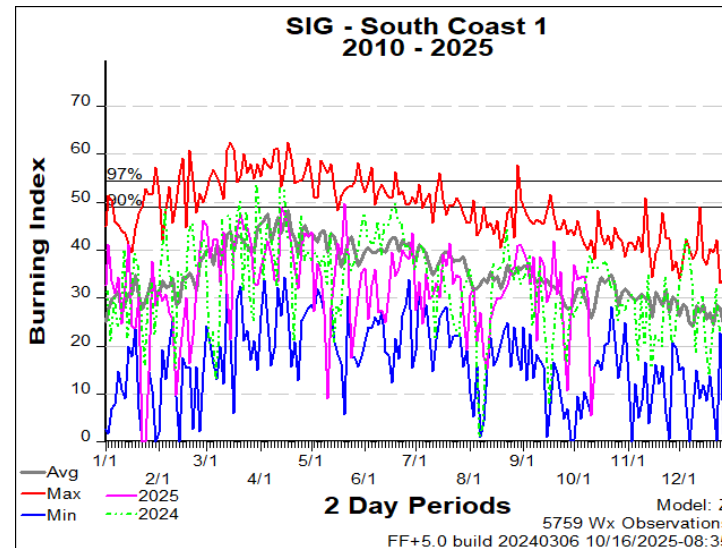
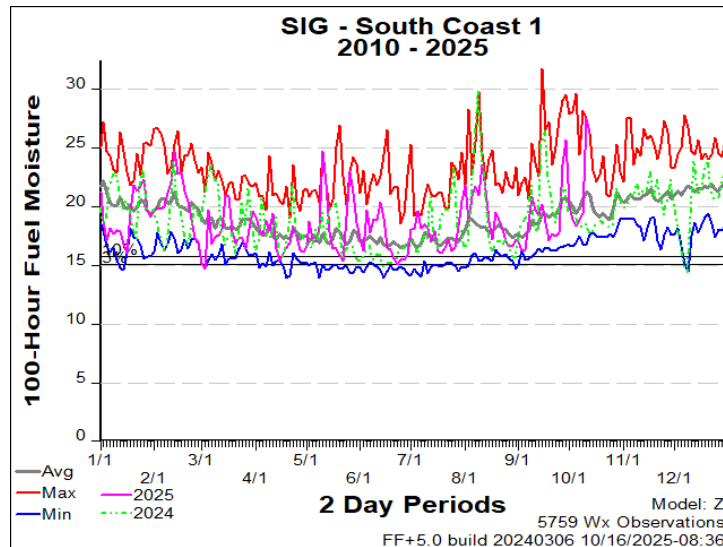
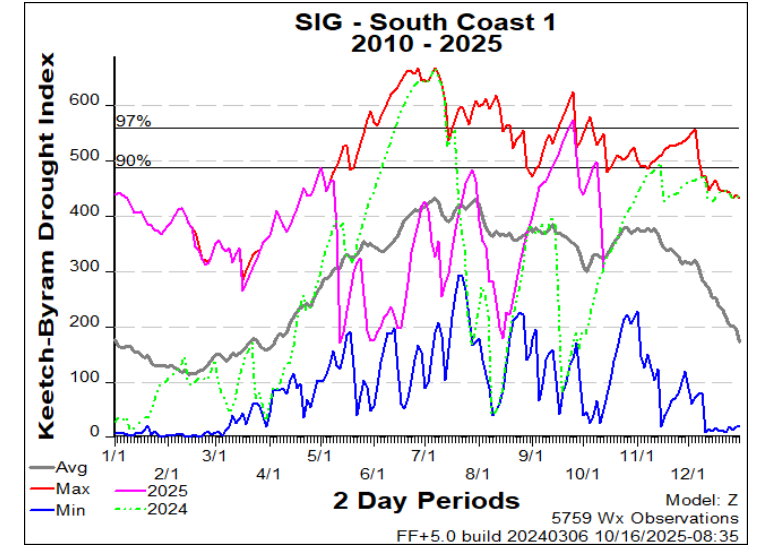
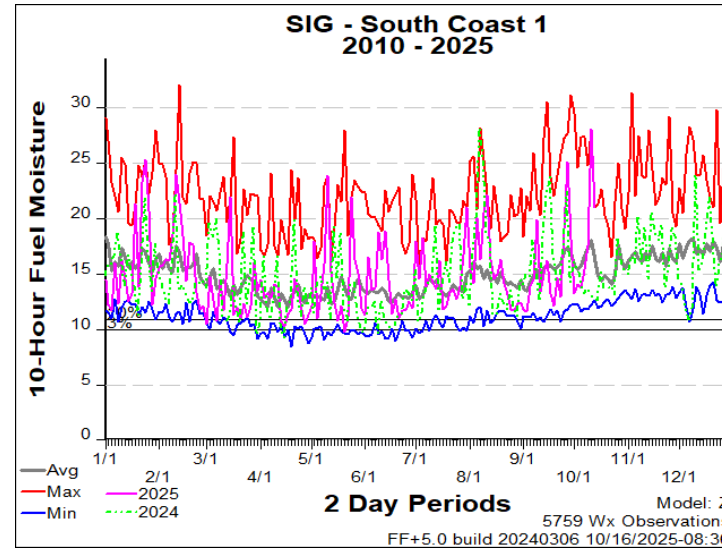
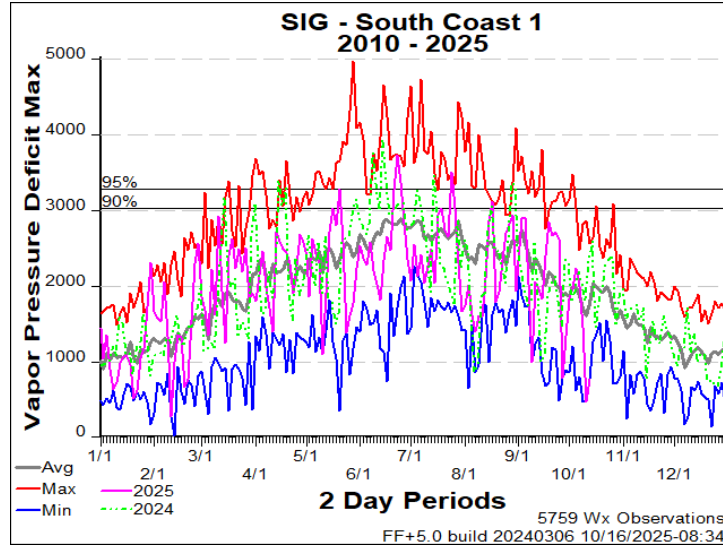
FDRA – Sandhills



