

Statewide Seasonal Fire Danger Assessment

- July 19, 2024 Update -

*Created by: Jamie Dunbar
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NC Forest Service*

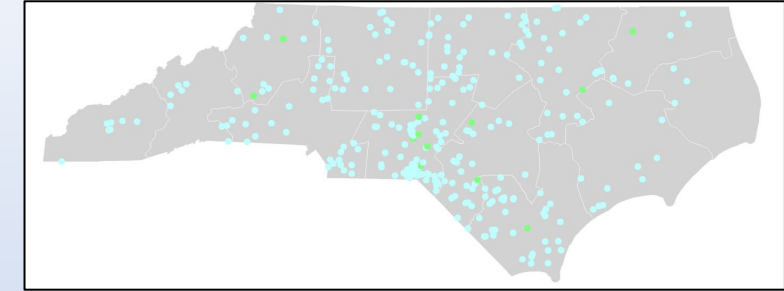
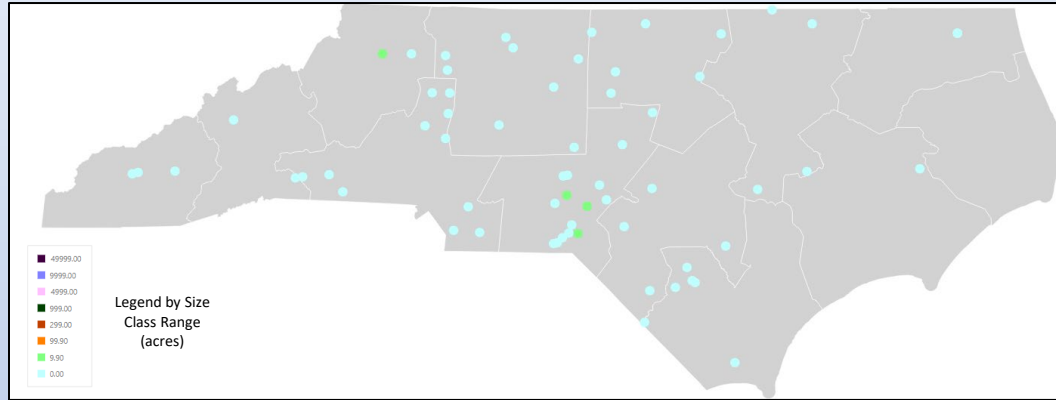
Incident Activity

July 1 - 18

fiResponse Incident Location Map (for general context, preliminary data)

7-Day Activity: 7/12 – 7/18, 2024

Report: Business Intelligence Module, Response Trends Map



Statewide Context

- January: 10-yr avg is 326 fires for 524 acres
- February: 10-yr avg is 576 fires for 1,494 acres
- March: 10-yr avg is 913 fires for 4,727 acres
- April: 10-yr avg is 659 fires for 6,481 acres
- May: 10-yr avg is 317 fires for 1,241 acres
- June: 10-yr avg is 221 fires for 2,408 acres
- *July: 10-yr avg is 183 fires for 626 acres**
- August: 10-yr avg is 137 fires for 420 acres
- September: 10-yr avg is 171 fires for 383 acres
- October: 10-yr avg is 226 fires for 1,895 acres
- November: 10-yr avg is 465 fires for 6,046 acres
- December: 10-yr avg is 277 fires for 427 acres

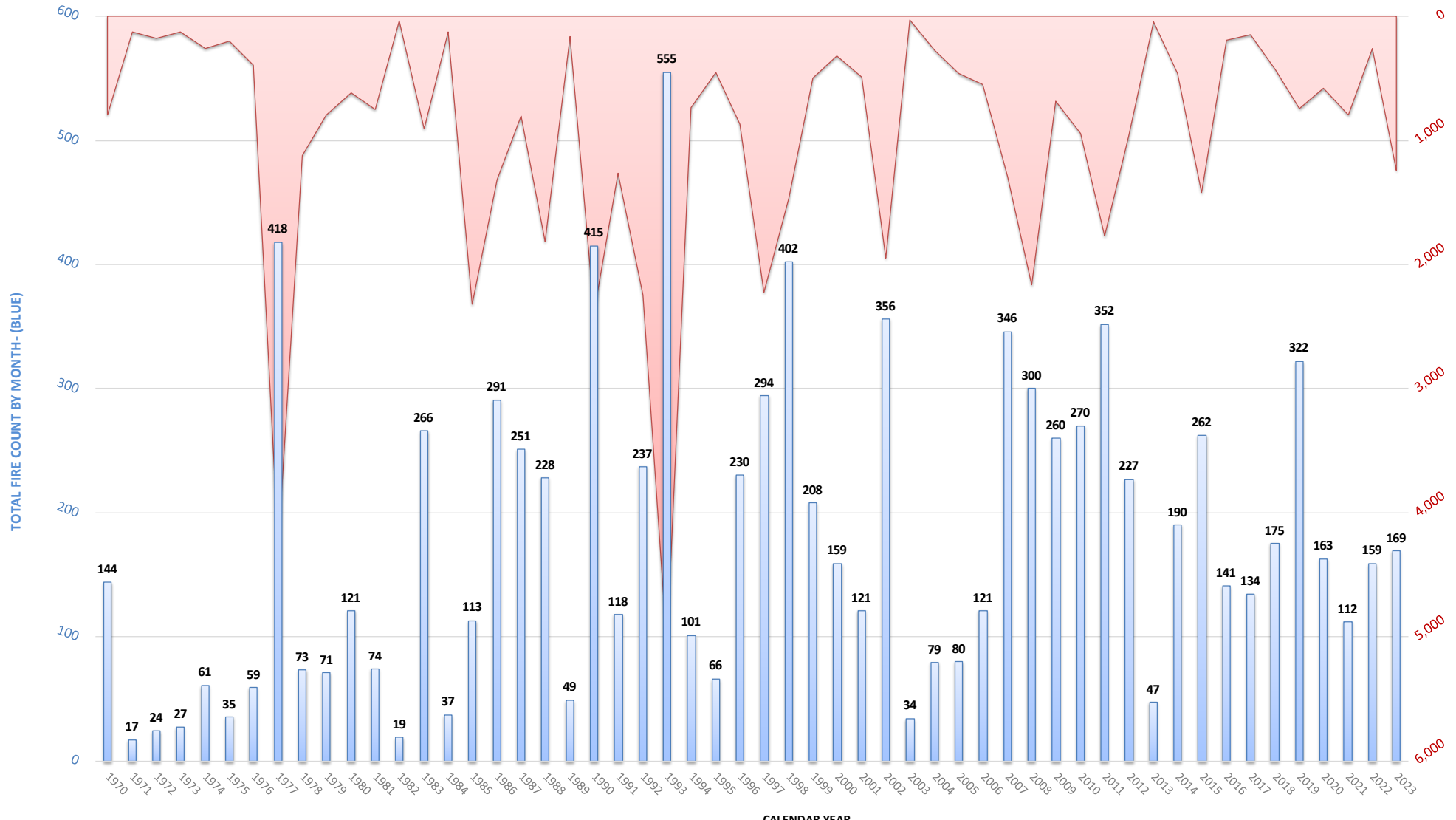
(10-yr Statewide averages, above, are based on FARS 2014-2023 Data)

NCFS – By Region				
MTD Fire Activity (Does Not Include Federal Ownerships)				
Data Source:	Signal 14 Regional Activity Summary Report (Signal 14 is a daily snapshot in time)			
Date Range:	7/1 – 7/18, 2024			
Area	Wildfire Count	Wildfire Acres	RX Count (State & Private)	RX Acres (State & Private)
R1	56	42.7	1	17
R2	174	351.3	0	0
R3	43	134.7	0	0

Largest incidents **MTD** (Ending 7/18):
from fiResponse & preliminary reporting only

Incident Name	Discovery Date	Region	District	County	Acres
Parsonville	7/14/2024	Region 3	District 2	Wilkes County	75.00
Stoney Creek	7/15/2024	Region 2	District 3	Moore County	62.00
Hidden Hill	7/5/2024	Region 3	District 2	Burke County	60.03
Old Union Rd	7/6/2024	Region 1	District 8	Columbus County	40.00
DuPont R/R	7/2/2024	Region 2	District 6	Robeson County	38.00
Browns Mill Rd	7/5/2024	Region 2	District 3	Moore County	30.00
Ahoskie Fireworks Fire	7/5/2024	Region 1	District 7	Hertford County	27.00
DuPont R/R rekindle	7/5/2024	Region 2	District 6	Robeson County	20.00
Fox Road	7/14/2024	Region 2	District 3	Richmond County	15.40
401 Business	7/6/2024	Region 2	District 6	Hoke County	15.00

All Cause Codes - Statewide Fires in CY Month of **JULY** (1970-2023)
 (by discovery date)



SOURCE: FARS NASF REPORT EXTRACT
 CAUSE: ALL CAUSE CODES, NCFS FIRES ONLY

Sum of FinalFireAcreQuantity (Red Area)
 Count of FireDiscoveryDate (Blue Bars)

Distribution of
All Fires & Acres
 for JULY
 from 1970 - 2023

TOTAL ACRES BURNED BY MONTH - (RED)

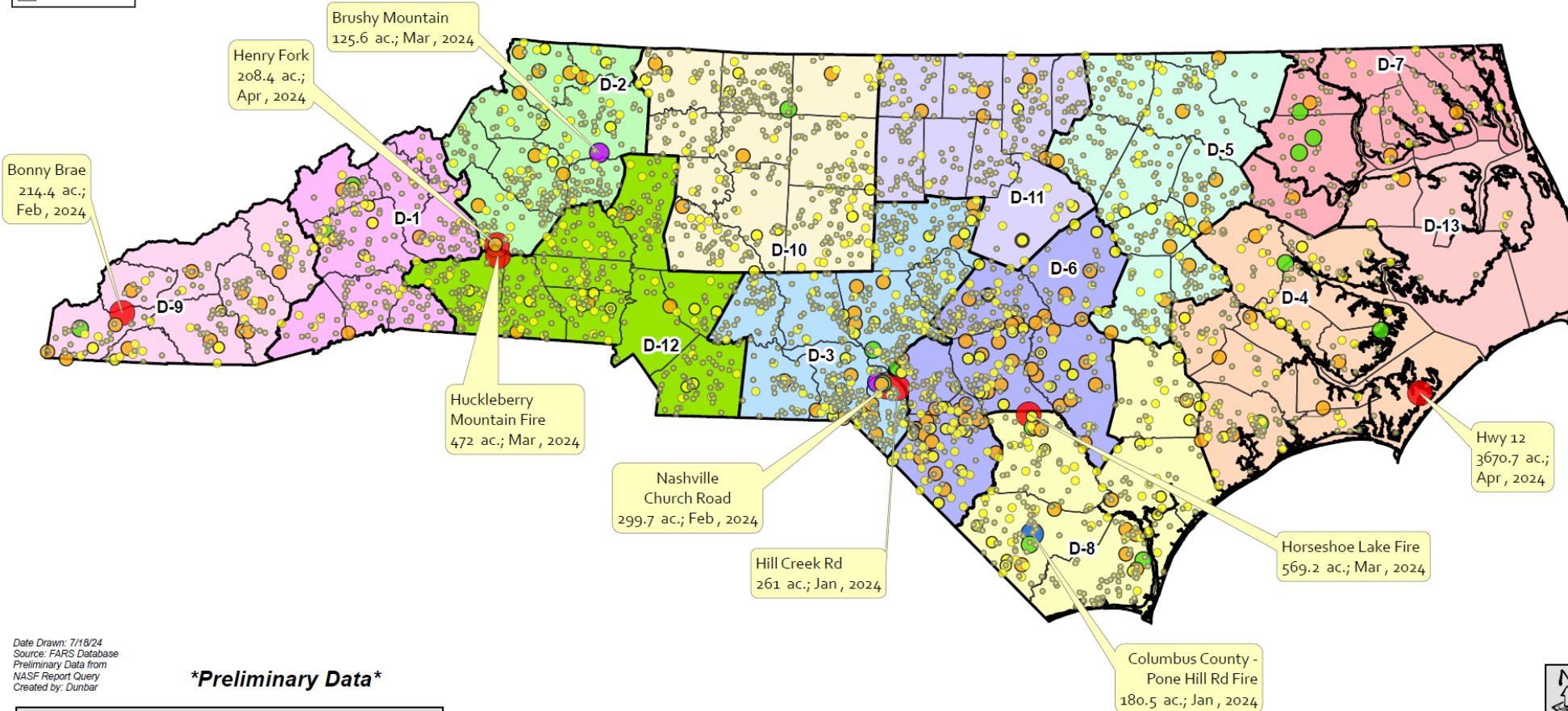
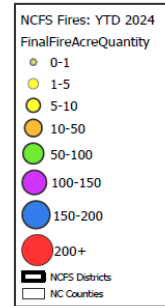
TOTAL FIRE COUNT BY MONTH - (BLUE)

Cause: All Cause Codes, Statewide, NCFS Reported Fires Only

NC Forest Service Fire Locations: YTD ending 7/16/24 CY 2024



Fires over 100 acres are labeled, State recorded acres only



Date Drawn: 7/18/24
Source: FARS Database
Preliminary Data from
NASF Report Query
Created by: Dunbar

Preliminary Data



**Recent fires that have not been finalized in FARS aren't displayed on map.*

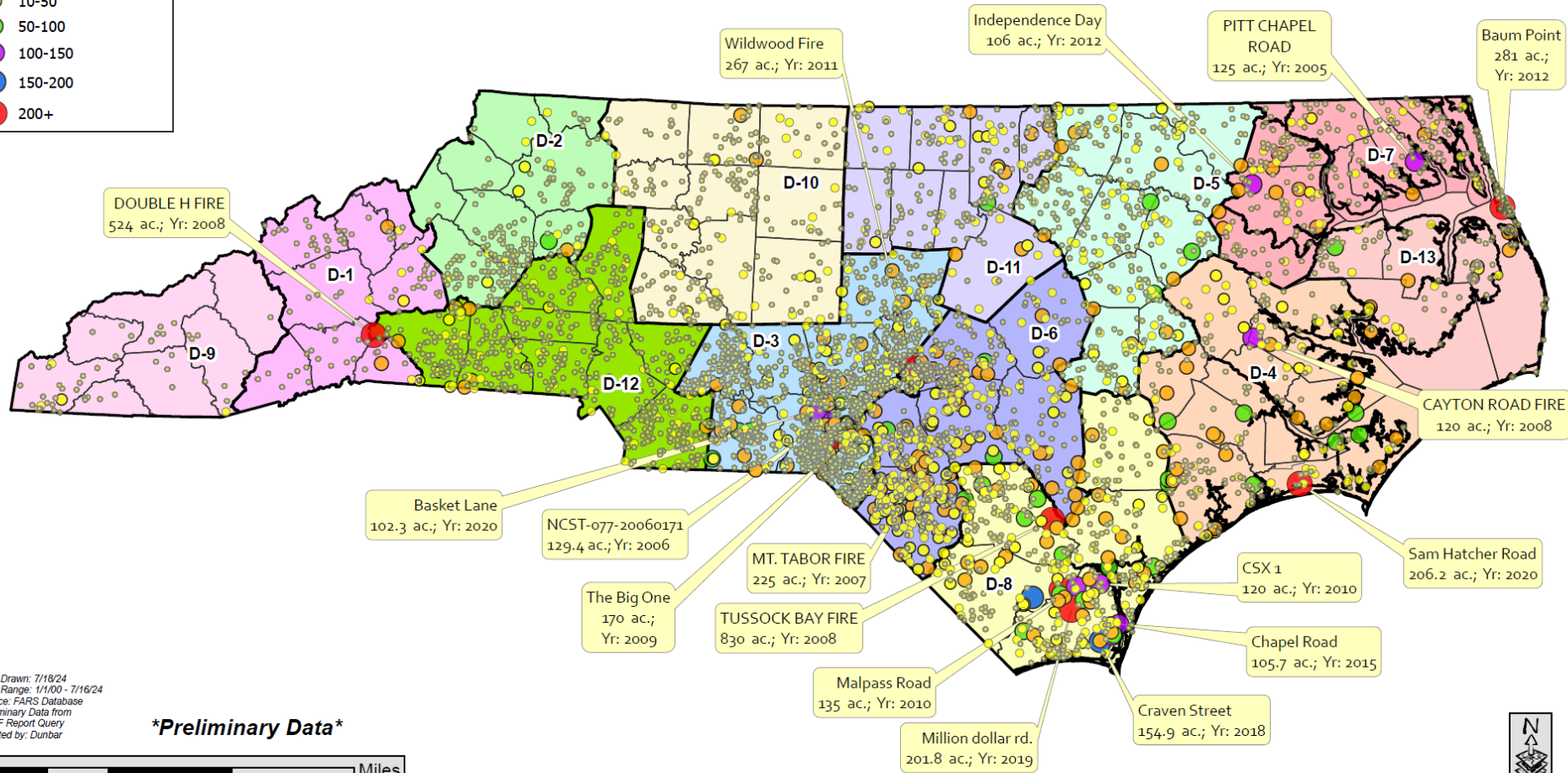
NC Forest Service Fire Locations: July CY 2000 - 2024

Fires over 100 acres are labeled, State recorded acres only



NCFS Districts
 NC Counties
 NCFS Fires: July 00' - 24'
 FinalFireAcreQuantity

- 0-1
- 1-5
- 5-10
- 10-50
- 50-100
- 100-150
- 150-200
- 200+



Date Drawn: 7/18/24
 Date Range: 1/1/00 - 7/16/24
 Source: FARS Database
 Preliminary Data from
 NASF Report Query
 Created by: Dunbar

Preliminary Data



**Recent fires that have not been finalized in FARS aren't displayed on map.*

NC Forest Service Fire Locations: August CY 2000 - 2023

Fires over 100 acres are labeled, State recorded acres only



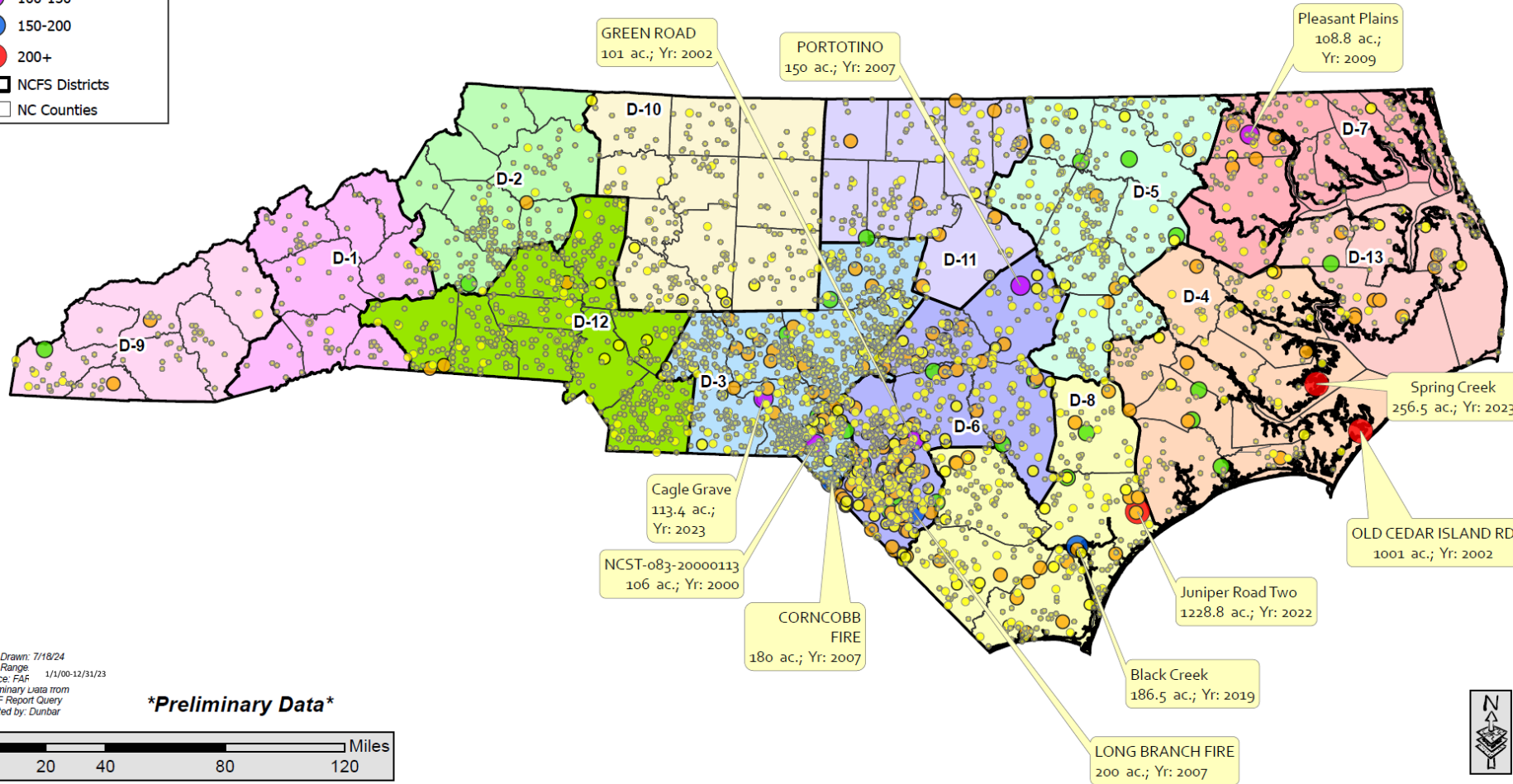
NCFS Fires: August 00' - 23'