FDRA – North Coast

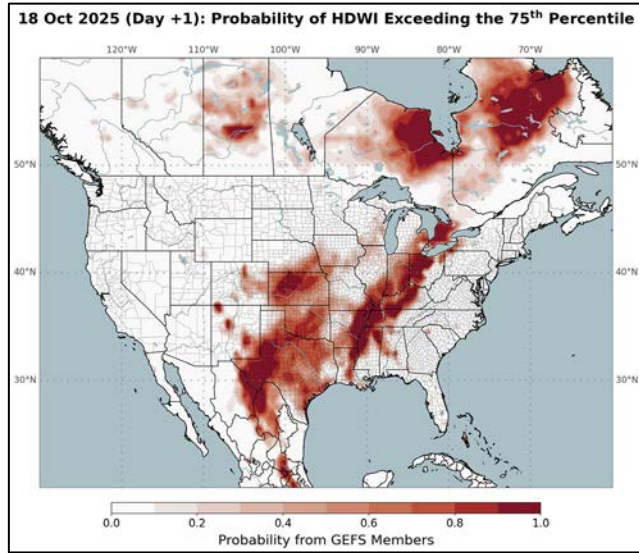


FDRA – South Coast

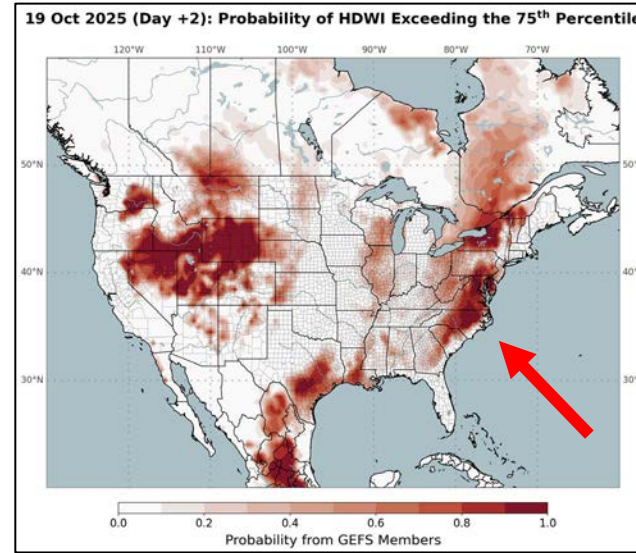


Hot-Dry-Windy Index (HDW)

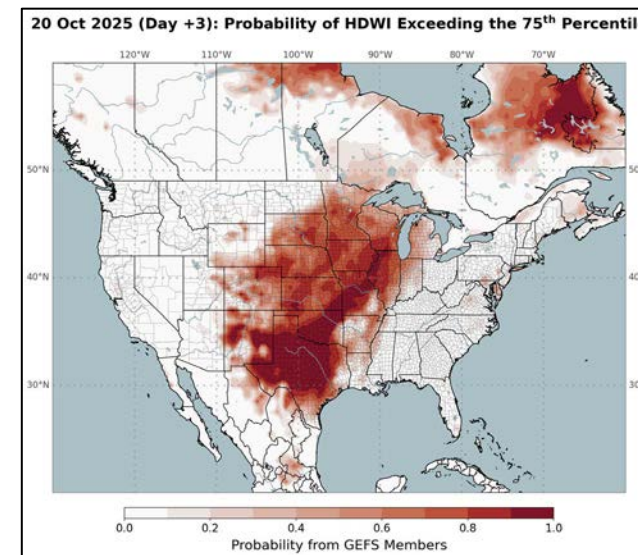
Saturday > 75th Percentile



Sunday > 75th Percentile



Monday > 75th Percentile



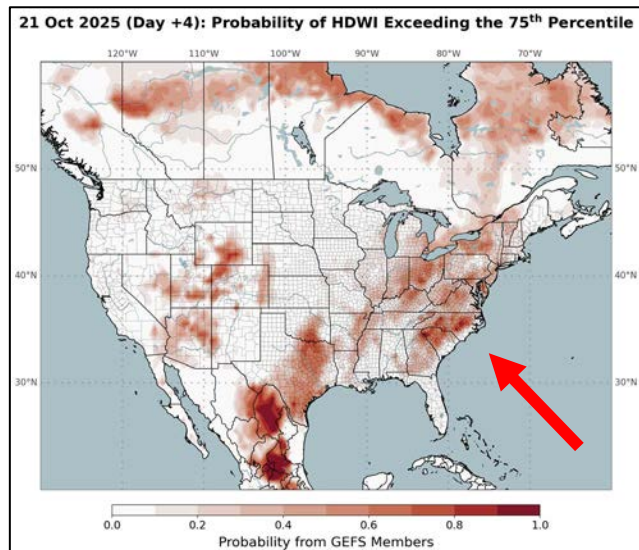
- Another visualization tool to pick up on broader weather, but with *limitations

- Only uses Max VPD (atmospheric moisture & temp) & Max Wind Speed to generate outputs