FinalFireAcreQuantity

- 0-1
- 1-5
- 5-10
- 10-50
- 50-100
- 100-150
- 150-200
- 200+

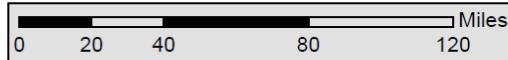
▬ NCFS Districts

▬ NC Counties



Date Drawn: 7/18/24
 Date Range: 1/1/00-12/31/23
 Source: FAF
 Preliminary Data from
 NASF Report Query
 Created by: Dunbar

Preliminary Data



Southern Area Daily Outlook Page:

SACC Daily Outlook

Thursday, July 18, 2024

Watches, Warnings and Advisories

- No Red Flag Warnings or Fire Weather Watches
- **Heat Advisories** today in South MS and South FL
- **Flood Watch** in eastern NC and far southeast VA

Today's Weather Outlook

- Showers and thunderstorms will continue to focus along and ahead of a front dropping south through the geographic area
- Severe thunderstorms and flash flooding are possible from the Appalachians to the Mid-Atlantic coast, while heavy rain this morning and additional thunderstorms this afternoon will impact some of the areas still experiencing flooding from Beryl!
- Monsoonal activity in the Southwest may edge into far western portions of the Plains this afternoon, but thunderstorms will be a bit more likely for the Trans Pecos
- Look for hit and miss storms over the FL peninsula
- Dry and mild conditions will overspread areas from OK to KY and northern VA

U.S. Drought Monitor Update

- Drought has continued to worsen in the Appalachian states over the past week, while the East Coast saw improving conditions – note that rainfall after this past Tuesday morning was not factored in
- Extreme (D3) drought was introduced in northern VA, a small portion of the NC Piedmont, southern middle TN and far northeast MS into parts of northern AL
- Drought developed or otherwise worsened this week in parts of KY, TN, GA, AL and MS, while abnormal dryness was introduced in parts of central and northern TX into OK
- PR and the USVI are still drought-free

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

SACC Daily Outlook

Thursday, July 18, 2024

Significant Fire Potential Outlook Today

- Drier than normal fuels are scattered in areas from LA to NC, and the main risk today will be from thunderstorms capable of producing new ignitions and erratic outflow winds
- West TX will see hot and dry conditions followed by scattered thunderstorms

Significant Fire Potential Outlook Friday

- Initial attack and significant fire potential will continue to widespread tomorrow
- Look for the potential of scattered lightning ignitions and emerging holdovers from LA through MS and AL
- Dry and hot weather will return to the TX mountains, where a few holdovers could emerge

Significant Fire Potential Outlook Saturday

- Portions of LA, MS and LA will see a low risk for initial attack and large fires, mainly driven by areas of lingering fuel dryness and potential new lightning ignitions
- Sig. fire potential will be nil elsewhere

National 7-Day Significant Fire Potential Outlook

SACC Daily Outlook

Thursday, July 18, 2024

10-Hour Fuels

- 10-hour fuel moisture will increase in most of the region the next few days, though a relative drying trend is possible for a few days from northern VA through parts of KY, northern AR and OK into north TX
- Frequent rainfall and persistent high RH will result in above normal 10FM for most of the region, though some dry air could edge into FL and the coastal Southeast by the middle of next week

100-Hour Fuels

- 100-hour dead fuel moisture will increase in response to widespread rain and higher RH, while some drying could occur in far northern areas over the weekend
- Any isolated spots that miss out on heavy rain in the Carolinas and adjacent Southeast could see a modest drying trend towards the middle of next week, though confidence is low for now

Forecasted ERC-Y Percentiles Today

- ERC-Y will generally decrease today due to rainfall, higher RH and milder temperatures
- Local values near or above the 90th percentile are possible in VA and peppered across the Southeast
- Most of the region will see ERC-Y trend below normal for this time of year during the weekend into next week

North Carolina State University Fire Intelligence Portal

SACC Daily Outlook

Thursday, July 18, 2024

Forecast Rainfall the Next Week

- A wavy frontal boundary will focus daily showers and thunderstorms from parts of TX to the Carolinas through the week ahead
- While some unlucky spots within the axis of heaviest rain could miss out on drought relief, most areas will see a 3 to 6" rainfall, with local amounts of 10"+ where thunderstorms are most persistent
- The northern tier of the region will see a period of dry weather into most of the weekend, but increasing moisture is expected next week as the front begins to lift north
- Scattered areas in the Southeast coastal plain could end up a bit drier than forecast based on model trends the past 24 hours, but confidence is low for now
- PR and the USVI will see spotty pop-ups most of the period; however, a passing tropical wave tonight into early Saturday will bring a short period of more widespread wet weather

Preliminary August Outlook

- NOAA's preliminary August outlook indicates widespread enhanced probabilities for above normal temperatures throughout the country, with the Appalachians and Plains highly likely to have a hot month
- Below normal precipitation is slightly favored in portions of OK and TX, with equal chances over the rest of the Plains into western AR
- Above normal rainfall is strongly favored along the middle and eastern Gulf Coast and most of the Southeast Coast, due to the overall pattern that will favor frequent thunderstorm activity and a rapid uptick in the risk for tropical systems to impact the region
- Areas of the Appalachians to the Mid-Mississippi Valley are of lower confidence, with some analogs and forecast tools maintaining a drier scenario than depicted

Seasonal Drought Outlook Update

- Today's updated seasonal drought outlook continues to favor drought persistence and development across western OK and TX
- Relief is forecast throughout the Appalachian states into MS, but some drought may persist in most of these states, especially where severe to extreme drought is ongoing now
- This persistence will be crucial to the start of the fall fire season, though one or more tropical systems moving into these areas could easily remove any concerns through the end of October
- Some growing wildfire potential can be expected in OK and portions of North TX through late summer
- Widespread drought development and above normal temperatures are likely in the West through this period

Please contact your local National Weather Service office for spot forecasts and the latest watches and warnings.

Summer Heat & Rainfall Deficits - Impacts to Observed Fire Behavior -

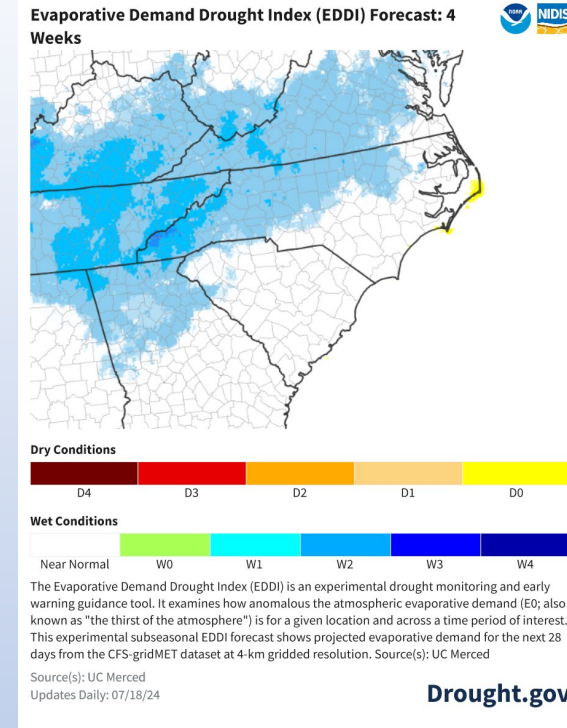
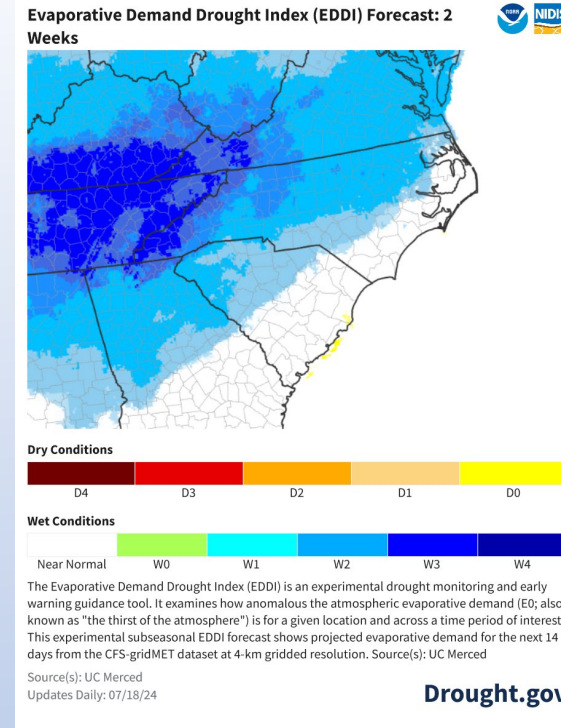
Drought conditions worsened over the past month, as noted in the last several releases of the USDM maps for NC. Abnormally high air temperatures, lower RHs + the lack of rain have continued to create high evaporative demand for forest, crop and yard vegetation – drying shallow soil horizons, duff, dead fuels, and organic soils.

Live fuels in the most drought impacted areas continue to have low enough fuel moistures that they are available for consumption & add to fire intensity.

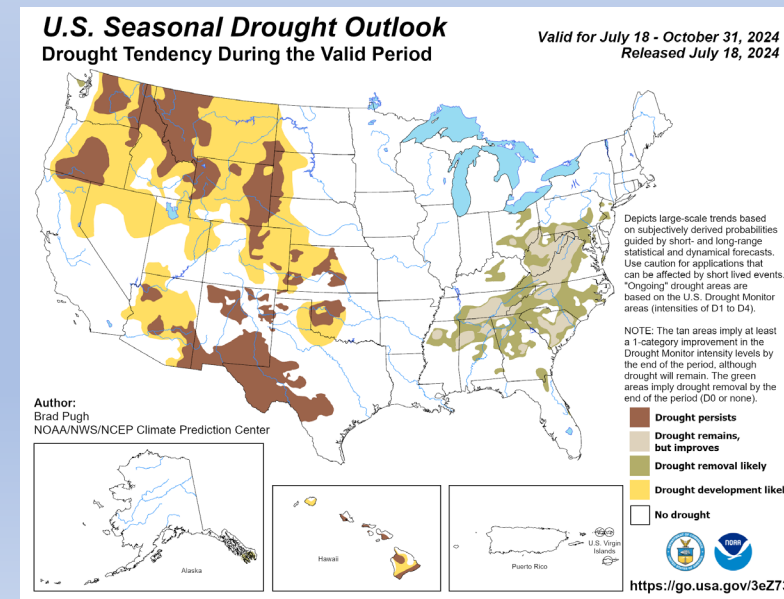
Lighting ignitions - There were multiple lightning caused fires scattered throughout the state in the past month (see next slide). Typically, holdovers from lightning occurred on the fringes of isolated thunderstorms interacting with abnormally dry & receptive fuels.

Recent rainfall for portions of the state has helped herbaceous fuel moisture recover – leading to grasses regreening on road shoulders and yards. However, it will take significant & longer duration moisture events to replenish the deeper duff, larger dead fuels and true organic soils.

Potential short-term improvements - The EDDI maps at the top right illustrate modeled evaporative demand at the two-week and four-week level – showing potential improvement for much of the state, at least in the shorter-term, as compared to last month. The US Seasonal Drought Outlook released on 7/18/24 is now favoring at least some improvement for much of the Southeast. See detailed state/regional discussions [here](#).



<https://www.drought.gov/data-maps-tools/evaporative-demand-drought-index-eddi-subseasonal-forecasts>



Lighting Ignitions – The table below provides a list of lightning caused fires ≥ 0.10 acre for the months of June & July 2024 (preliminary data from fiResponse & subject to change). Sorted in descending order by acreage.

REGIO	DISTRICT	COUNTY	INCIDENT NAME	AREA (AC)	CAUSE TYPE	REPORTED
Region 3	District 2	Wilkes County	Parsonville	75	Lightning	7/14/2024
Region 1	District 4	Onslow County	D & J Farm Lane	39	Lightning	6/27/2024
Region 2	District 3	Scotland County	Scotland County - Laurel Hill	20	Lightning	6/10/2024
Region 2	District 5	Edgecombe County	Sawyer Cutover	13	Lightning	7/3/2024
Region 1	District 8	Pender County	Trask High School	8.5	Lightning	6/16/2024
Region 1	District 7	Camden County	Burnham Rd	2	Lightning	7/9/2024
Region 2	District 5	Nash County	Doughtie	1.5	Lightning	7/6/2024
Region 1	District 13	Tyrrell County	Phelps Rd Fire	0.25	Lightning	7/5/2024
Region 1	District 8	Pender County	Little Kelly RD	0.1	Lightning	6/7/2024
Region 1	District 7	Perquimans County	Great Hope Church Rd Fire	0.1	Lightning	6/25/2024
Region 2	District 3	Montgomery County	Old Salisbury Rd	0.1	Lightning	6/30/2024
Region 2	District 3	Chatham County	Buck Perry Strike	0.1	Lightning	6/30/2024
Region 2	District 11	Person County	Wesleyan Rd	0.1	Lightning	6/30/2024
Region 2	District 5	Halifax County	Race Track	0.1	Lightning	7/4/2024
Region 2	District 3	Richmond County	Ponderosa Storm	0.1	Lightning	7/6/2024
Region 2	District 5	Nash County	Peachtree	0.1	Lightning	7/6/2024
Region 2	District 5	Nash County	Pullen Pasture	0.1	Lightning	7/6/2024
Region 2	District 3	Richmond County	Battley Dairy Snag	0.1	Lightning	7/6/2024
Region 2	District 10	Forsyth County	Squire Manor Court	0.1	Lightning	7/6/2024
Region 2	District 3	Anson County	RL	0.1	Lightning	7/8/2024
Region 1	District 4	Pitt County	Dollar Tree	0.1	Lightning	7/9/2024
Region 2	District 3	Moore County	Glendale Drive	0.1	Lightning	7/12/2024



R3/D2/Burke County Area– 7/3/24, images provided by DG. Note consumption of duff, stumps, and less drought resistant live fuels.

Daily WIMS **Observations** and NFDRS Estimates

Averaged by FDRA SIG Group

This is available on the FWIP at: <https://products.climate.ncsu.edu/fwip/nfdrs.php?data=ob&state=NC>

- The averaged values are derived from the SIG Station Outputs for a particular FDRA
(SIG station names shown in bold on the live link above)
- You can toggle the percentiles on/off, displaying below the actual calculated values
percentiles are based on SIG station averages from analysis of "All Days" for entire calendar year range through 2021
- Herb & Woody Fuel Moisture Estimates derived from SIG Station Averages – based on Station GSI Settings within WIMS, not live fuel moisture sampling. Actual green-up is variable across the landscape.

Daily WIMS **Forecast Observations** and NFDRS Estimates are also available

Averaged by FDRA SIG Group

This is available on the FWIP at: <https://products.climate.ncsu.edu/fwip/nfdrs.php?data=fc>

7/19/24 Observations

Averages by FDRA																		
FDRA	STATION_COUNT	NFDR_DATE	BI	ERC	IC	SC	KBDI	1HR	10HR	100HR	1000HR	HRB	WOODY	TEMP	RH	WIND	PRECIP	DUR
Southern Highlands	3	2024-07-19	32.90 57.5%	14.03 40.7%	1.83 38.7%	15.80 66.1%	513.00	22.07 80.0%	21.30 69.4%	19.87 59.7%	20.01 47.0%	124.07	114.00	75.0°F	76.3%	E 1.7 mph	0.31 in.	2.0
Central Mountains	3	2024-07-19	15.40 20.4%	8.80 24.2%	1.17 26.3%	4.13 21.8%	412.33	16.16 64.3%	24.16 82.8%	20.77 73.1%	19.45 33.2%	250.00	200.00	80.3°F	65.7%	SW 2.7 mph	0.28 in.	3.3
Northern Highlands	2	2024-07-19	22.45 38.1%	8.35 28.8%	1.25 34.2%	9.85 56.3%	394.50	17.00 64.0%	23.25 77.0%	21.57 82.1%	19.81 51.1%	250.00	200.00	75.5°F	77.0%	NE 3.0 mph	0.19 in.	3.5
Blue Ridge Escarpment	3	2024-07-19	19.63 23.9%	11.17 26.9%	1.70 30.4%	5.87 25.7%	579.67	21.17 79.3%	22.39 74.2%	21.89 75.6%	18.73 35.2%	131.73	121.67	80.7°F	72.3%	SW 2.7 mph	0.18 in.	3.0
Western Piedmont	3	2024-07-19	39.97 51.8%	18.13 32.4%	1.93 25.0%	16.43 56.7%	482.67	22.57 87.5%	26.78 92.3%	18.85 62.7%	19.26 49.3%	36.27	54.00	81.7°F	73.3%	NE 2.0 mph	0.77 in.	4.7
Sandhills	3	2024-07-19	19.27 16.9%	14.87 15.0%	1.20 15.7%	6.10 61.1%	572.33	19.03 83.3%	27.32 91.8%	18.49 40.5%	19.75 64.0%	79.17	89.33	86.0°F	66.7%	S 3.3 mph	0.65 in.	5.3
Eastern Piedmont	4	2024-07-19	9.15 8.5%	3.88 10.0%	0.43 10.9%	3.23 6.8%	271.25	26.46 92.1%	25.96 91.3%	21.04 78.5%	20.21 62.9%	115.50	113.75	77.8°F	87.3%	E 3.0 mph	0.61 in.	4.3
Southern Coastal	7	2024-07-19	15.63 11.3%	8.91 14.0%	1.07 16.0%	4.21 9.3%	428.14	16.99 76.8%	25.57 90.7%	20.06 60.0%	20.85 64.1%	155.87	141.86	86.7°F	66.7%	SE 2.4 mph	1.31 in.	6.4
Northern Coastal	4	2024-07-19	2.85 7.4%	2.18 9.6%	0.20 12.2%	0.53 6.8%	355.50	30.29 94.7%	27.59 93.5%	21.68 82.7%	21.92 81.5%	176.48	140.50	81.8°F	80.0%	SE 2.0 mph	0.58 in.	7.0

Fuel Model X is composed of 1-hr, 10-hr and live fuels (when dormant act as dead fuels) – hence responsiveness to rapid drying. All FDRAs within NC (except Sandhills) utilize FM-X at the present time.



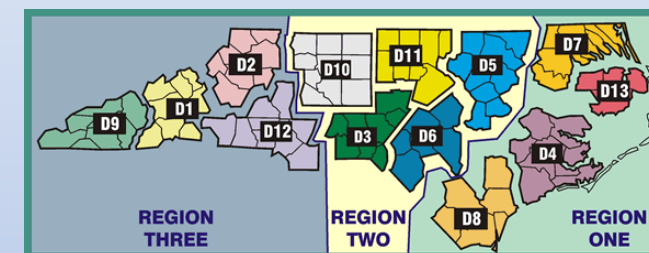
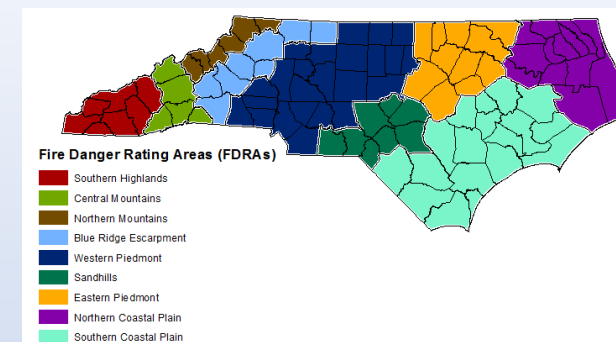
Important notes for next slide group:

A. Current ERC, KBDI, GSI, 10-Hr, 100-Hr & 1000-Hr Graphics:

- These are extracts from FF+ using daily observation data downloaded from WIMS.

B. Weekly Outlook - FDRA General Fire Danger Forecast Matrix:

- Available on the FWIP within the “[Resources for NCFS](#)” page.
- The operation link is: <https://products.climate.ncsu.edu/fwip/outlook.php>
- The matrix updates daily - please review the tool notes below for more details.



Tool Summary:

The forecast matrix was created using **standard NFDRS and weather forecast data**:

- Weather conditions and NFDRS outputs are forecasted over the next 7 days by NWS for SIG stations in each FDRA.
- Weather variable ranges and breakpoints were defined by FDRA stakeholders and relate to Pocket Card notes.
- Maximum temperatures in the Critical range are color-coded with shades of red to help visually distinguish daily variations. The brightest red color corresponds to temperatures of 100°F or greater.

Fire danger forecast indices and component values are grouped into three categories based on historical percentiles, assessed using the FF+ All Days filter through 2021:

- Low to Moderate (0 to 74th percentile); shown in **blue-green**
- High (75th to 89th percentile); shown in **yellow**
- Very High to Extreme (90th+ percentile); shown in **red** and labeled as Critical

Dead fuel moisture forecast values are grouped into three categories based on historical percentiles, assessed using the FF+ All Days filter through 2021:

- Low to Moderate (26th to 100th percentile); shown in **blue-green**
- High (11th to 25th percentile); shown in **yellow**
- Very High to Extreme (0 to 10th percentile); shown in **red** and labeled as Critical

Other Notes:

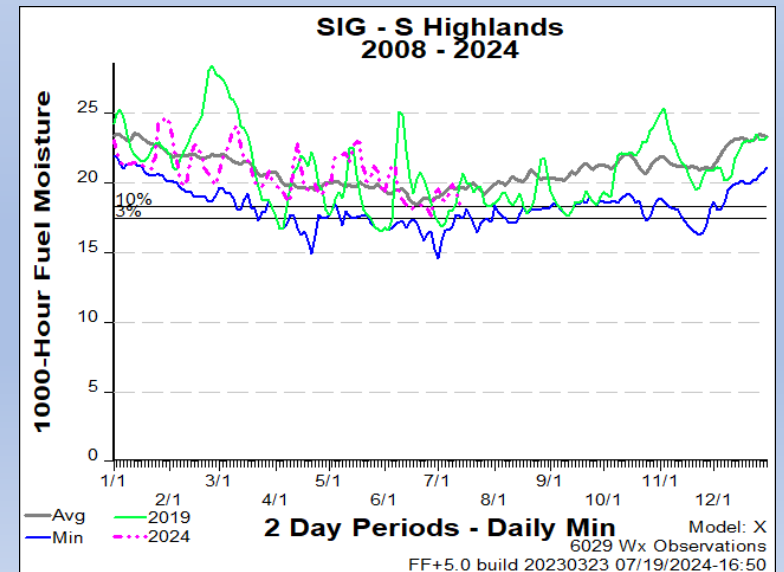
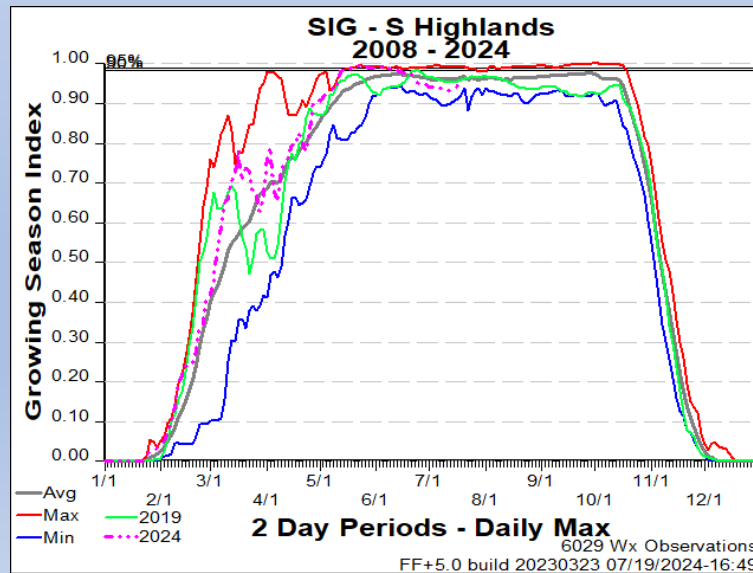
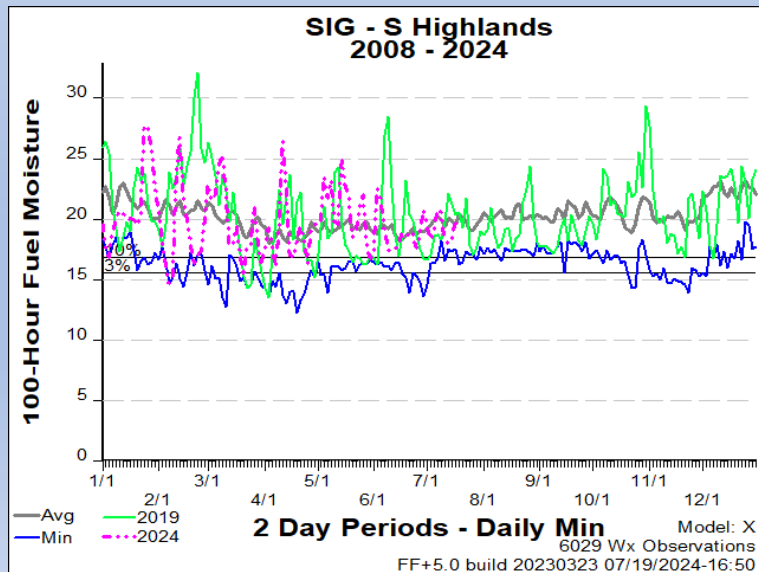
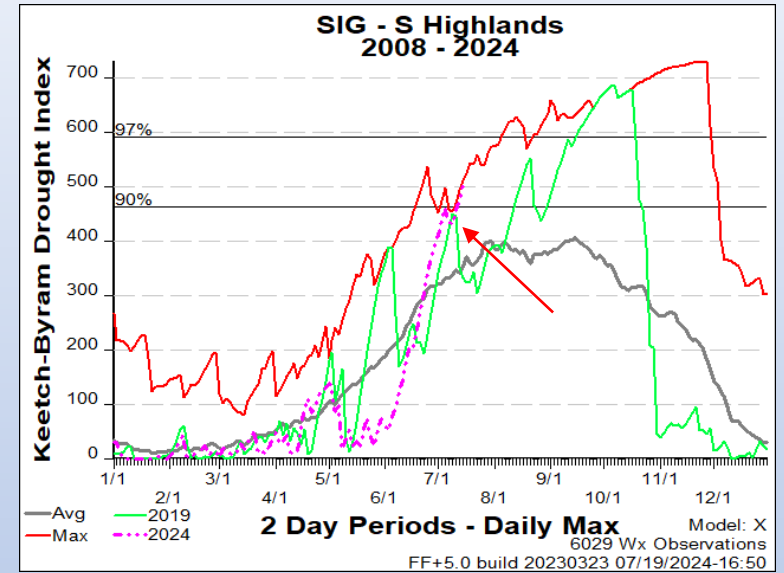
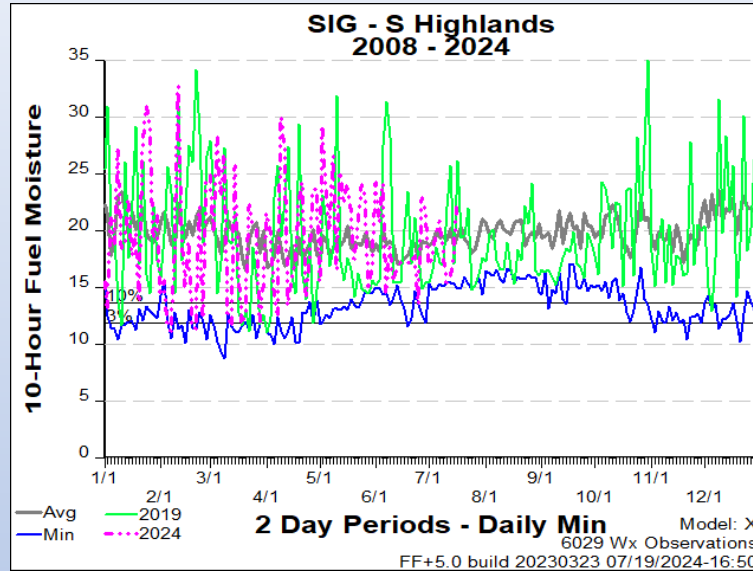
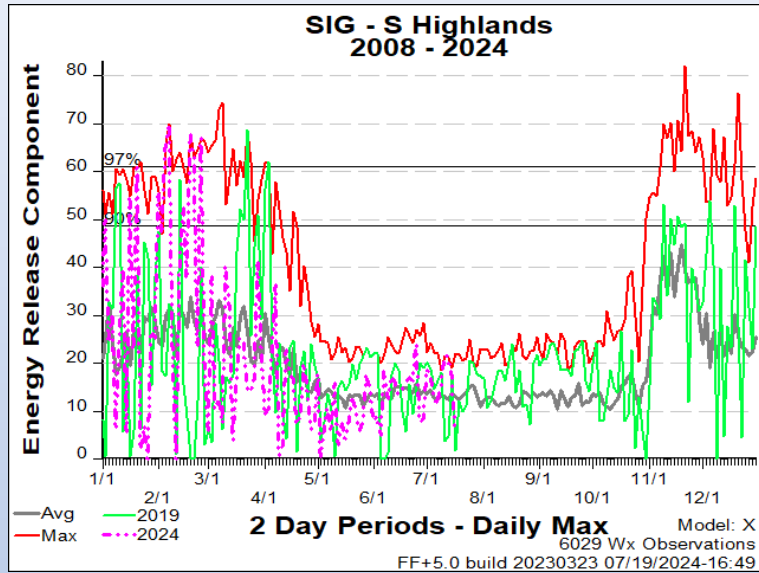
- Read the key and notes for each FDRA, included on the outlook matrix page.
- Forecasts are variable and can change significantly over a forecast cycle and across the landscape.
- This is another tool for gaining better situational awareness, and should be used for general planning purposes only.
- The outlook matrix is refreshed when an FDRA is selected, using the most recent forecast data available at that time. The 7th day may drop off or display partial data prior to the afternoon/evening forecast update.
- Daily updates to NFDRS forecasts occur around **1530** daily, while general weather forecasts are updated around **1730** daily.

To reduce duplication & increase situational awareness, slides 13-30 are organized by FDRA in this order:

**(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)

FDRA – Southern Highlands



Weekly Outlook

Southern Highlands FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	76	76	76	76	77	77	76
Avg. Min. Humidity (%)	75	78	82	85	81	77	80
Avg. 20' Wind Speed (mph)	2	2	1	2	2	2	2
Avg. Wind Direction*	SSW	SSW	S	SE	SSW	S	SSW
Avg. Probability of Precip. (%)	77	83	86	83	85	85	81
Days Since a Wetting Rain**	0.0	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	16.5	9.1	9.8	8.9	8.7	8.8	8.3
Forecast BI (Fuel Model X)	38.8	24.4	26.0	24.0	22.5	22.2	21.1
Forecast IC (Fuel Model X)	1.9	1.1	1.3	1.1	1.0	1.0	0.9
Forecast 100-Hr. FMC	19.7	22.7	26.0	27.6	28.3	28.8	29.0
Forecast 1000-Hr. FMC	20.0	20.6	21.0	22.0	23.3	24.5	25.6
KBDI	529.0						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

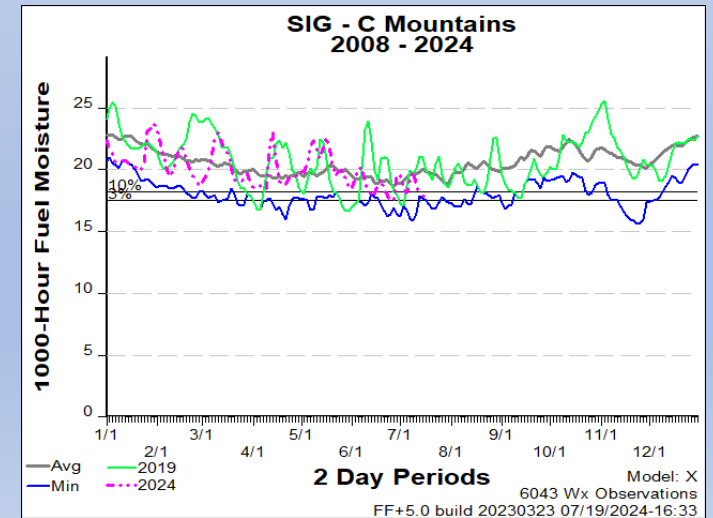
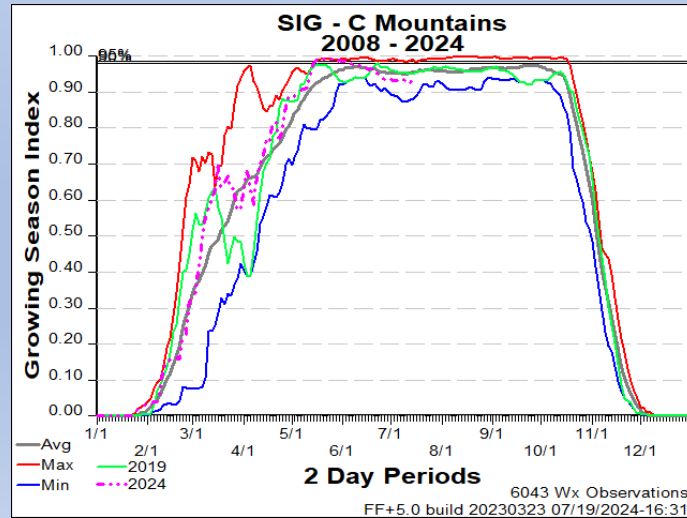
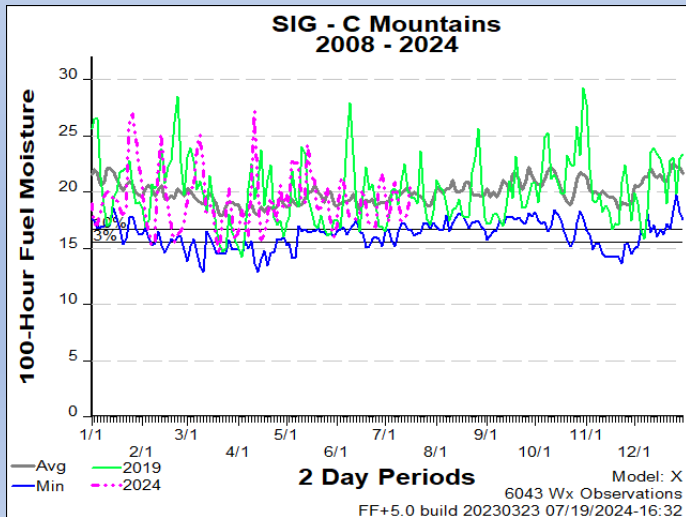
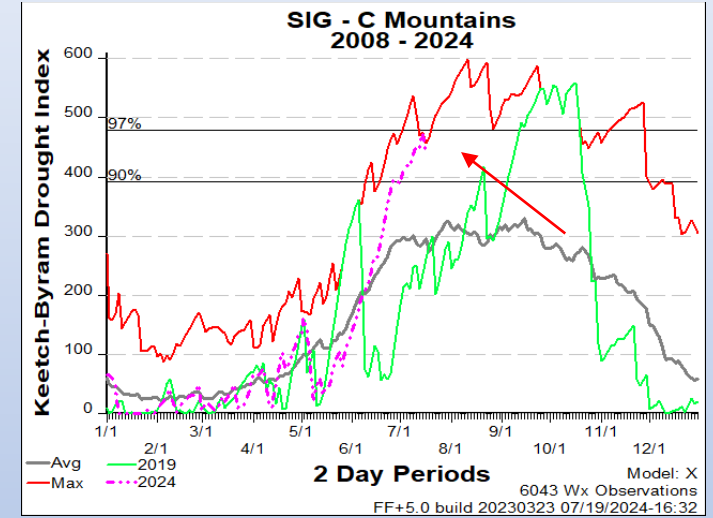
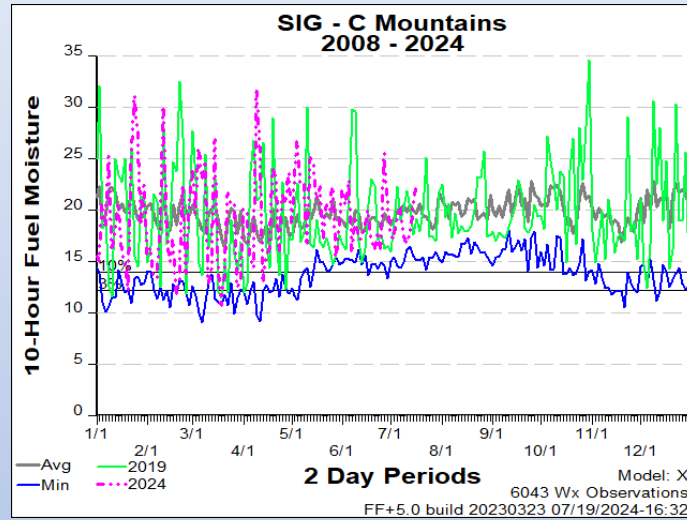
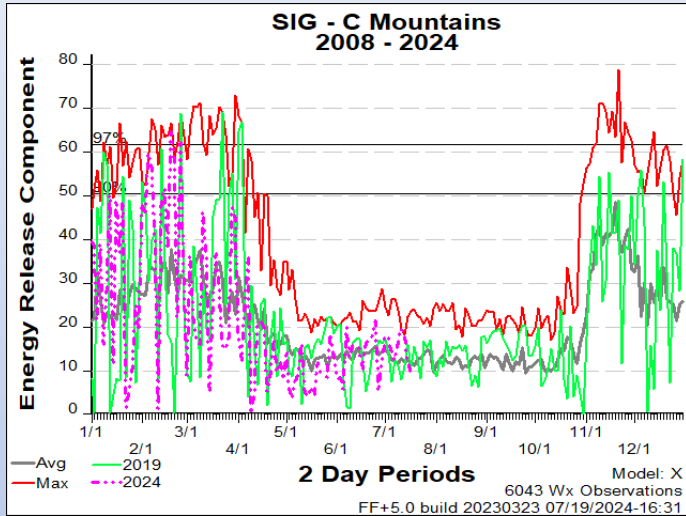
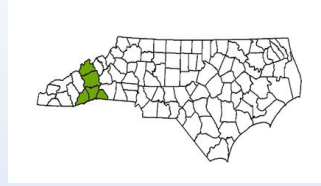
Values in the table above are averages from 3 stations in this FDRA:

- Tusquitee (315602)
- Locust Gap (315802)
- Highlands (315803)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 55°F	Greater than 55°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph	Between 5 mph and 7 mph	Greater than 7 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 40	Between 40 and 52	Greater than 52
Burning Index	Less than 95	Between 95 and 118	Greater than 118
Ignition Component	Less than 9	Between 9 and 14	Greater than 14
100-Hour Fuel Moisture	Greater than 18%	Between 17% and 18%	Less than 17%
1000-Hour Fuel Moisture	Greater than 19%	Between 18% and 19%	Less than 18%
KBDI	Less than 345	Between 345 and 479	Greater than 479

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

FDRA – Central Mountains



Weekly Outlook

Central Mountains FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	80	80	81	80	82	82	80
Avg. Min. Humidity (%)	71	76	79	79	75	71	77
Avg. 20' Wind Speed (mph)	3	2	1	2	2	2	2
Avg. Wind Direction*	S	SW	SW	SW	SSW	SSW	SW
Avg. Probability of Precip. (%)	72	87	84	82	85	84	86
Days Since a Wetting Rain**	0.0	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	10.6	7.4	6.5	6.3	6.3	7.3	6.8
Forecast BI (Fuel Model X)	19.2	14.4	12.6	12.9	13.5	15.2	14.3
Forecast IC (Fuel Model X)	1.5	0.9	0.7	0.7	0.7	1.0	0.9
Forecast 100-Hr. FMC	23.4	25.7	27.5	28.6	29.2	29.6	29.8
Forecast 1000-Hr. FMC	19.6	20.3	20.9	21.9	23.1	24.4	25.6
KBDI	429.7						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

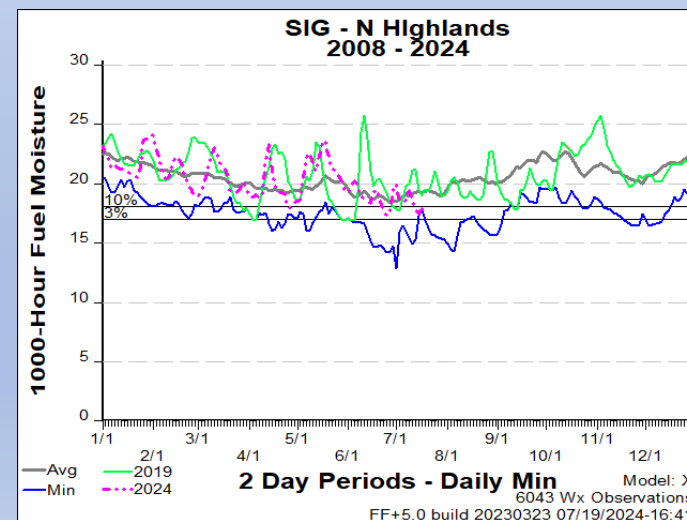
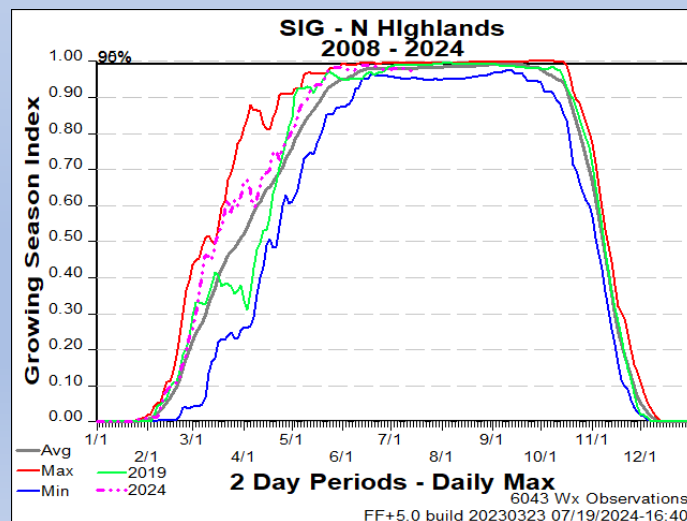
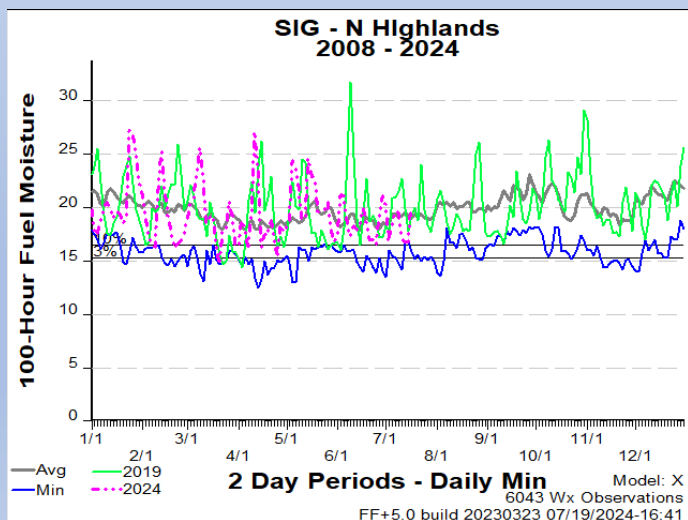
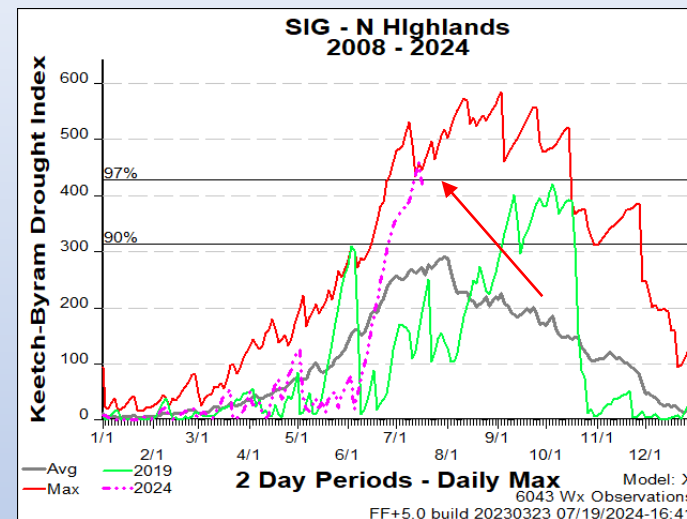
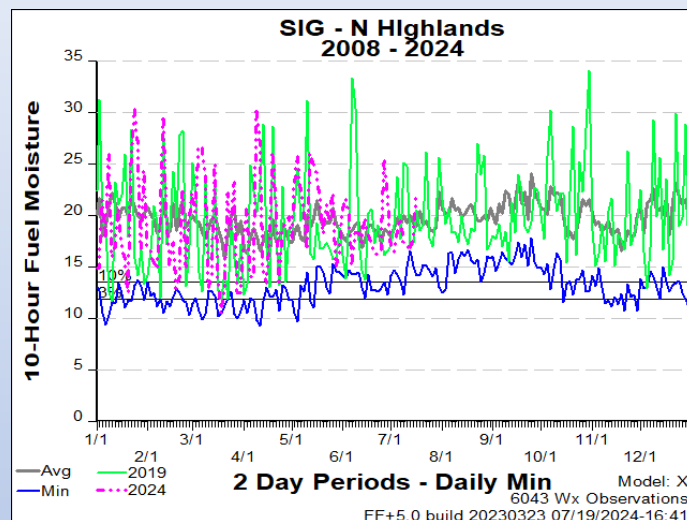
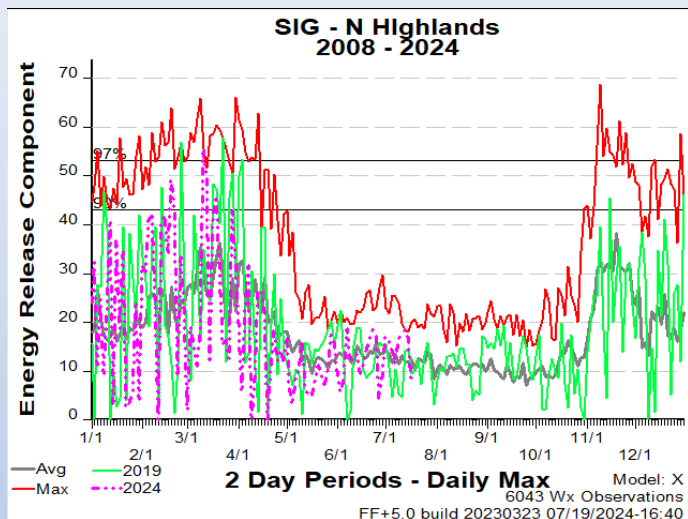
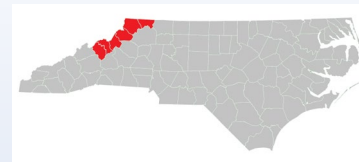
Values in the table above are averages from 3 stations in this FDRA:

- 7 Mile Ridge (313302)
- Davidson River (316001)
- Mtn Horticultural Crops Res Stn (316141)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph	Between 5 mph and 10 mph	Greater than 10 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 33	Between 33 and 50	Greater than 50
Burning Index	Less than 78	Between 78 and 106	Greater than 106
Ignition Component	Less than 6	Between 6 and 11	Greater than 11
100-Hour Fuel Moisture	Greater than 19%	Between 17% and 19%	Less than 17%
1000-Hour Fuel Moisture	Greater than 20%	Between 19% and 20%	Less than 19%
KBDI	Less than 319	Between 319 and 417	Greater than 417
Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season			

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

FDRA – Northern Highlands



Weekly Outlook

Northern Highlands FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	76	75	76	76	76	77	75
Avg. Min. Humidity (%)	75	84	83	82	83	79	84
Avg. 20' Wind Speed (mph)	3	2	2	3	3	3	3
Avg. Wind Direction*	SE	S	SW	SW	SW	SW	SW
Avg. Probability of Precip. (%)	62	80	74	72	72	69	73
Days Since a Wetting Rain**	0.0	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	8.4	6.0	5.3	4.9	5.0	5.5	5.1
Forecast BI (Fuel Model X)	17.9	14.3	13.2	13.2	13.9	14.6	14.1
Forecast IC (Fuel Model X)	0.9	0.6	0.6	0.7	0.7	0.8	0.7
Forecast 100-Hr. FMC	20.8	22.4	25.1	26.8	28.1	29.0	29.5
Forecast 1000-Hr. FMC	19.9	20.1	20.3	20.9	21.6	22.6	23.7
KBDI	406.5						

Data Source:

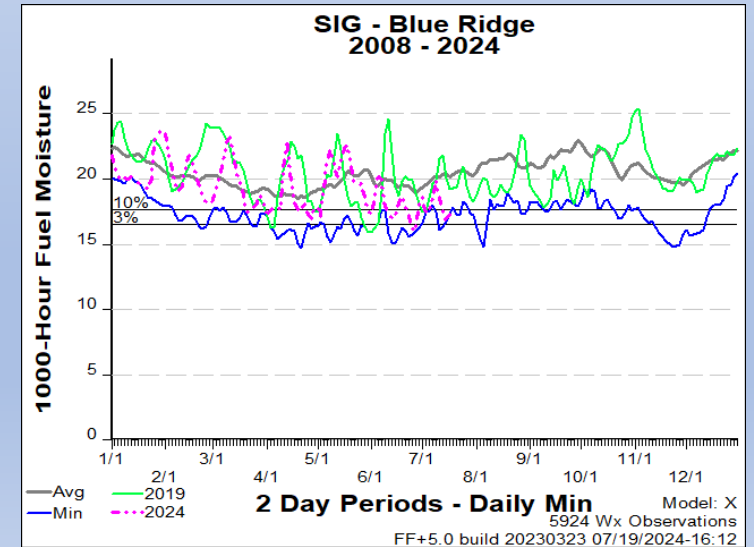
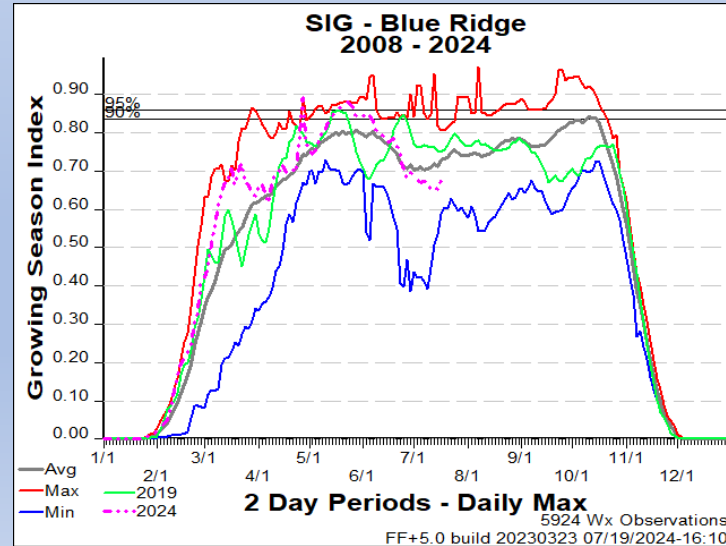
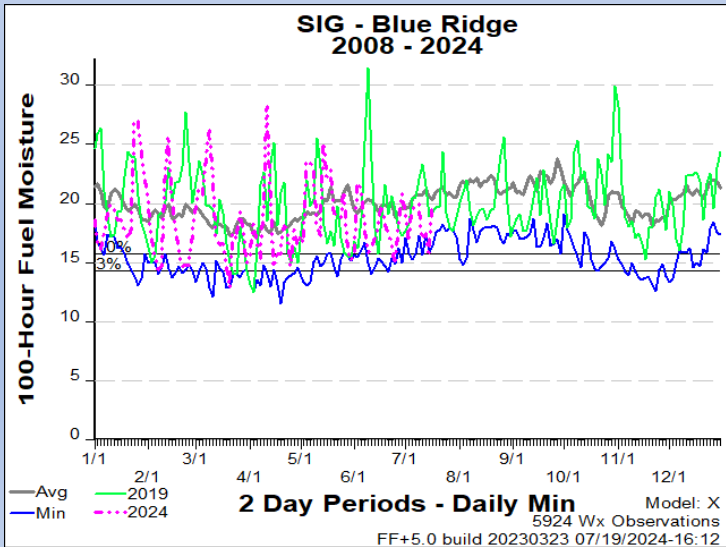
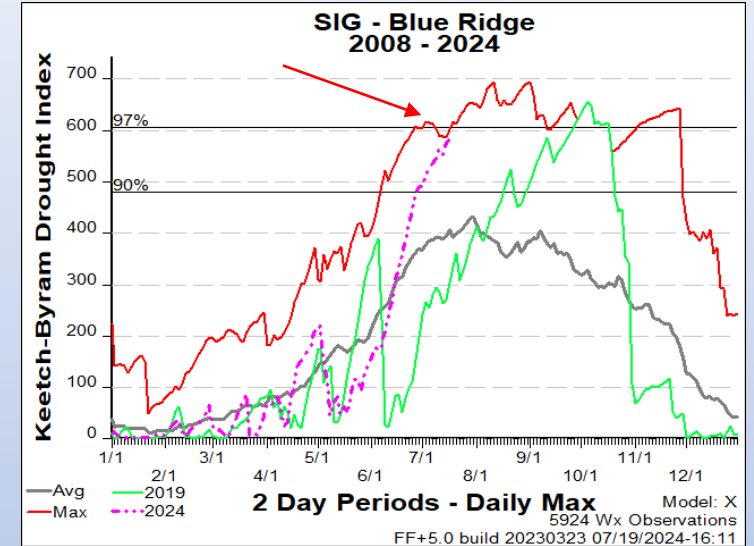
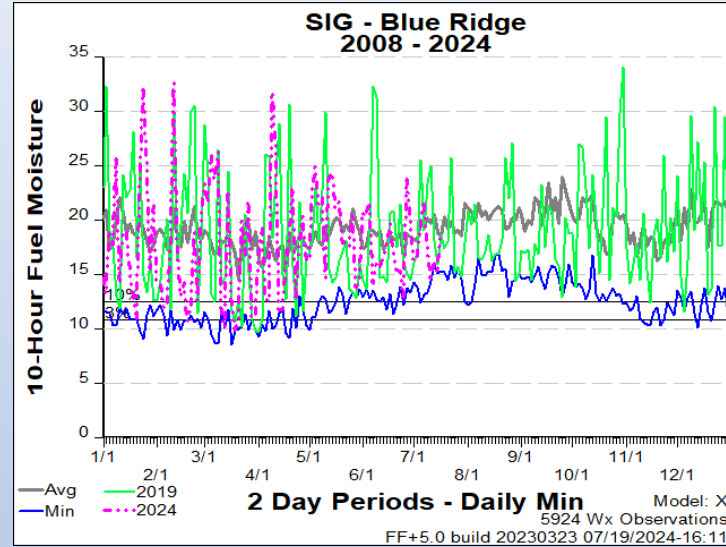
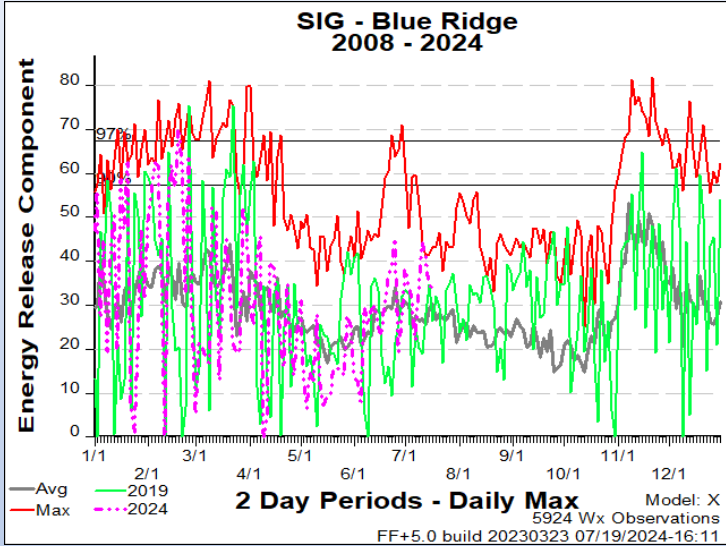
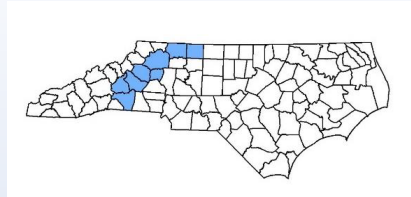
- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

Values in the table above are averages from 3 stations in this FDRA:

- Laurel Springs (310101)
- Upper Mountain Research Stn (310141)
- Busick (313402)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 58°F	Greater than 58°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	Between 2 mph and 5 mph	Greater than 5 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 26	Between 26 and 46	Greater than 46
Burning Index	Less than 67	Between 67 and 108	Greater than 108
Ignition Component	Less than 5	Between 5 and 9	Greater than 9
100-Hour Fuel Moisture	Greater than 18%	Between 17% and 18%	Less than 17%
1000-Hour Fuel Moisture	Greater than 20%	Between 19% and 20%	Less than 19%
KBDI	Less than 192	Between 192 and 330	Greater than 330
Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season			

FDRA – Blue Ridge Escarpment



Weekly Outlook

Blue Ridge Escarpment FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	81	81	82	82	82	83	81
Avg. Min. Humidity (%)	68	73	71	74	73	69	73
Avg. 20' Wind Speed (mph)	2	2	2	2	2	3	2
Avg. Wind Direction*	SE	SSW	WSW	SW	SW	SW	SW
Avg. Probability of Precip. (%)	66	81	76	75	73	73	75
Days Since a Wetting Rain**	0.0	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	27.1	19.9	21.8	21.2	20.9	21.1	19.5
Forecast BI (Fuel Model X)	50.1	43.8	43.3	44.7	45.3	46.7	41.4
Forecast IC (Fuel Model X)	3.4	2.0	2.3	2.4	2.5	2.7	2.5
Forecast 100-Hr. FMC	20.4	23.4	26.9	28.5	29.0	29.6	29.6
Forecast 1000-Hr. FMC	18.6	19.0	20.5	22.2	23.7	24.8	25.7
KBDI	582.3						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day.