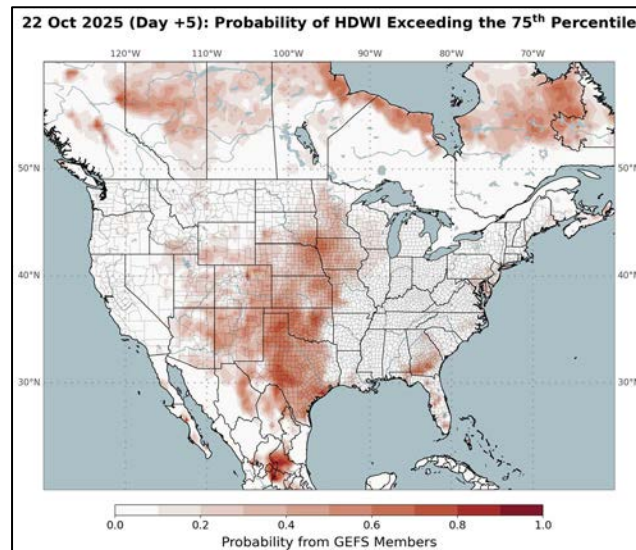
- Coarse Resolution - 0.5 Degree Grid

- No Account of Local Fuel Conditions and Topo

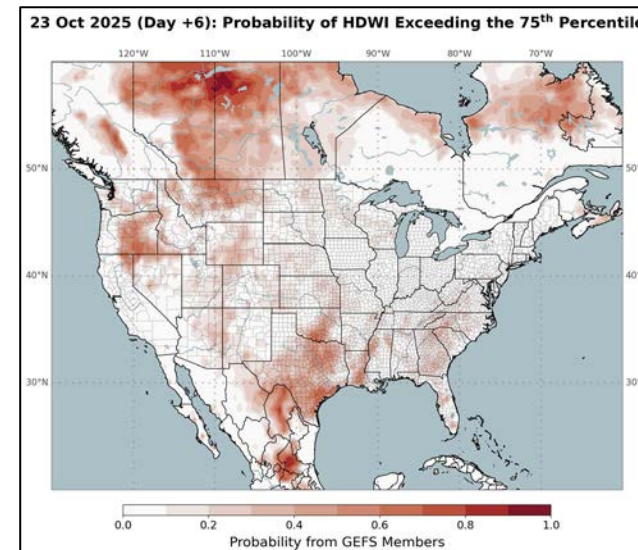
Tuesday > 75th Percentile



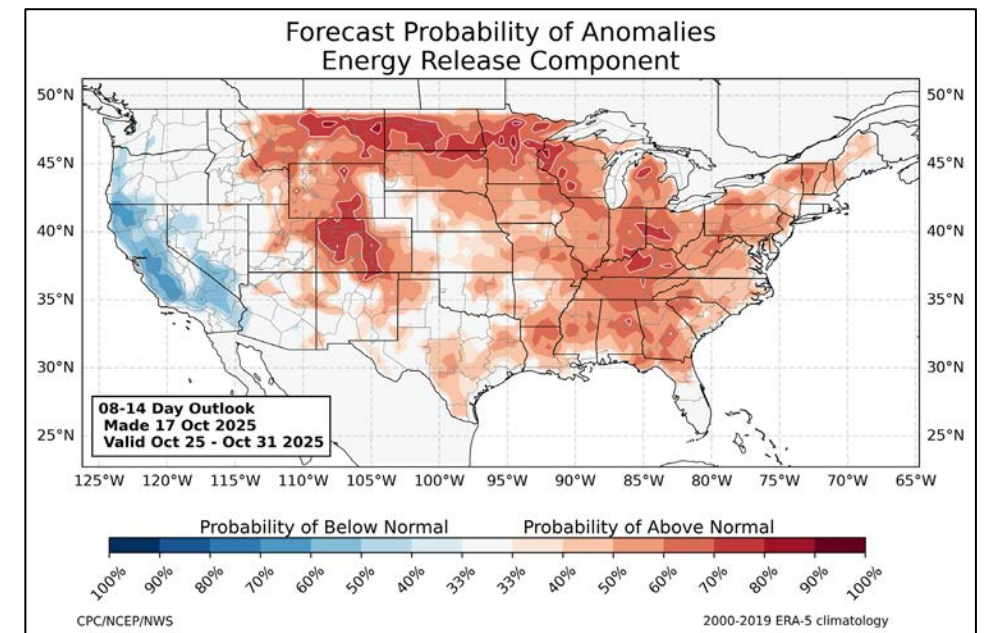
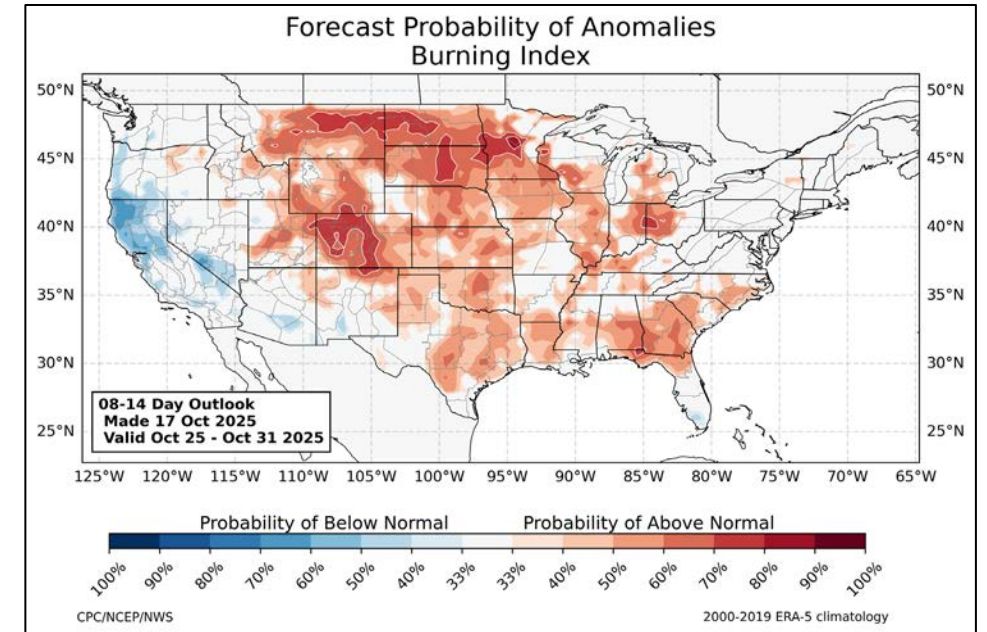
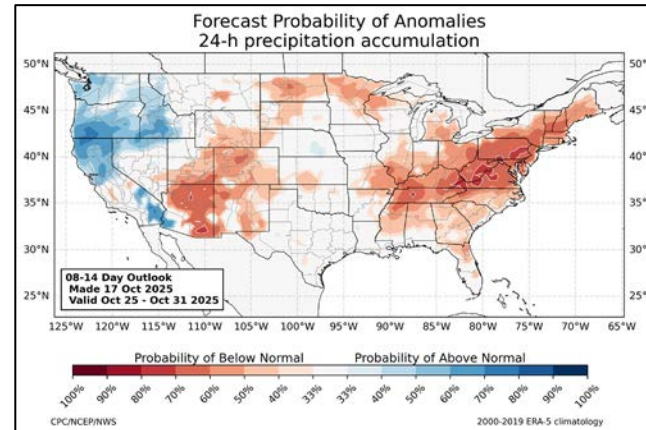
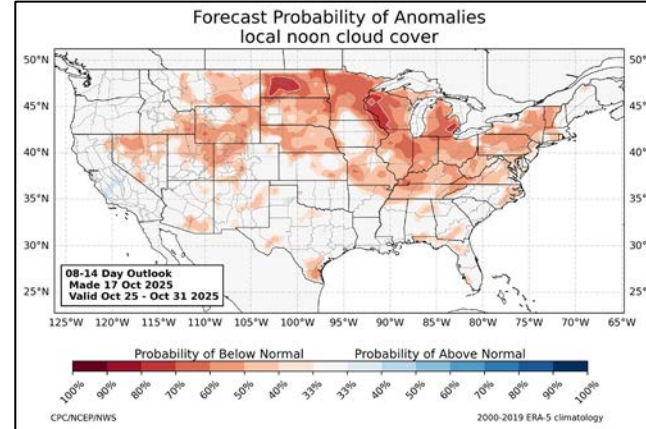
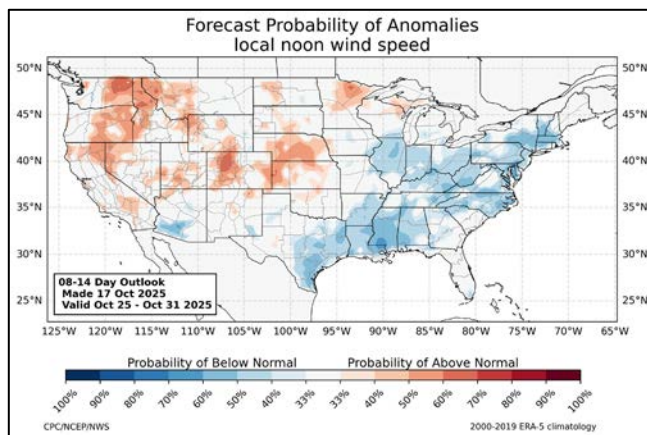
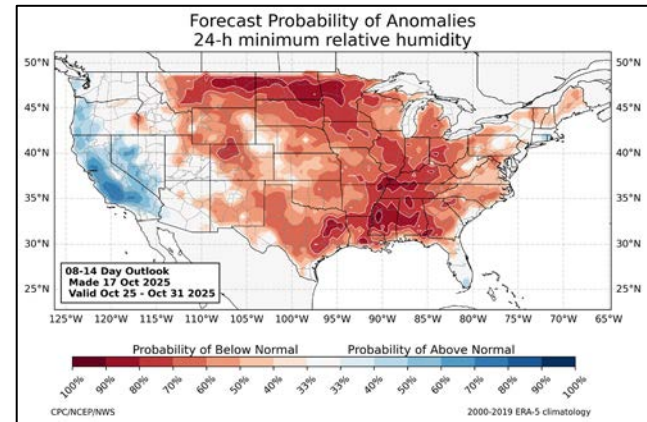
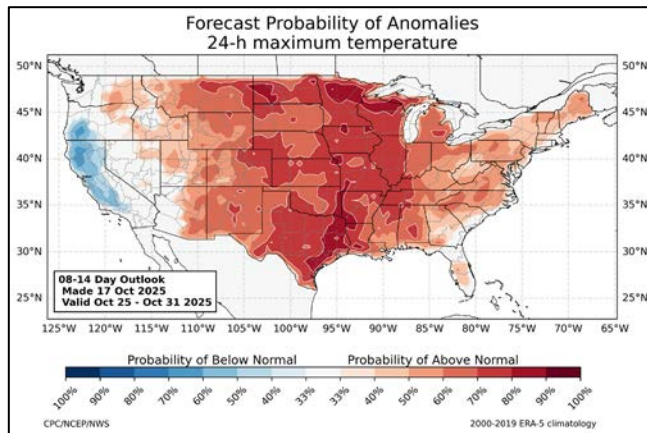
Wednesday > 75th Percentile