Values in the table above are averages from 3 stations in this FDRA:

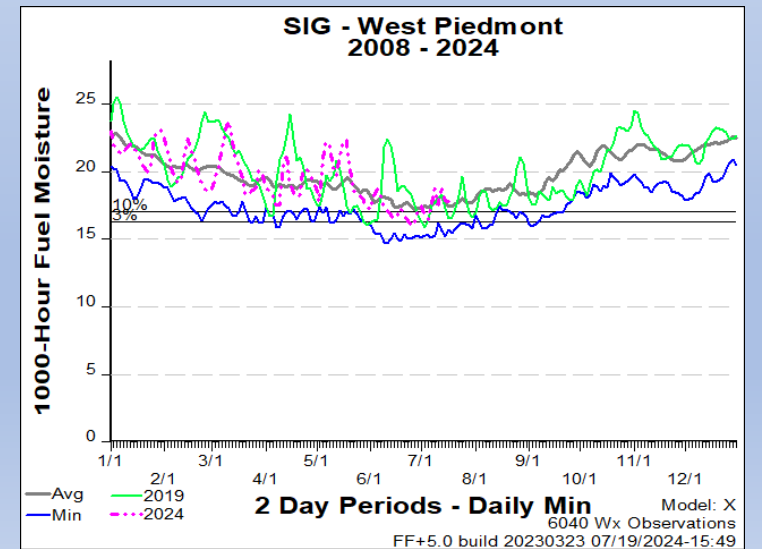
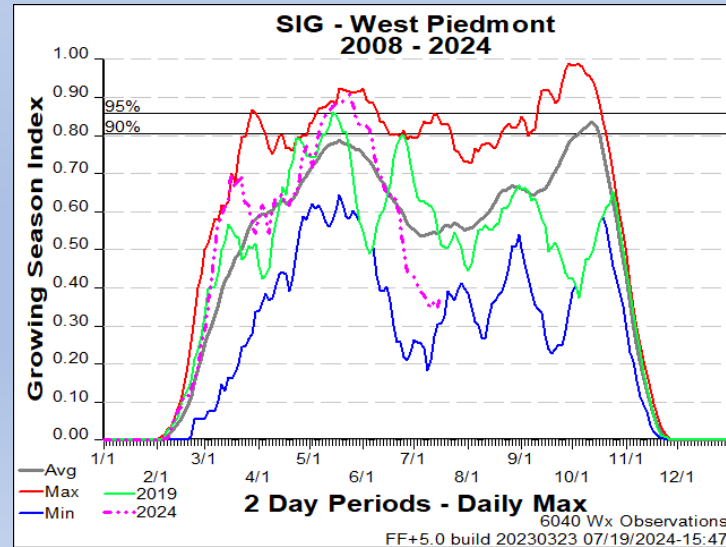
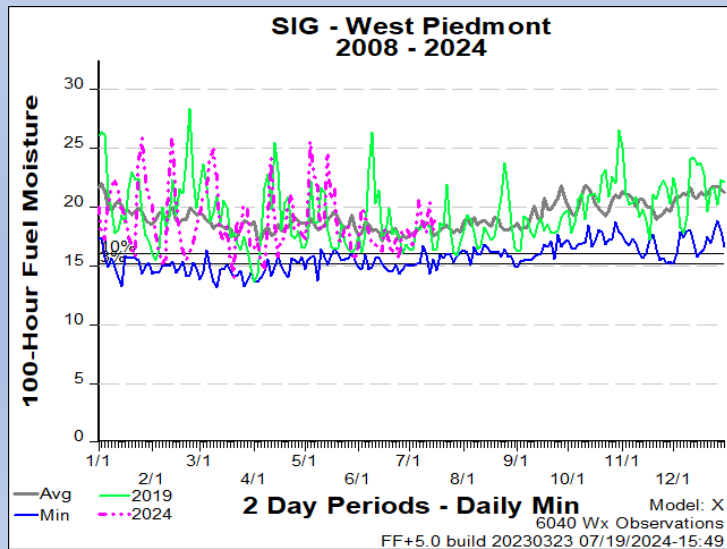
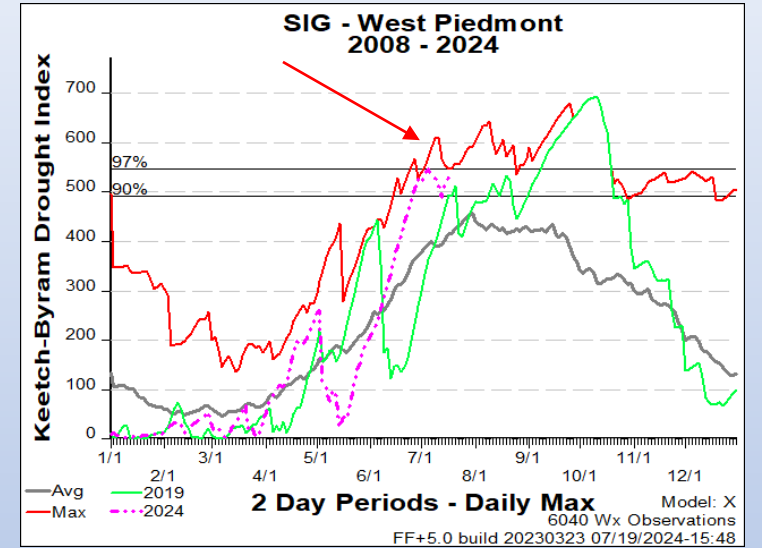
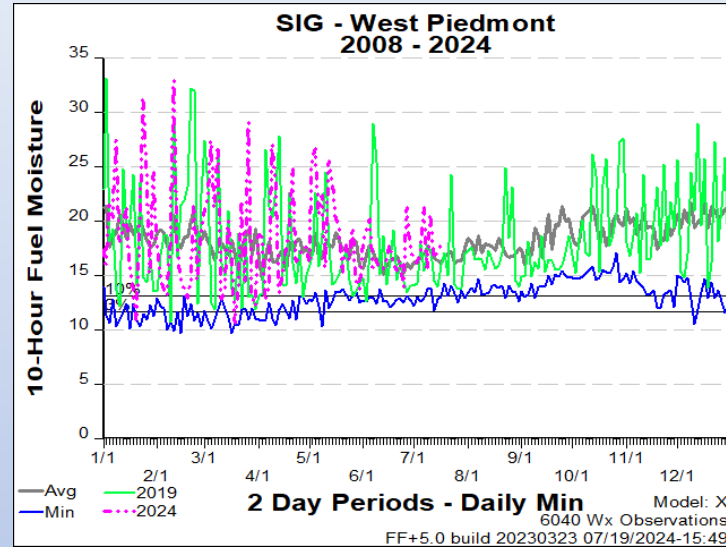
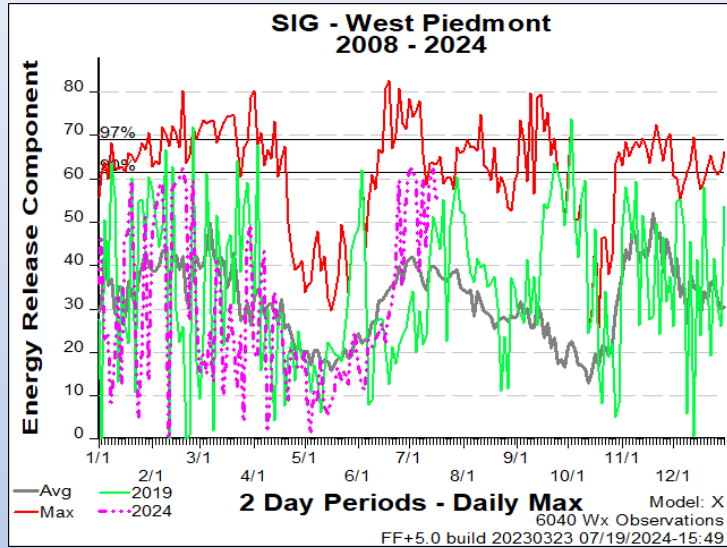
- Rendezvous Mtn. (312001)
- North Cove Pinnacle (fr1) (314301)
- Rutherford County (316302)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 40°F	Between 40°F and 50°F	Greater than 50°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	Between 2 mph and 4 mph	Greater than 4 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 52	Between 52 and 62	Greater than 62
Burning Index	Less than 116	Between 116 and 136	Greater than 136
Ignition Component	Less than 14	Between 14 and 20	Greater than 20
100-Hour Fuel Moisture	Greater than 18%	Between 16% and 18%	Less than 16%
1000-Hour Fuel Moisture	Greater than 19%	Between 18% and 19%	Less than 18%
KBDI	Less than 351	Between 351 and 508	Greater than 508

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

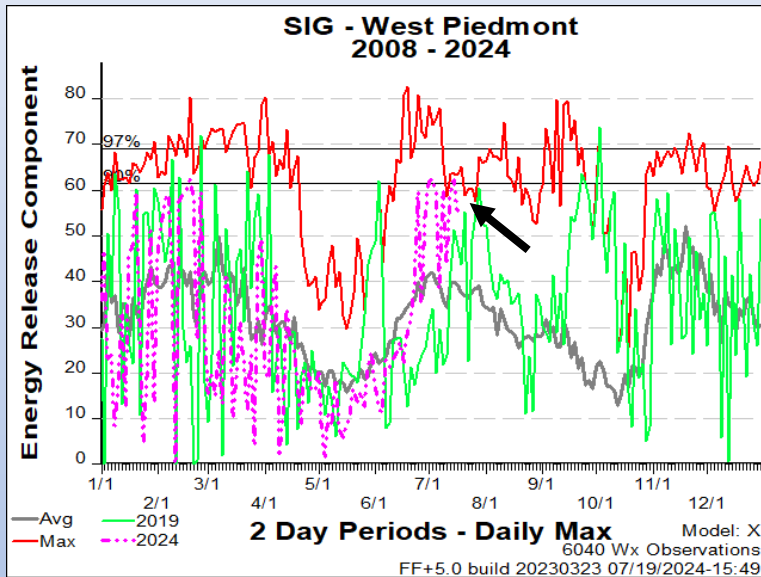
FDRA – Western Piedmont



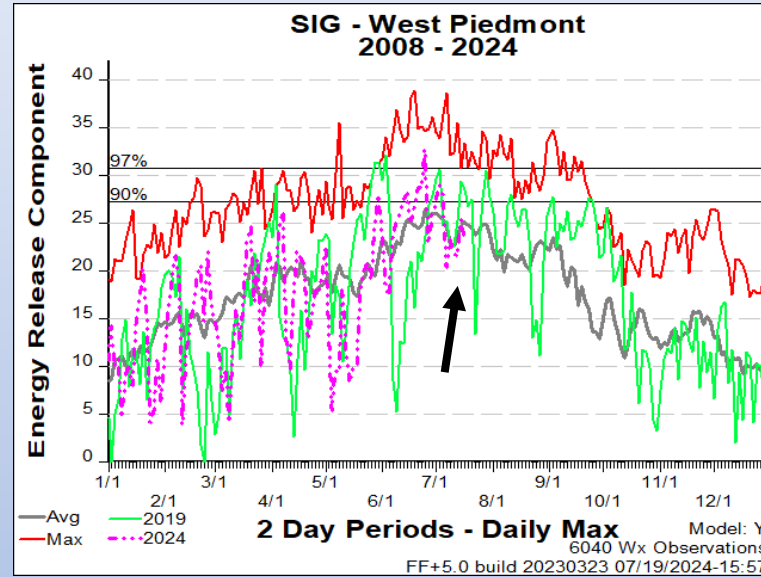
FDRA – Western Piedmont



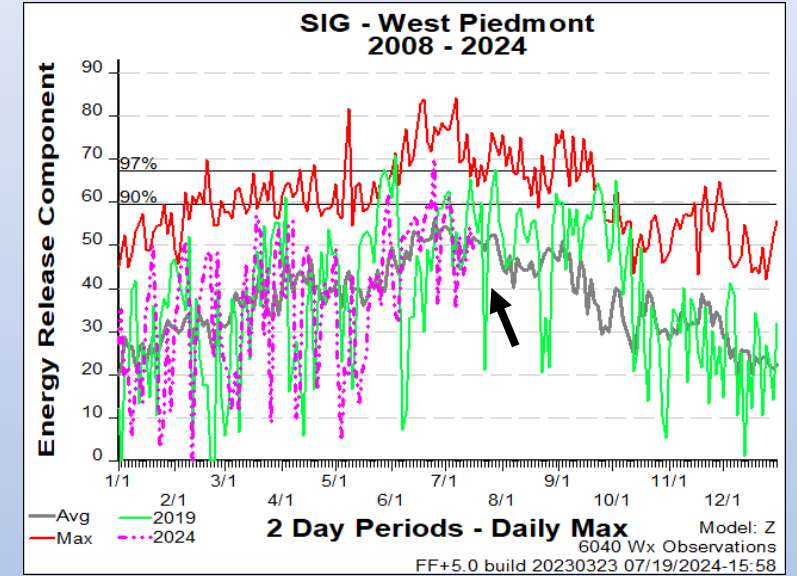
ERC-X



ERC-Y



ERC-Z



Comparison of ERC by NFDRS Fuel Model

X: 1's, 10's, Live Component (GSI driven); + Drought Loading

Y: Heavily weighted on 1000's, less on smaller dead; No live; + Drought Loading

Z: Near even distribution between the four dead size classes of 1's, 10's, 100's, 1000's; No live; + Drought Loading

Average, Max, CY Year 2019 are displayed along with Year-to-Date 2024

Weekly Outlook

Western Piedmont FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	85	85	86	86	87	87	85
Avg. Min. Humidity (%)	69	70	68	73	72	71	74
Avg. 20' Wind Speed (mph)	3	3	2	3	3	4	4
Avg. Wind Direction*	E	SSW	S	SW	SSW	SSW	SSW
Avg. Probability of Precip. (%)	58	64	73	73	67	66	59
Days Since a Wetting Rain**	0.0	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	43.4	34.9	30.4	26.5	23.7	22.4	18.8
Forecast BI (Fuel Model X)	75.0	71.4	59.4	54.1	53.2	49.5	42.3
Forecast IC (Fuel Model X)	4.8	3.6	3.5	3.2	3.1	3.1	2.7
Forecast 100-Hr. FMC	20.9	20.9	22.3	22.5	20.8	19.5	20.4
Forecast 1000-Hr. FMC	19.1	19.2	19.4	19.9	20.2	20.3	20.7
KBDI	532.0						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

Values in the table above are averages from 3 stations in this FDRA:

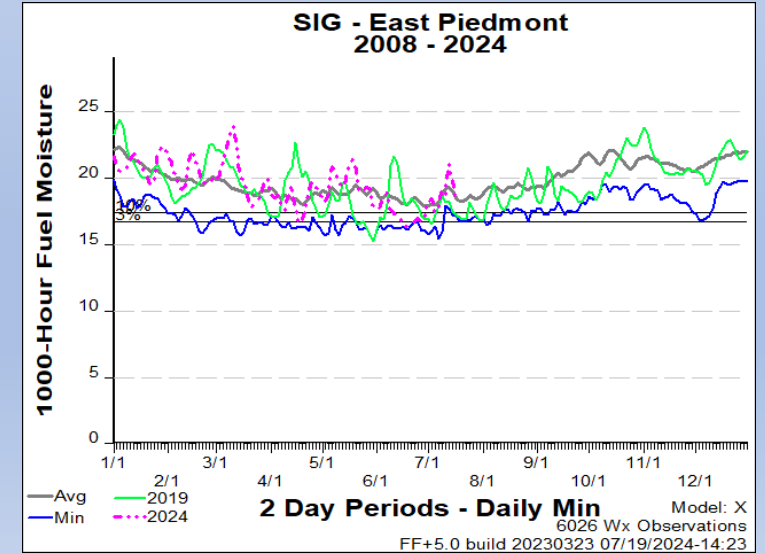
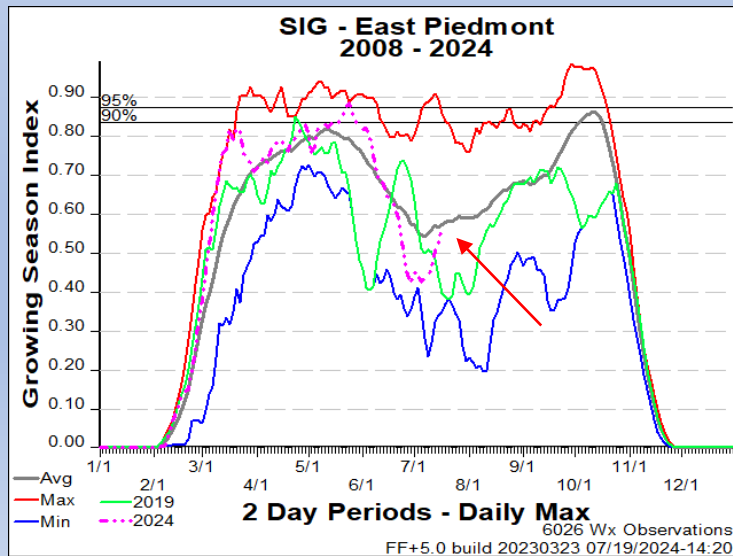
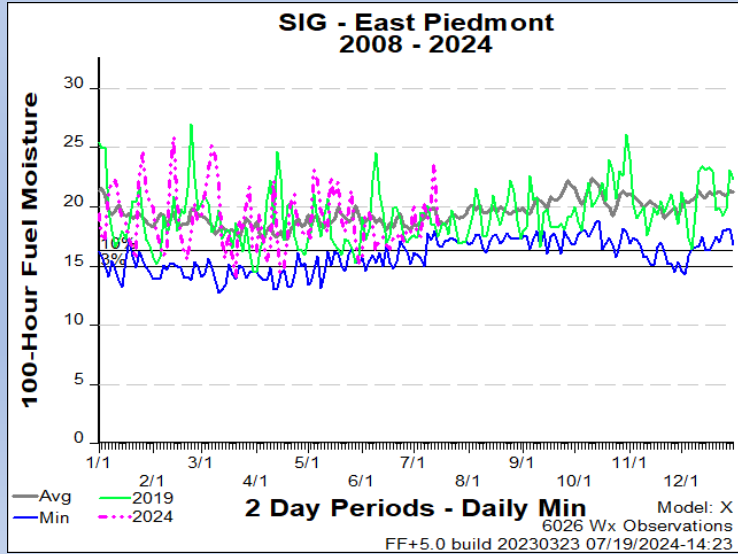
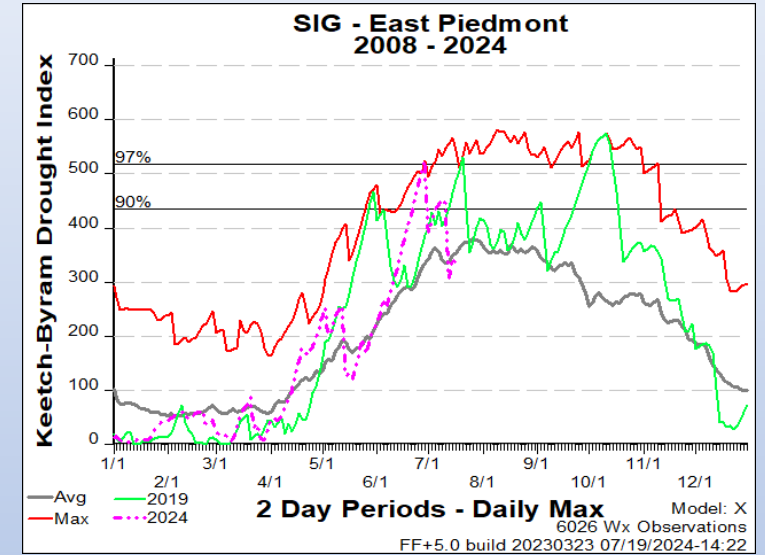
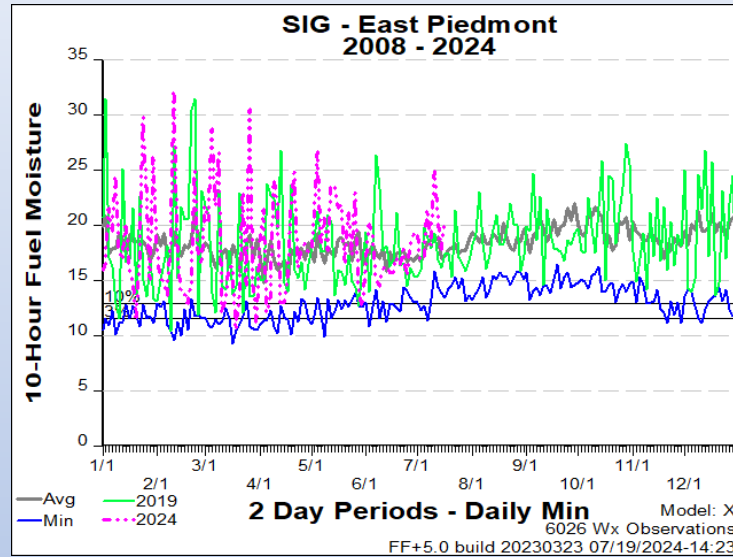
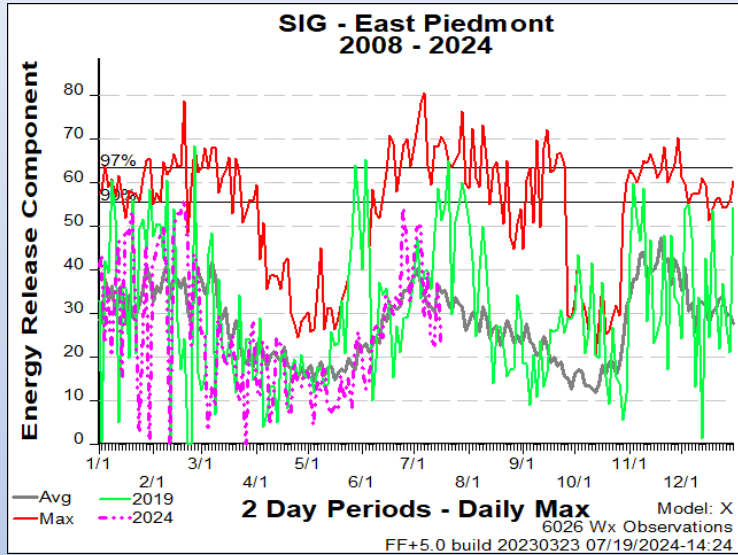
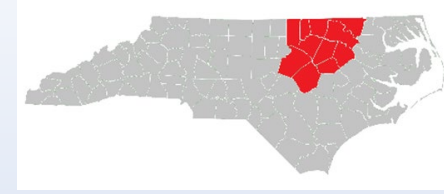
- Duke Forest (312501)
- Lexington (314602)
- Mt. Island Lake (316602)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 40°F	Between 40°F and 50°F	Greater than 50°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	Between 2 mph and 4 mph	Greater than 4 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 40	Between 40 and 52	Greater than 52
Burning Index	Less than 95	Between 95 and 120	Greater than 120
Ignition Component	Less than 9	Between 9 and 14	Greater than 14
100-Hour Fuel Moisture	Greater than 18%	Between 17% and 18%	Less than 17%
1000-Hour Fuel Moisture	Greater than 19%	Between 18% and 19%	Less than 18%
KBDI	Less than 344	Between 344 and 479	Greater than 479

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

FDRA – Eastern Piedmont



Weekly Outlook

Eastern Piedmont FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	85	87	87	88	88	88	87
Avg. Min. Humidity (%)	72	68	66	70	69	69	72
Avg. 20' Wind Speed (mph)	4	4	3	3	4	5	6
Avg. Wind Direction*	E	SW	SW	SSW	SSW	SSW	SSW
Avg. Probability of Precip. (%)	47	58	72	74	66	58	53
Days Since a Wetting Rain**	0.3	0.0	0.0	1.0			
Forecast ERC (Fuel Model X)	12.8	12.6	11.3	11.9	11.6	11.5	11.1
Forecast BI (Fuel Model X)	24.4	24.6	21.1	22.1	23.9	24.3	23.7
Forecast IC (Fuel Model X)	1.8	1.6	1.6	1.5	1.6	1.6	1.6
Forecast 100-Hr. FMC	23.2	21.8	22.2	21.3	20.0	19.2	18.7
Forecast 1000-Hr. FMC	20.2	20.4	20.7	20.8	21.0	21.0	21.0
KBDI	303.3						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

Values in the table above are averages from 4 stations in this FDRA:

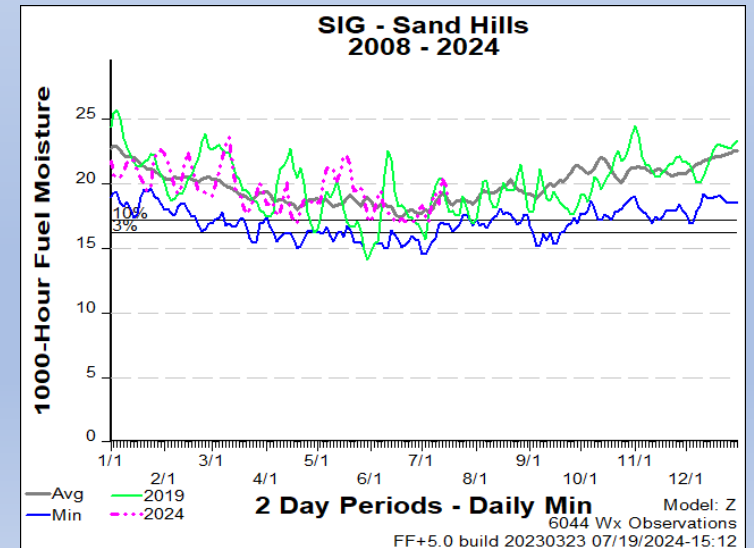
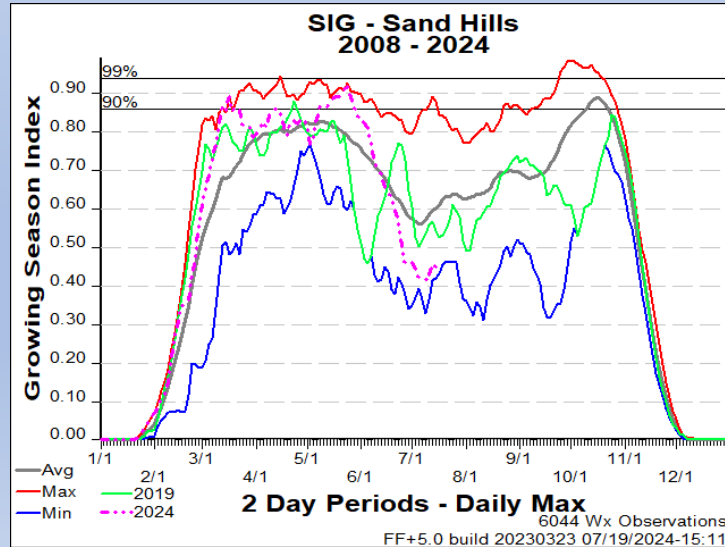
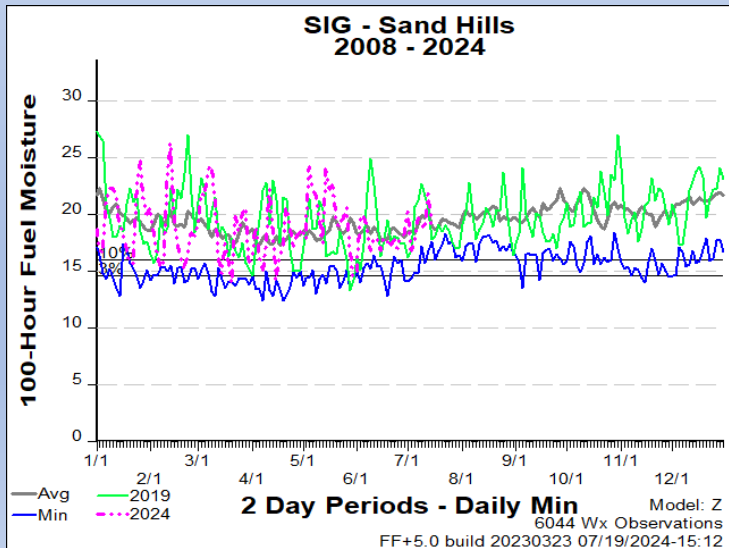
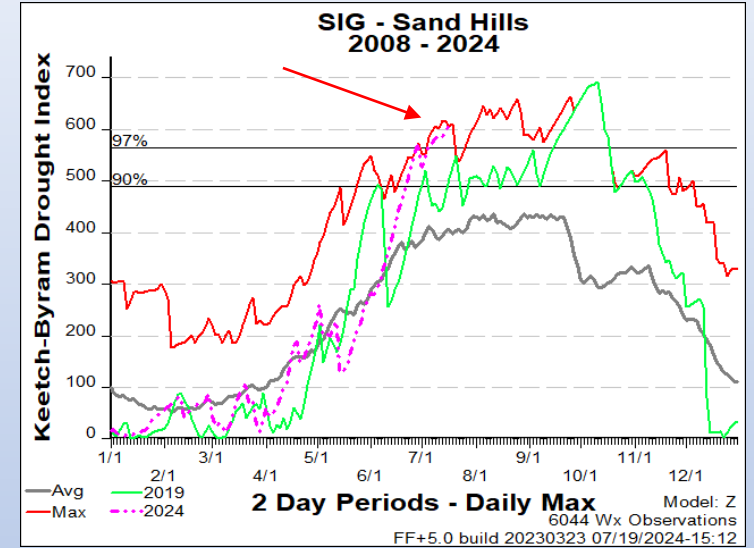
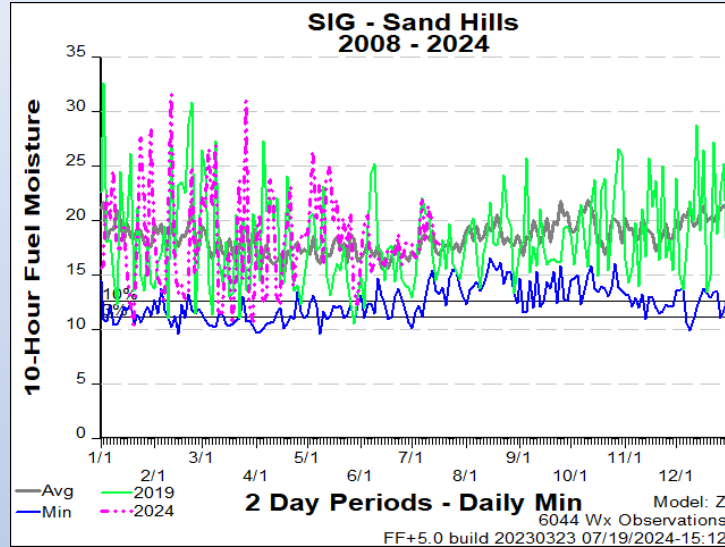
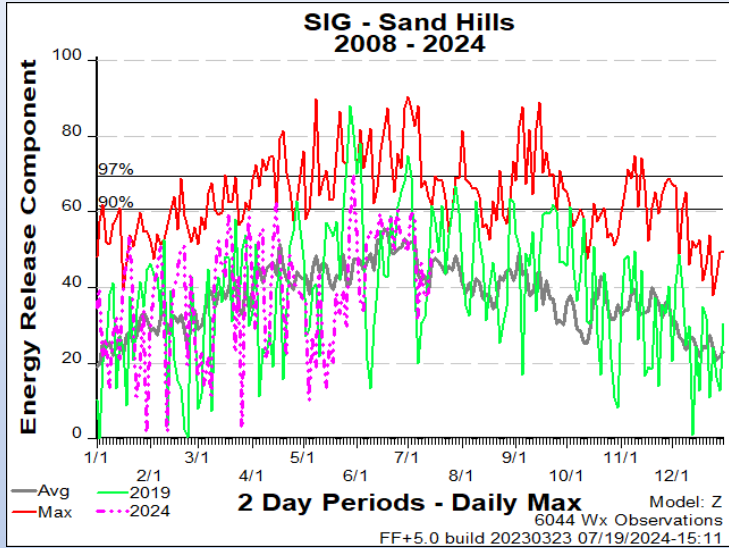
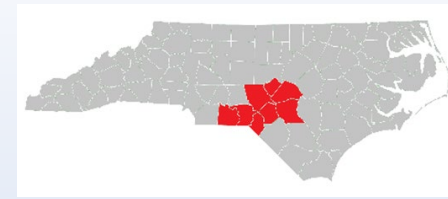
- Oxford Tobacco Research Stn (310841)
- Upper Coastal Plain Res Stn (312940)
- Lake Wheeler Rd Field Lab (314941)
- Central Crops Research Station (317441)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 10 mph	Between 10 mph and 15 mph	Greater than 15 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 54.2	Between 54.2 and 61.7	Greater than 61.7
Burning Index	Less than 109.3	Between 109.3 and 130.5	Greater than 130.5
Ignition Component	Less than 12.7	Between 12.7 and 16.8	Greater than 16.8
100-Hour Fuel Moisture	Greater than 17.6%	Between 16.4% and 17.6%	Less than 16.4%
1000-Hour Fuel Moisture	Greater than 18.3%	Between 17.5% and 18.3%	Less than 17.5%
KBDI	Less than 337	Between 337 and 460	Greater than 460

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

FDRA – Sandhills



Weekly Outlook

Sandhills FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	88	90	91	90	91	90	89
Avg. Min. Humidity (%)	64	55	57	63	61	62	62
Avg. 20' Wind Speed (mph)	3	4	3	3	4	4	4
Avg. Wind Direction*	ESE	SW	SSW	SSW	SSW	SSW	SSW
Avg. Probability of Precip. (%)	58	55	74	74	68	61	54
Days Since a Wetting Rain**	0.0	0.0	0.0	0.0			
Forecast ERC (Fuel Model Z)	35.1	36.9	36.0	24.3	27.3	32.1	34.7
Forecast BI (Fuel Model Z)	27.6	34.5	31.3	26.7	29.2	34.4	36.1
Forecast IC (Fuel Model Z)	5.1	4.9	4.8	4.5	4.6	4.9	5.3
Forecast 100-Hr. FMC	21.7	20.8	21.0	24.4	24.8	22.2	20.6
Forecast 1000-Hr. FMC	19.8	19.7	19.8	20.0	20.9	21.3	21.5
KBDI	610.7						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day

Values in the table above are averages from 3 stations in this FDRA:

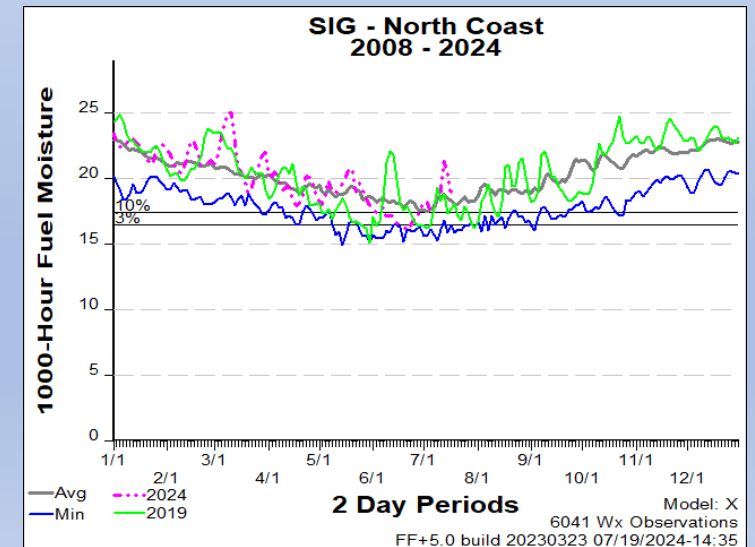
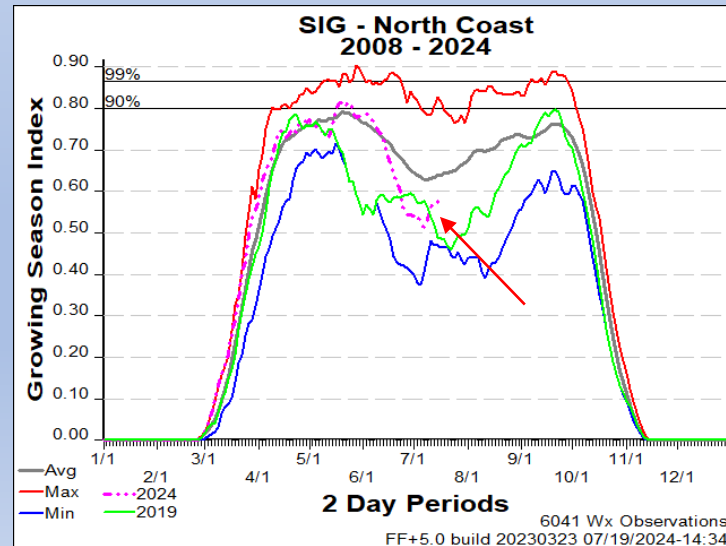
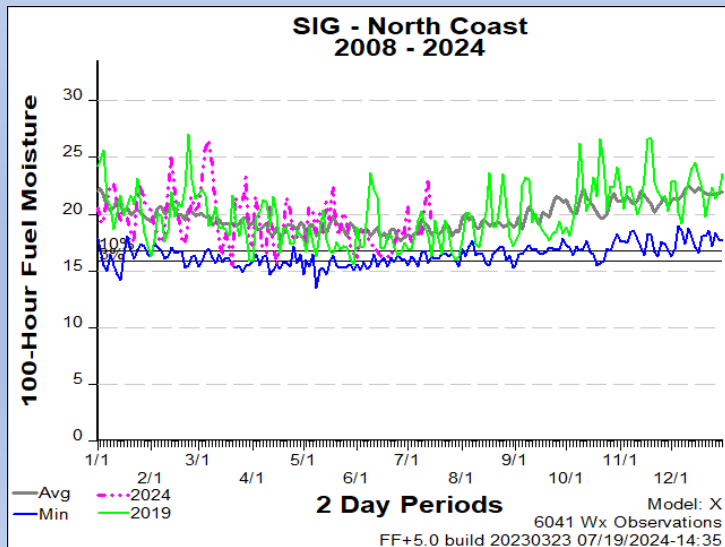
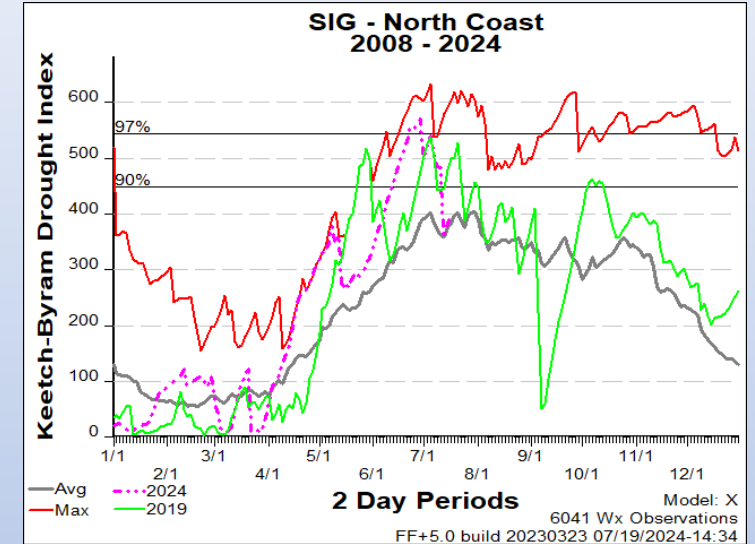
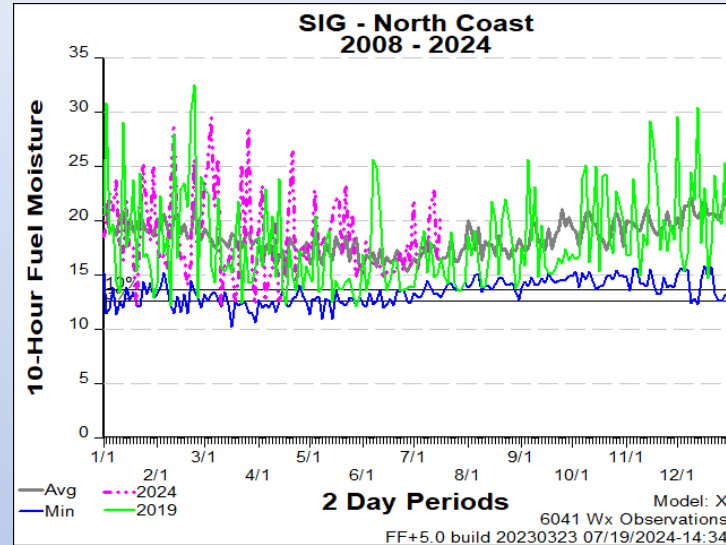
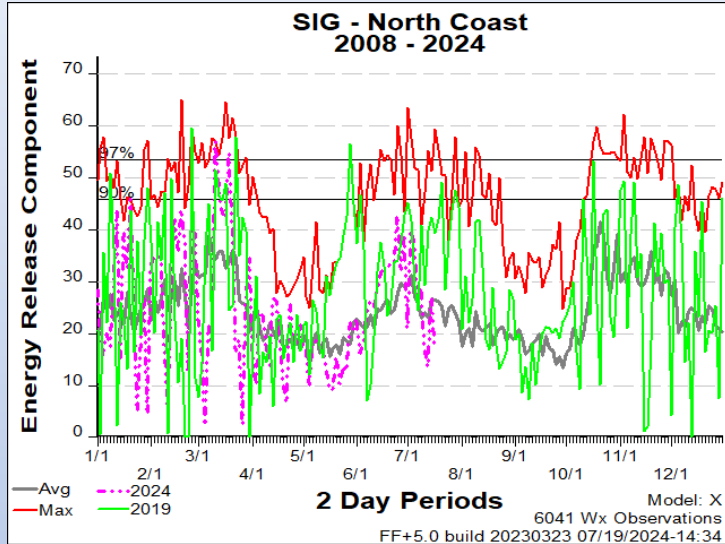
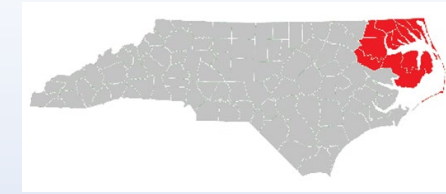
- Sandhills Research Station (317040)
- Rockingham (318202)
- Fort Liberty (318503)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 40%	Between 30% and 40%	Less than 30%
Avg. 20' Wind Speed	Less than 4 mph	Between 4 mph and 8 mph	Greater than 8 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 52.4	Between 52.4 and 62	Greater than 62
Burning Index	Less than 45.6	Between 45.6 and 53.3	Greater than 53.3
Ignition Component	Less than 13.6	Between 13.6 and 18.8	Greater than 18.8
100-Hour Fuel Moisture	Greater than 17.4%	Between 16% and 17.4%	Less than 16%
1000-Hour Fuel Moisture	Greater than 18.2%	Between 17.2% and 18.2%	Less than 17.2%
KBDI	Less than 397	Between 397 and 500	Greater than 500