Thursday > 75th Percentile



Week Two Forecast Anomalies: 10/25 - 10/31



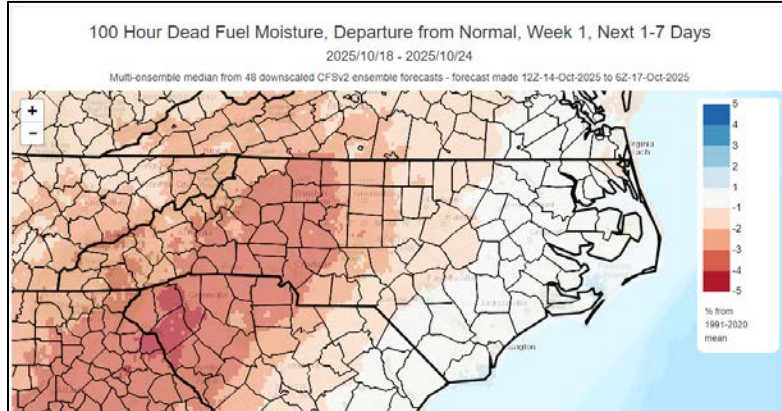
Important to note that there is significant forecast uncertainty as you go further out in time.

Continued drying trend along with seasonally dry air potentially interacting.

Modeled Departure from Normal by Week: 100-hr Fuels

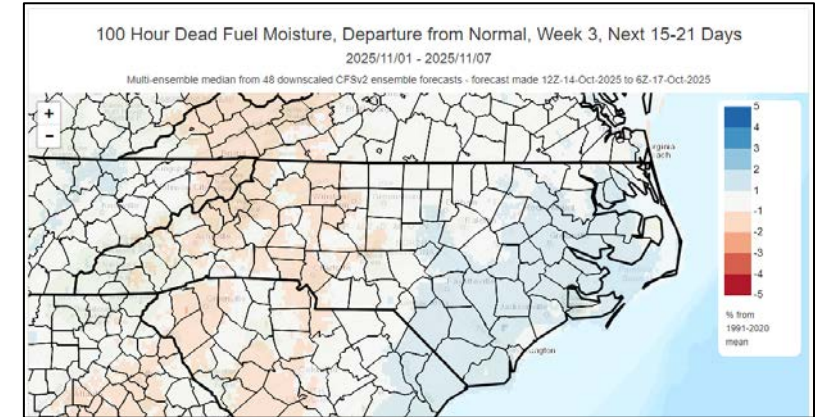
Output relies on experimental forecast outputs and is subject to change

Week-1



This output can provide insight into general drying trends and potential impacts to overall fire danger, especially prior to full green-up or in drought conditions. Outputs relate to interactions of warmer/colder temps, moist/dry air masses, precip amt/duration, wind and overnight RH recovery trends.

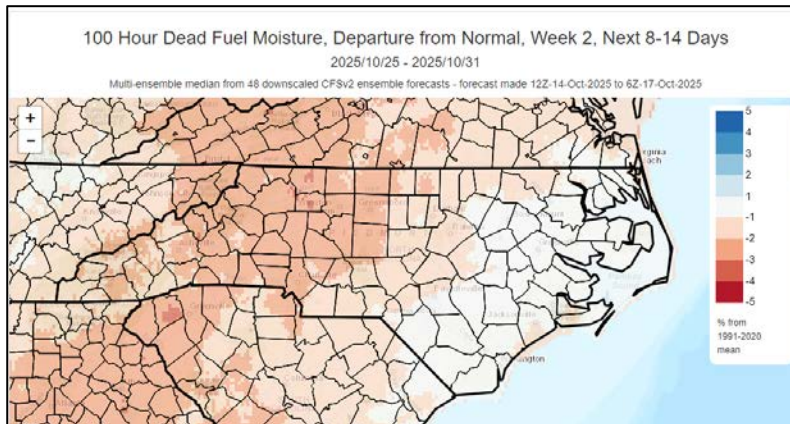
Week-3



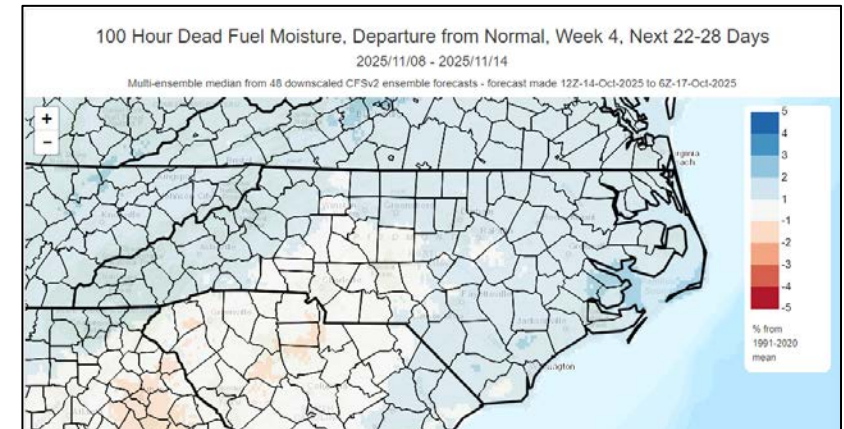
Note that modeled impacts of warmer/drier conditions (lower % mc or “worse”) is focused most intensely on Weeks 1-2 in the Mtns/West Piedmont, with the East favoring near normal 100-hr fuel moisture conditions.

Important to note that there is significant forecast uncertainty as you go further out in time, especially relating to any potential storm tracks.

Week-2

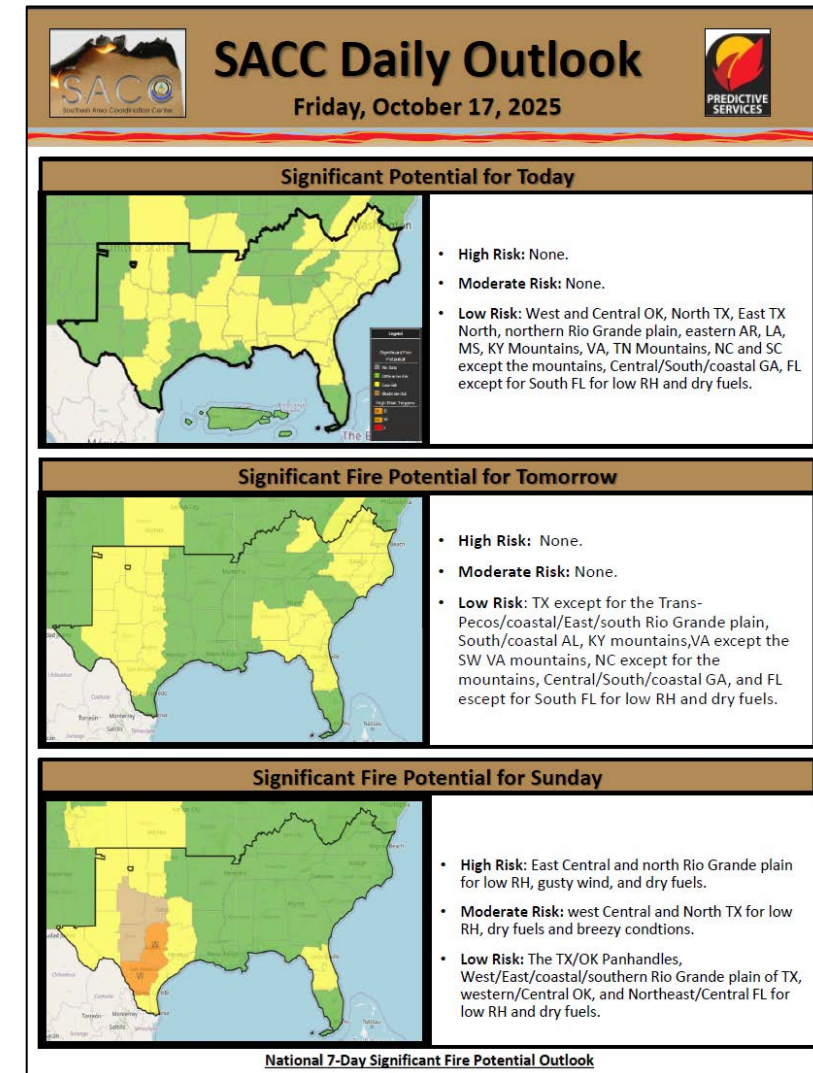
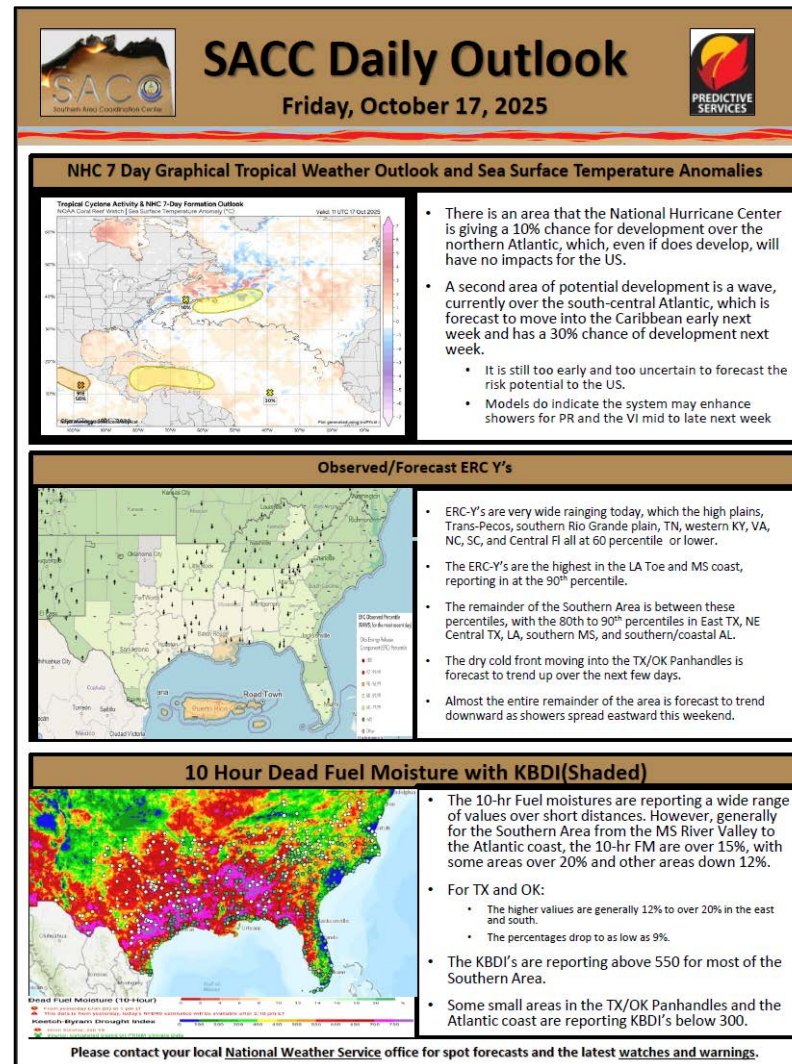
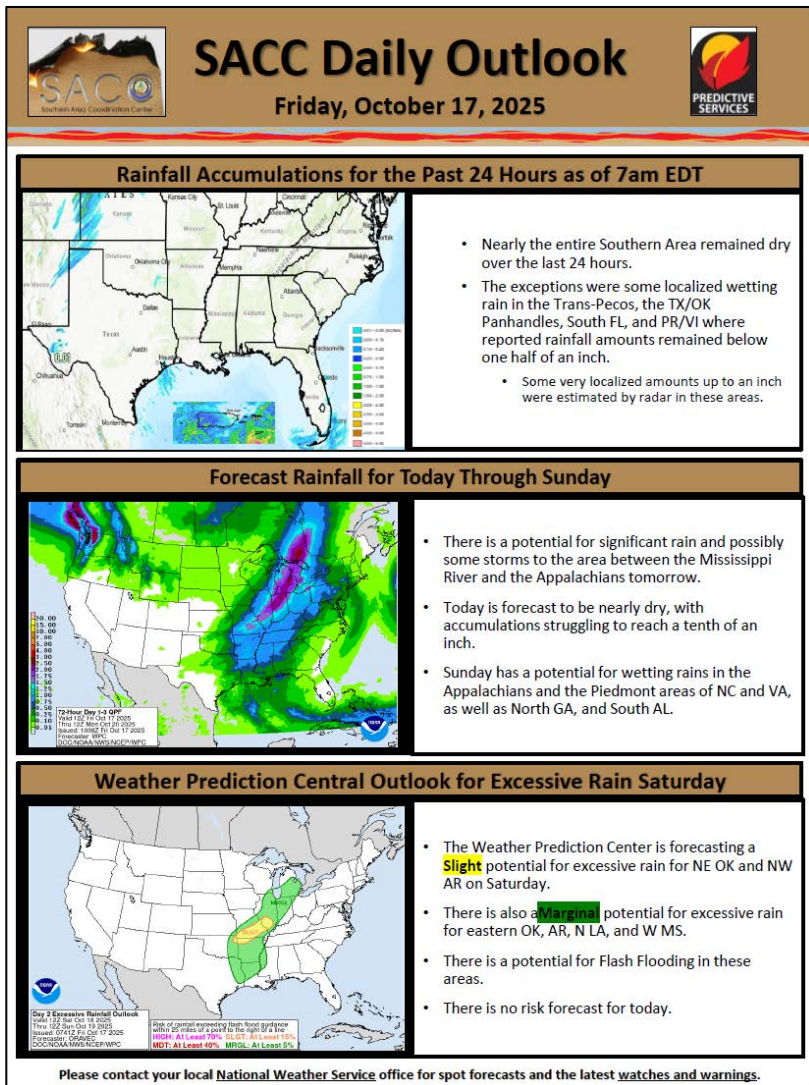