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

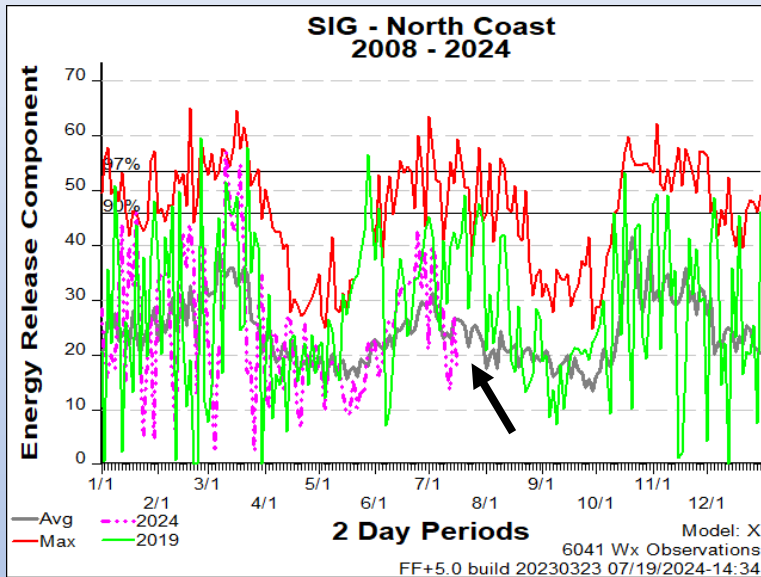
FDRA – North Coast



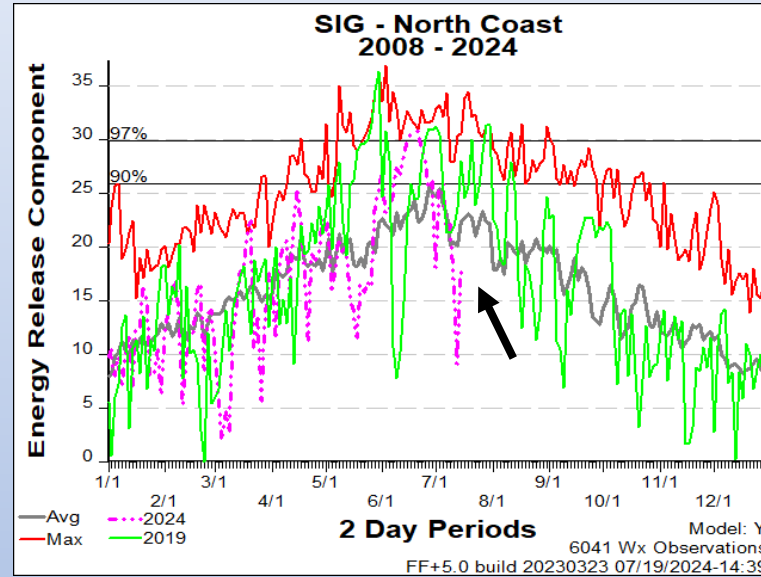
FDRA – North Coast (continued)



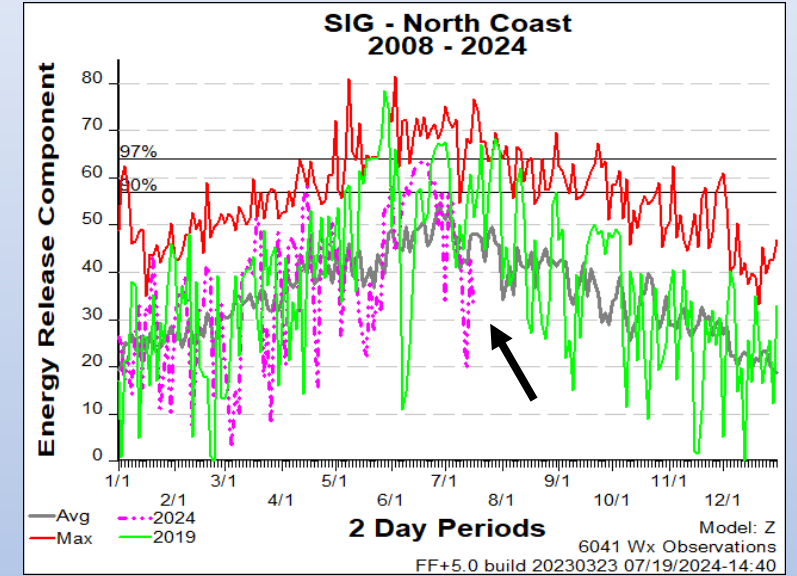
ERC-X



ERC-Y



ERC-Z



Comparison of ERC by NFDRS Fuel Model

X: 1's, 10's, Live Component (GSI driven); + Drought Loading

Y: Heavily weighted on 1000's, less on smaller dead; No live; + Drought Loading

Z: Near even distribution between the four dead size classes of 1's, 10's, 100's, 1000's; No live; + Drought Loading

Average, Max, CY Year 2019 are displayed along with Year-to-Date 2024

Weekly Outlook

Northern Coastal FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	84	87	89	88	89	89	90
Avg. Min. Humidity (%)	76	70	68	73	70	68	67
Avg. 20' Wind Speed (mph)	4	4	4	4	6	7	7
Avg. Wind Direction*	E	SSW	SW	SSW	SW	SSW	SSW
Avg. Probability of Precip. (%)	60	69	65	65	55	50	49
Days Since a Wetting Rain**	0.0	0.0	0.0	0.8			
Forecast ERC (Fuel Model X)	9.4	12.1	11.6	11.0	10.7	10.9	11.4
Forecast BI (Fuel Model X)	17.0	21.7	17.7	18.1	20.4	24.6	22.4
Forecast IC (Fuel Model X)	1.2	1.5	1.2	1.2	1.2	1.7	1.7
Forecast 100-Hr. FMC	23.7	24.0	22.5	21.6	21.3	21.2	21.0
Forecast 1000-Hr. FMC	22.0	22.1	22.6	22.7	22.8	22.8	22.7
KBDI	391.8						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day.

Values in the table above are averages from 4 stations in this FDRA:

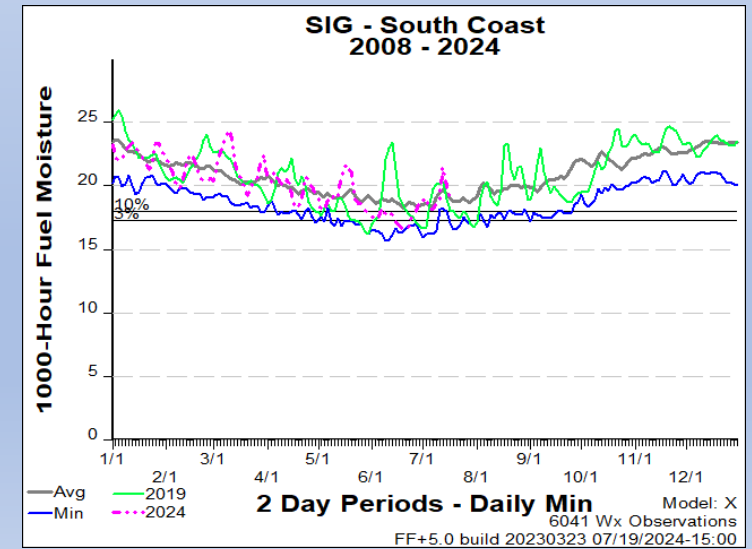
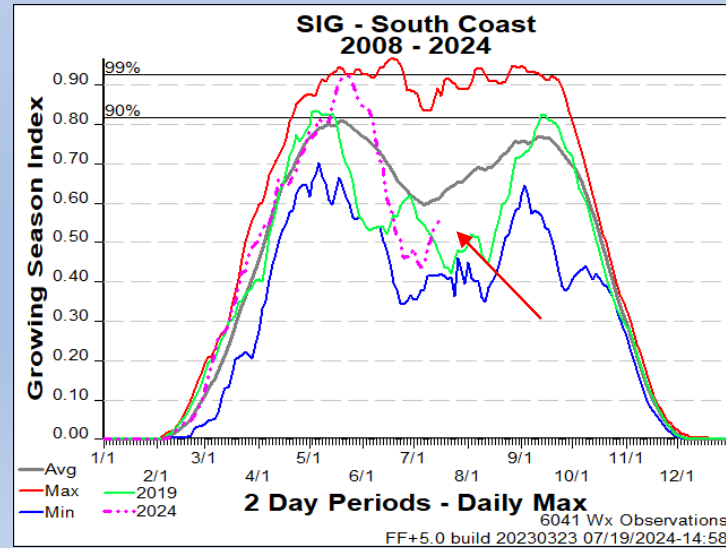
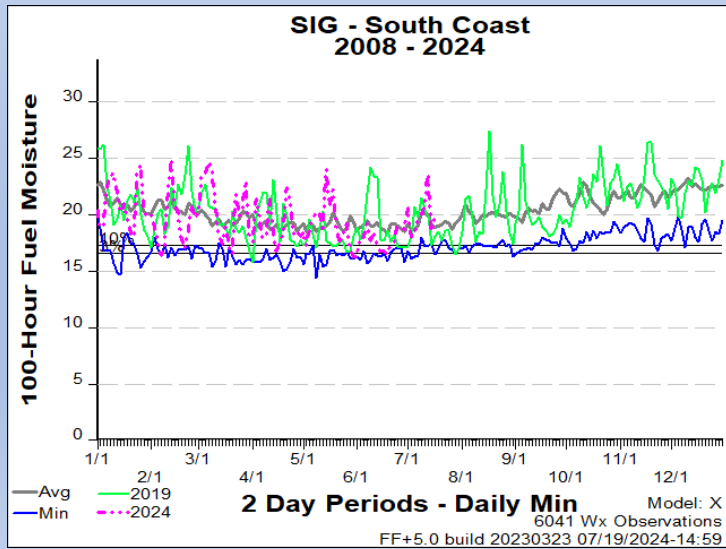
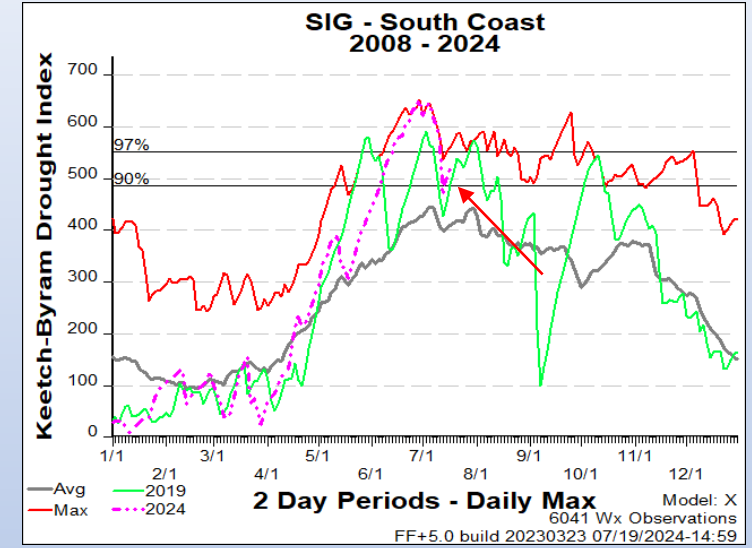
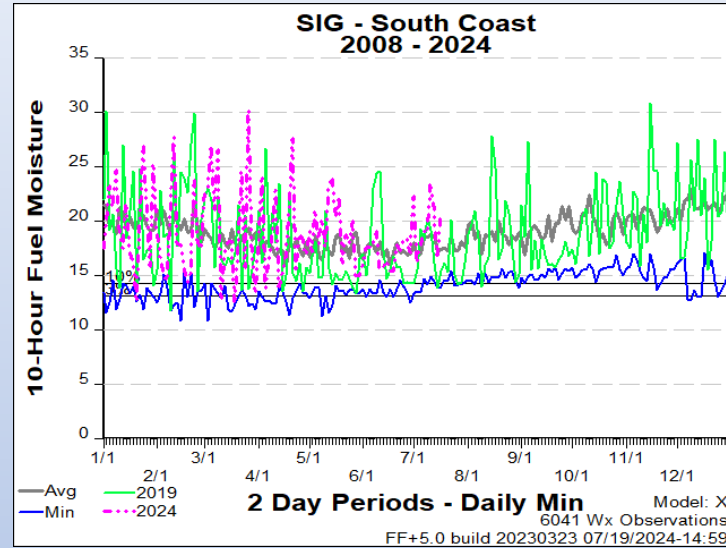
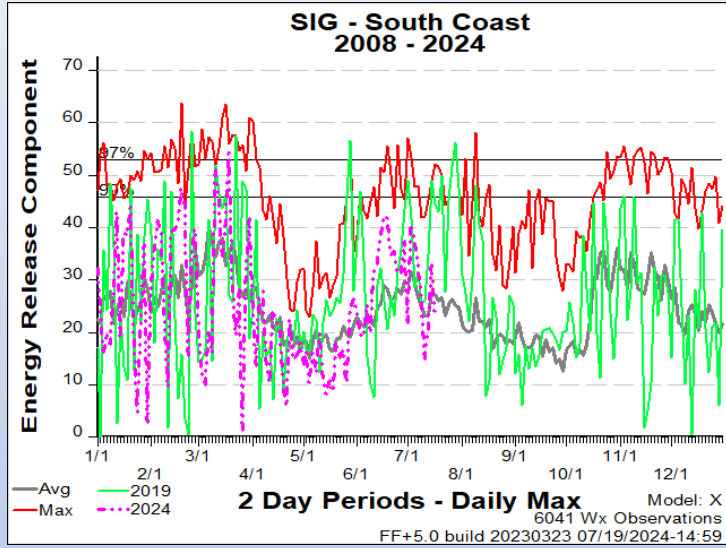
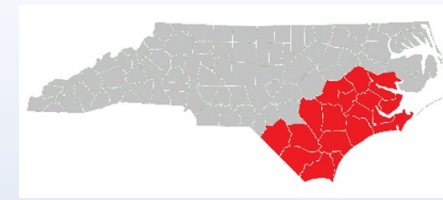
- Elizabeth City (311503)
- Greens Cross (313001)
- Pocosin Lakes (315201)
- Fairfield (317901)

KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 45°F	Between 45°F and 55°F	Greater than 55°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 10 mph	Between 10 mph and 15 mph	Greater than 15 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 39.3	Between 39.3 and 48	Greater than 48
Burning Index	Less than 78	Between 78 and 96.8	Greater than 96.8
Ignition Component	Less than 9.3	Between 9.3 and 12.8	Greater than 12.8
100-Hour Fuel Moisture	Greater than 17.7%	Between 16.8% and 17.7%	Less than 16.8%
1000-Hour Fuel Moisture	Greater than 18.5%	Between 17.5% and 18.5%	Less than 17.5%
KBDI	Less than 365	Between 365 and 463	Greater than 463

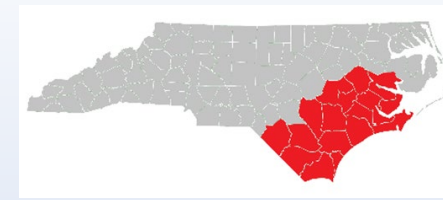
Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

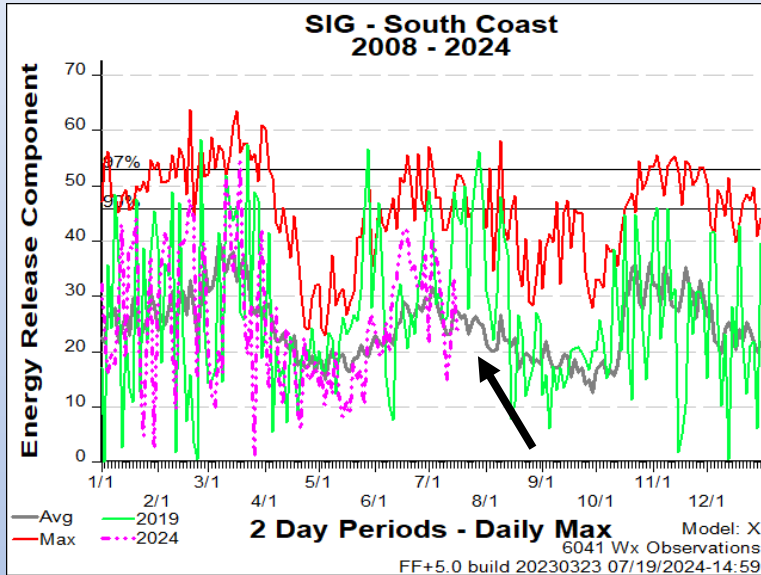
FDRA – South Coast



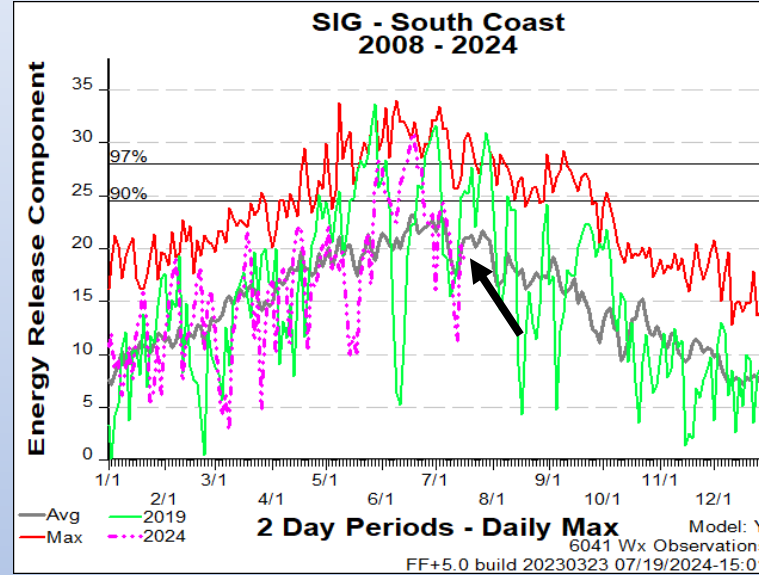
FDRA – South Coast (continued)