Week-4



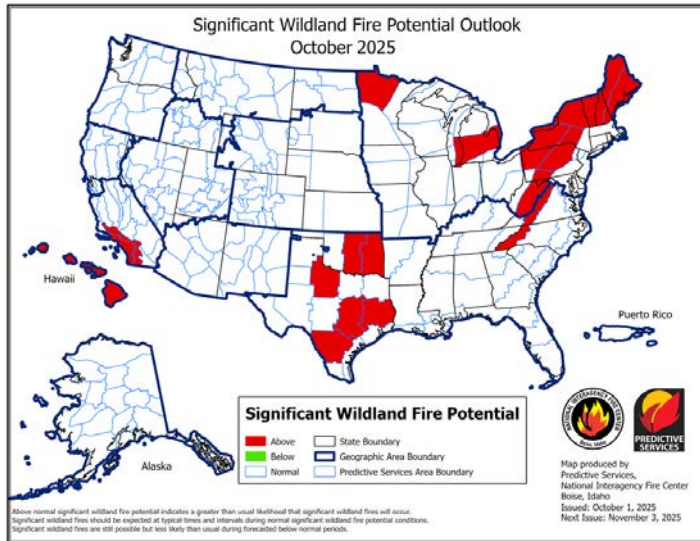
SACC Daily Outlook, Selected Snips from Friday – 10/17

<https://gacc.nifc.gov/sacc/resources/predictive/sacc-daily-outlook.pdf>

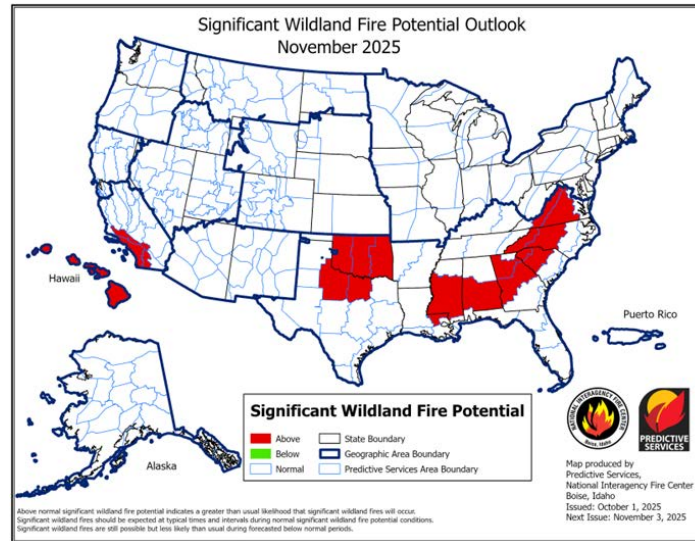


Significant Wildland Fire Potential Outlook: *Updated 10/1/25*

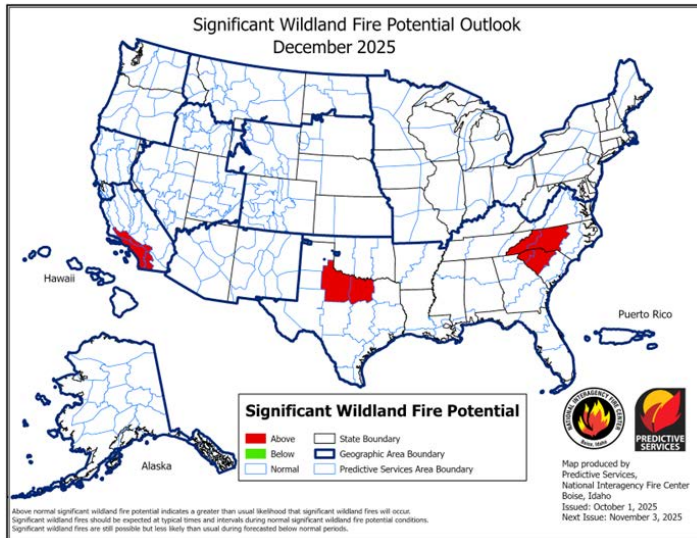
October



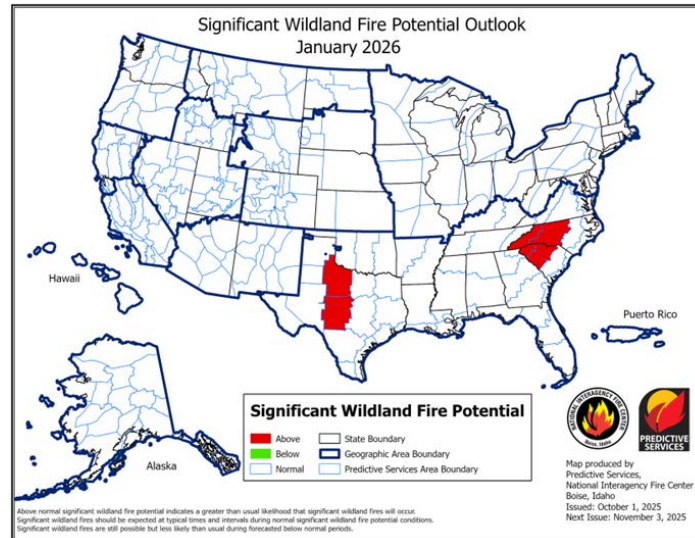
November



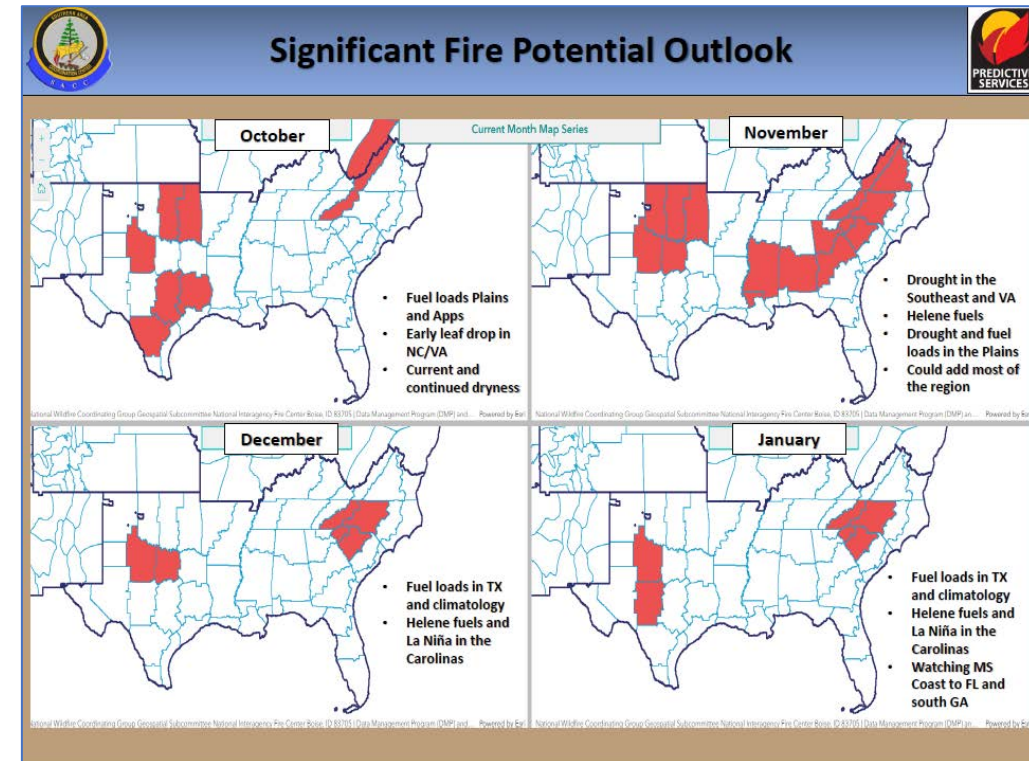
December



January



From Southern Area October Seasonal Update Briefing



*A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have consistently seen from year to year.

Region-3 Notes

Generalized & doesn't address complexities of Helene related physiological response by damaged timber/landscapes.

- Helene Related Concerns remain related to firefighter safety, access problems, fuel accumulations, poor expected line production rates and associated.
 - Progression of "Fall Leaf Color" near peak at higher elevations.
 - Leaf drop generally near normal based upon species/position on landscape.
 - However, more sensitive species such as yellow poplar are much farther along. This is especially true in areas that are abnormally dry.
 - Heavier rainfall and gusty winds typically accelerate loosening/drop on species that don't retain dead leaves through the dormant season.
 - Leaf drop will likely accelerate over the next 1-2 weeks with multiple frontal passages likely (most are likely to be dry to nearly dry).
 - Mop-up concern on any abnormally dry fire locations (or those with snag accumulations) to prevent rekindles as leaf drop/movement intensify.
 - Potential for poor overnight recovery to extend burn period/difficulty of control **if** repeated dry frontal passages/dry air masses pile up.
 - Timing/duration of early frost/freeze events to continue to impact live fuel moisture in herbaceous and woody shrub species.
- Becoming Heat Source vs Heat-Sink.

BRPWY at ~5,300 ft on 10/14 (provided by NCFS Staff)



Example of Blowdown near Cone Manor House at ~3,000 ft on 10/13 (provided by NCFS Staff)

Relates most to areas currently experiencing drought or abnormal dryness

(see KBDI, SPI and USDM Maps):

- Drought stress has induced early leaf color and drop on sensitive tree species.
- Road shoulder & yard grasses going into early dormancy in the driest locations.
- Swamps and “Runs” are much lower than normal in drought aligned watersheds, many grassed over.
- Significant groundfire and/or duff consumption noted on several larger wildfires over the past month, reburn risk after needle cast/leaf drop.
- Potential for “Smoke Induced Fog” or “Superfog” should be considered, along with mitigation measures, during both wildfire and prescribed fire incidents due to organics/larger fuels being drier than normal in many locations. Refer to the following links:
 - [Southern Fire Exchange Superfog Publication](#)
 - [NWCG - Smoke and Roadway Safety Pocket Card](#)
 - [NWCG – Smoke and Roadway Safety Guide](#)
- Will have to watch the remainder of the Fall/Winter for fire effective weather overlapping with drought impacted fuels, also of concern for Spring 2026.

Region-1 & 2 Notes

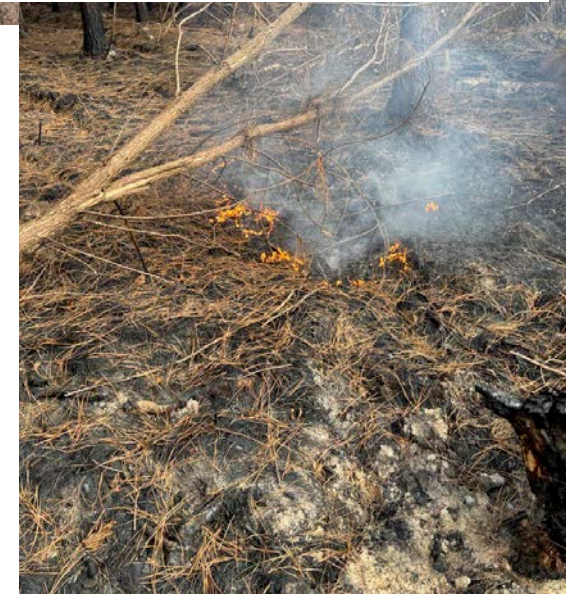


Dry plow lines on Indian Woods Rd Fire on 9/25/25;
Subsequent needle cast and reburn issues from stump
holes (R1/D7/Bertie Co.)

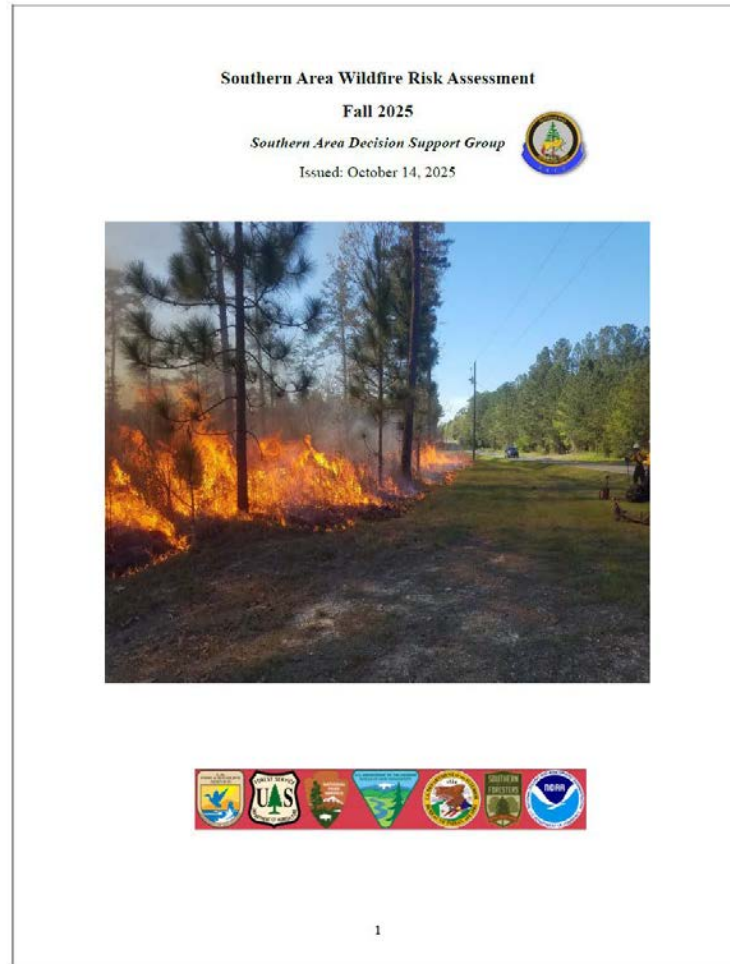
“Superfog” in area of Long Ridge Fire on 9/19/25
(R1/D4/Beaufort Co.)



Drought influenced fuels consumption and mop-up concerns
on Fire Tower Rd Fire from 10/2/25 (R2/D5/Greene Co.)



Southern Area – Fall 2025 Wildfire Risk Assessment



Please review the newly released SA Wildfire Risk Assessment for Fall 2025 – it discusses overall regional concerns as well as fire effective weather patterns.

Take special note of “Appendix A – Critical Fire Weather and Environmental Conditions” starting on page 58.




Takeaways

- Tropical activity may still play a big role in the fall fire season
 - Uncertain impacts, but drought relief or critical fire weather on their periphery possible
- Fuel loads a major player in the current outlook, both in the Plains and from hurricanes, especially Helene
- A busy fall fire season appears increasingly likely for most of the region, perhaps lingering through winter in some areas
- Drought may be especially bad by spring from Texas to the Southeast given our current dryness and La Niña

From October SA Fire Environment Update

From the Fire Weather Intelligence Portal • *products.climate.ncs* *fire*

Forecasted Adjective Rating for FDRAs in North Carolina							
FDRA	Fri Oct 17	Sat Oct 18	Sun Oct 19	Mon Oct 20	Tue Oct 21	Wed Oct 22	Thu Oct 23
Southern Highlands	M	M	L	M	M	M	L
Central Mountains	H	M	L	M	M	M	M
Northern Highlands	H	M	L	M	M	M	M
Blue Ridge	H	M	M	M	M	M	M
Western Piedmont	M	M	M	M	M	M	M
Sandhills	M	M	M	M	M	M	M
Eastern Piedmont	M	M	M	M	M	M	H
Southern Coast	M	M	M	M	M	M	M
Northern Coast	M	M	M	M	M	M	M

<https://products.climate.ncsu.edu/fire/>

<https://products.climate.ncsu.edu/fwip/hazard.php>

FDRA SIG Averages applied to generate new Percentiles and Color Coding For “All-Days”

FWIP has been updated to reflect new interim breakpoints and period of record.

Data updates continue, realigning to new FEMS connections and limitations.

Still missing ~45 ECONet stations.

Will continue to adjust as FEMS develops.

Fcst. Daily Min. DFM (10-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Oct 17	Sat Oct 18	Sun Oct 19	Mon Oct 20	Tue Oct 21	Wed Oct 22	Thu Oct 23
Southern Highlands	46.6%	57.7%	89.4%	33.3%	33.3%	46.6%	46.6%
Central Mountains	33.2%	46.5%	84.4%	33.2%	33.2%	33.2%	33.2%
Northern Highlands	25.1%	37.5%	77.9%	37.5%	25.1%	37.5%	37.5%
Blue Ridge	28.8%	43.4%	77.0%	43.4%	28.8%	28.8%	28.8%
Western Piedmont	30.1%	45.0%	68.2%	30.1%	30.1%	30.1%	30.1%
Sandhills	32.7%	47.5%	59.1%	32.7%	32.7%	32.7%	32.7%
Eastern Piedmont	26.3%	42.5%	42.5%	26.3%	26.3%	26.3%	26.3%
Southern Coast	17.7%	17.7%	44.5%	30.9%	30.9%	44.5%	30.9%
Northern Coast	17.7%	30.8%	44.5%	30.8%	30.8%	44.5%	30.8%

Fcst. Daily Min. DFM (100-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Oct 17	Sat Oct 18	Sun Oct 19	Mon Oct 20	Tue Oct 21	Wed Oct 22	Thu Oct 23
Southern Highlands	50.9%	50.9%	63.7%	92.2%	73.5%	63.7%	63.7%
Central Mountains	21.2%	38.2%	38.2%	88.4%	65.1%	52.6%	38.2%
Northern Highlands	29.9%	29.9%	44.3%	92.5%	68.8%	57.3%	44.3%
Blue Ridge	31.9%	31.9%	31.9%	61.5%	48.1%	31.9%	17.4%
Western Piedmont	49.2%	34.1%	49.2%	34.1%	17.7%	17.7%	17.7%
Sandhills	60.3%	47.8%	47.8%	33.2%	17.9%	33.2%	17.9%
Eastern Piedmont	59.5%	44.5%	44.5%	27.7%	12.2%	12.2%	12.2%
Southern Coast	62.8%	35.1%	35.1%	35.1%	20.6%	35.1%	20.6%
Northern Coast	64.4%	51.3%	37.2%	51.3%	37.2%	37.2%	37.2%

Fcst. Daily Min. DFM (1000-Hr) Pctl. for FDRAs in North Carolina							
FDRA	Fri Oct 17	Sat Oct 18	Sun Oct 19	Mon Oct 20	Tue Oct 21	Wed Oct 22	Thu Oct 23
Southern Highlands	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%
Central Mountains	57.0%	40.1%	57.0%	57.0%	57.0%	70.6%	57.0%
Northern Highlands	63.5%	48.5%	48.5%	48.5%	63.5%	63.5%	63.5%
Blue Ridge	51.2%	51.2%	51.2%	51.2%	34.2%	34.2%	34.2%
Western Piedmont	65.2%	50.0%	50.0%	50.0%	34.6%	34.6%	17.5%
Sandhills	78.3%	78.3%	65.8%	51.5%	51.5%	35.1%	35.1%
Eastern Piedmont	91.8%	82.0%	82.0%	68.0%	49.6%	49.6%	30.6%
Southern Coast	96.6%	80.5%	67.5%	67.5%	52.0%	52.0%	35.4%
Northern Coast	97.2%	92.7%	83.4%	69.6%	54.4%	54.4%	54.4%