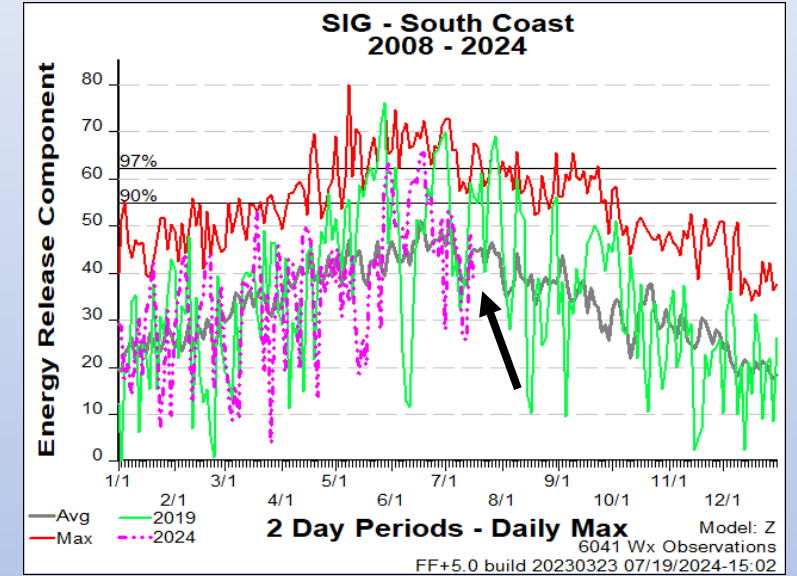
ERC-X



ERC-Y



ERC-Z



Comparison of ERC by NFDRS Fuel Model

X: 1's, 10's, Live Component (GSI driven); + Drought Loading

Y: Heavily weighted on 1000's, less on smaller dead; No live; + Drought Loading

Z: Near even distribution between the four dead size classes of 1's, 10's, 100's, 1000's; No live; + Drought Loading

Average, Max, CY Year 2019 are displayed along with Year-to-Date 2024

Weekly Outlook

Southern Coastal FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

Four or more **RED** blocks in a day signals the potential for a **Critical Fire Day**

DAY	FRI 19-Jul	SAT 20-Jul	SUN 21-Jul	MON 22-Jul	TUE 23-Jul	WED 24-Jul	THU 25-Jul
Avg. Max. Temp. (°F)	88	90	90	90	90	90	90
Avg. Min. Humidity (%)	69	66	70	71	71	68	67
Avg. 20' Wind Speed (mph)	3	4	4	3	4	5	5
Avg. Wind Direction*	S	SSW	SW	SSW	SSW	SSW	SSW
Avg. Probability of Precip. (%)	62	67	72	67	60	53	51
Days Since a Wetting Rain**	0.0	0.0	0.0	0.6			
Forecast ERC (Fuel Model X)	16.9	16.7	15.6	11.7	14.6	14.8	14.1
Forecast BI (Fuel Model X)	28.9	32.8	29.6	23.5	29.0	30.2	28.6
Forecast IC (Fuel Model X)	2.1	2.2	1.9	1.5	1.9	2.3	2.2
Forecast 100-Hr. FMC	23.7	23.2	22.3	23.0	22.1	20.9	20.3
Forecast 1000-Hr. FMC	20.9	21.2	21.7	22.0	22.1	22.3	22.3
KBDI	530.7						

Data Source:

- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the log wind profile method.
- Days since a wetting rain is calculated using a combination of historical data (to determine the most recent wetting rain event) and forecasted precipitation amounts. These forecasted amounts are only available for the first three days of the forecast period.
- Fire danger forecasts for the next 7 days are issued by National Weather Service through WIMS. KBDI is only available on the first forecast day since the [NFDRS Forecast](#) product does not include precipitation amounts, which are used to adjust KBDI from day to day.

Values in the table above are averages from 7 stations in this FDRA:

- Finch's Station (317501)
- Beaufort (317801)
- New Bern (319004)
- Turnbull Creek (319302)
- Hofmann Forest (319507)
- Whiteville (319701)
- Sunny Point (319803)

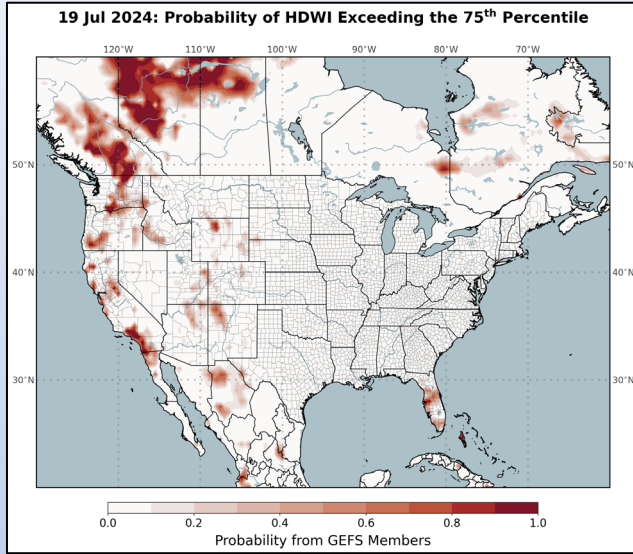
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 65°F	Greater than 65°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 5 mph	Between 5 mph and 10 mph	Greater than 10 mph
Avg. Wind Direction*	Criticality of wind direction is highly dependent on burn operations and/or structures threatened.		
Days Since a Wetting Rain**	A wetting rain is defined as 0.10" or greater. This is an average of the FDRA stations noted above.		
Energy Release Comp.	Less than 36.4	Between 36.4 and 47.2	Greater than 47.2
Burning Index	Less than 68.3	Between 68.3 and 89.5	Greater than 89.5
Ignition Component	Less than 7.9	Between 7.9 and 12	Greater than 12
100-Hour Fuel Moisture	Greater than 18.2%	Between 17.3% and 18.2%	Less than 17.3%
1000-Hour Fuel Moisture	Greater than 19%	Between 18% and 19%	Less than 18%
KBDI	Less than 385	Between 385 and 486	Greater than 486

Other factors to consider when determining fire danger: sky conditions, precipitation amount, number of days since rain, and season

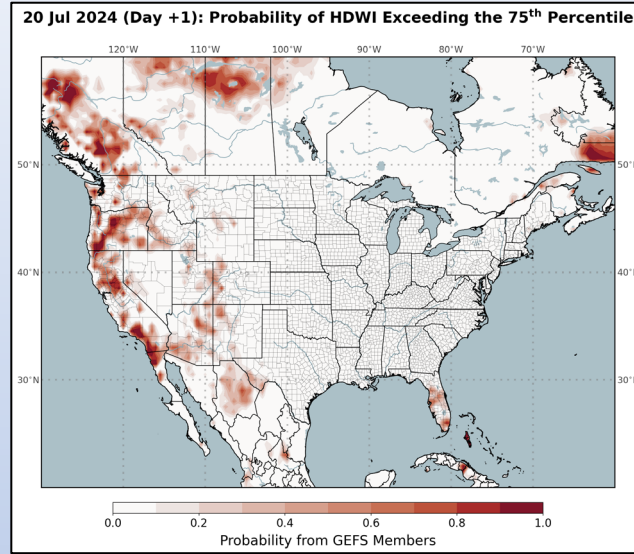
Statewide Slides

Hot-Dry-Windy Index (HDW)

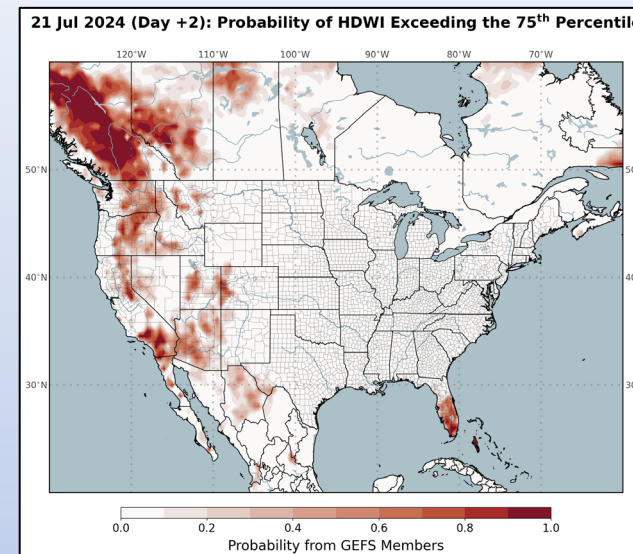
Friday > 75th Percentile



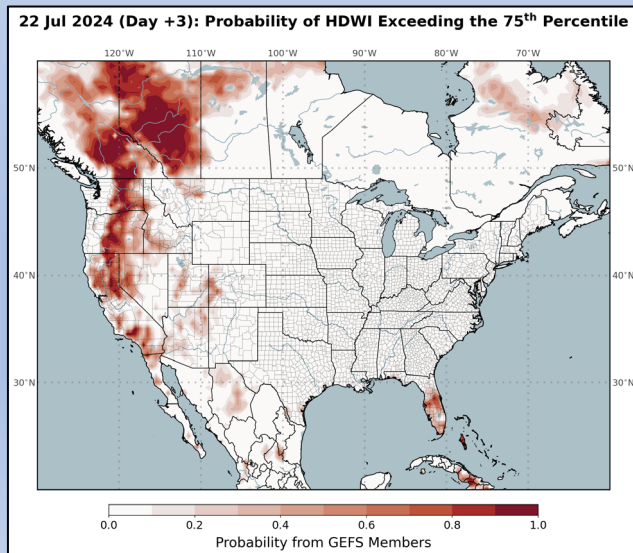
Saturday > 75th Percentile



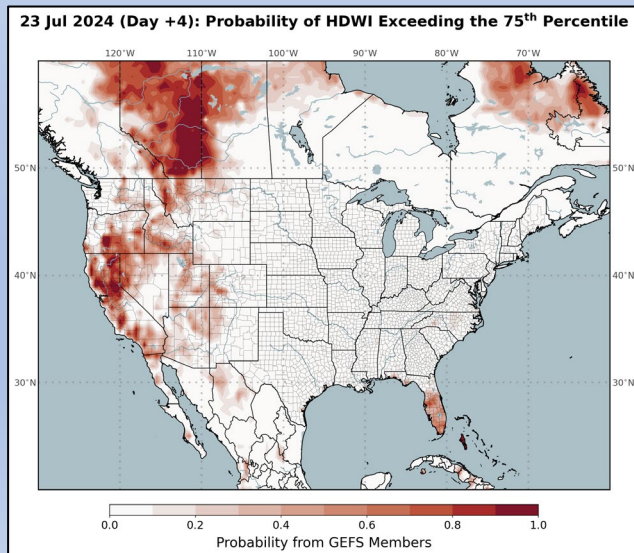
Sunday > 75th Percentile



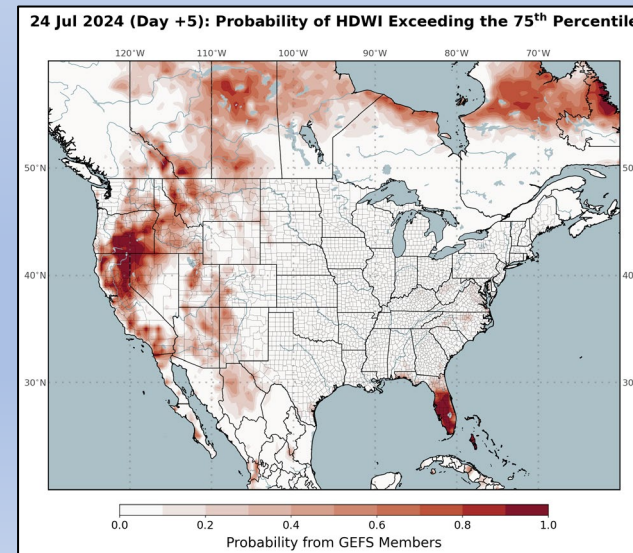
Monday > 75th Percentile



Tuesday > 75th Percentile

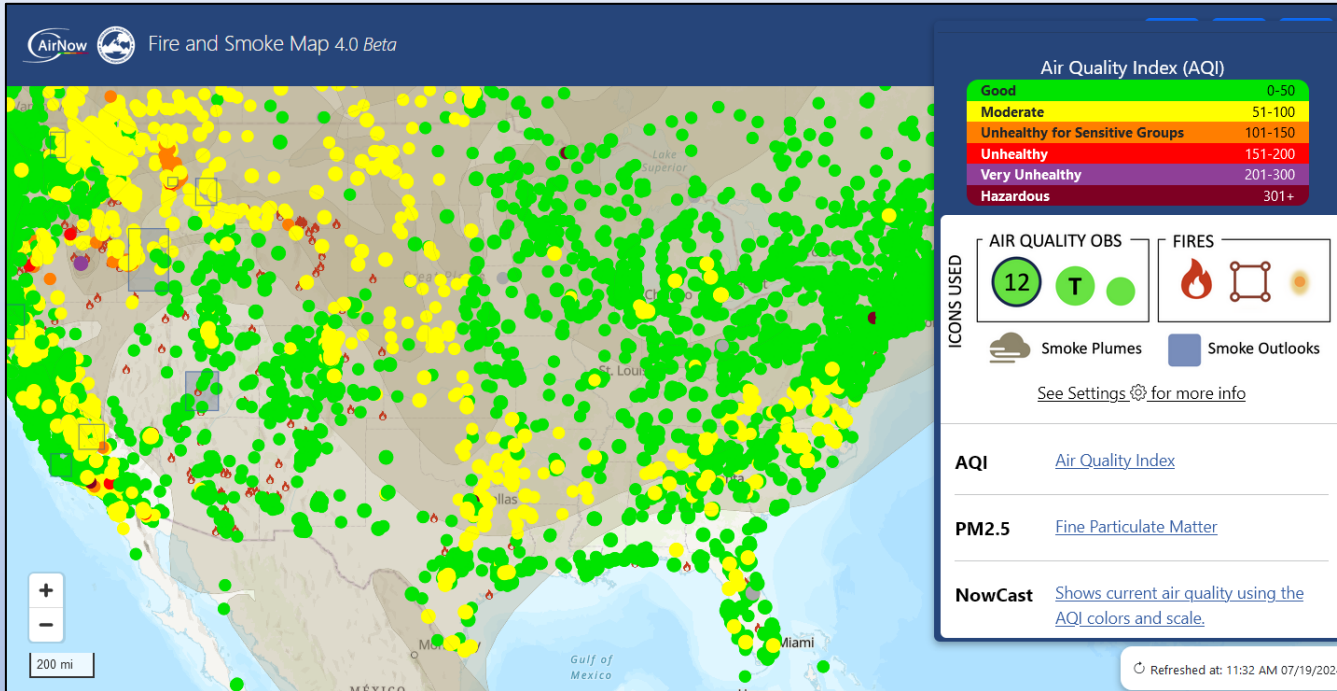


Wednesday > 75th Percentile



- 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 & Topo Influences**

Air Quality Notes



<https://fire.airnow.gov/#>

Air Quality Portal

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🔍

Forecast Discussion

This forecast was issued on **Thursday, July 18, 2024 at 2:15 pm**. ✔ This forecast is currently valid.

Today's Air Quality Conditions

Hourly ozone readings have risen into the Code Yellow range in the Charlotte area this afternoon, but are holding in the Code Green range elsewhere. Current daily average fine particulate readings are upper Code Green to low Code Yellow throughout much of the interior thus far today, with low Code Green conditions being observed near the mountains and coast.

🔗 For a display of the most recent Air Quality Index (AQI) conditions throughout the day, visit the [Ambient Information Reporter \(AIR\) tool](#).

General Forecast Discussion

More afternoon showers and storms are expected on Friday with a cold front stalled out across the state and a continual feed of GoM moisture from the southwest. High pressure aloft will build in from the Atlantic as surface high pressure builds in from the north. With a wide pressure gradient overhead, easterly surface winds will be light and at times variable. Although some cloud cover is expected, any sunshine that breaks through in the afternoon hours will lead to ground level ozone production. Given this and the scattered nature of any convection, have increased the ozone forecast for tomorrow to Code Yellow in the major metro areas in the interior and areas to the west of those focal points. Fine particulates will likely reach the Code Yellow range in the western Piedmont as particle pollution slowly drifts westward.

Outlook

Similarly unsettled weather will continue through the weekend with surface winds shifting out of the south-southwest. Widespread cloud cover and diurnal convection will keep daily average PM2.5 and max 8-hour ozone levels in the Code Green range, with some sporadic Code Yellow hourly readings for both pollutants likely.

Author: Sara Kreuser (sara.kreuser@deq.nc.gov) - NC Division of Air Quality

Extended Air Quality Outlook

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 (Jul 18)	Max AQI • Ozone • PM2.5	45 to 52	Green to Yellow	download
Friday (Jul 19)	Max AQI • Ozone • PM2.5	48 to 64	Green to Yellow	download
Saturday (Jul 20)	Max AQI • Ozone • PM2.5	45 to 50	Green	download
Sunday (Jul 21)	Max AQI • Ozone • PM2.5	45	Green	download

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

ENSO Notes from the CPC (7/11/24 Update)

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

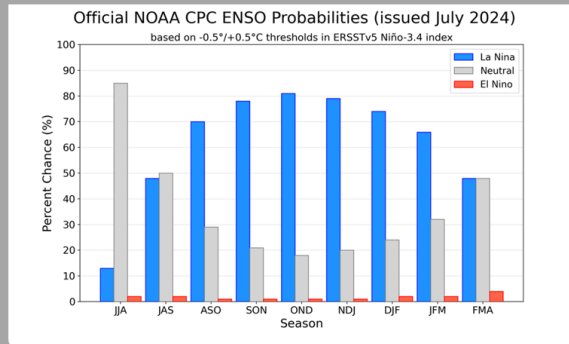
ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).

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: 11 July 2024

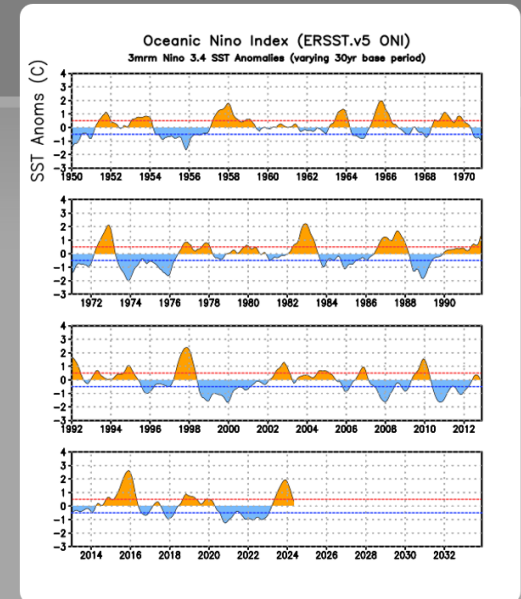
ENSO-neutral is expected to continue for the next several months, with La Niña favored to develop during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).



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

The most recent ONI value (April - June 2024) is 0.4°C .

El Niño ↑
Neutral
La Niña ↓

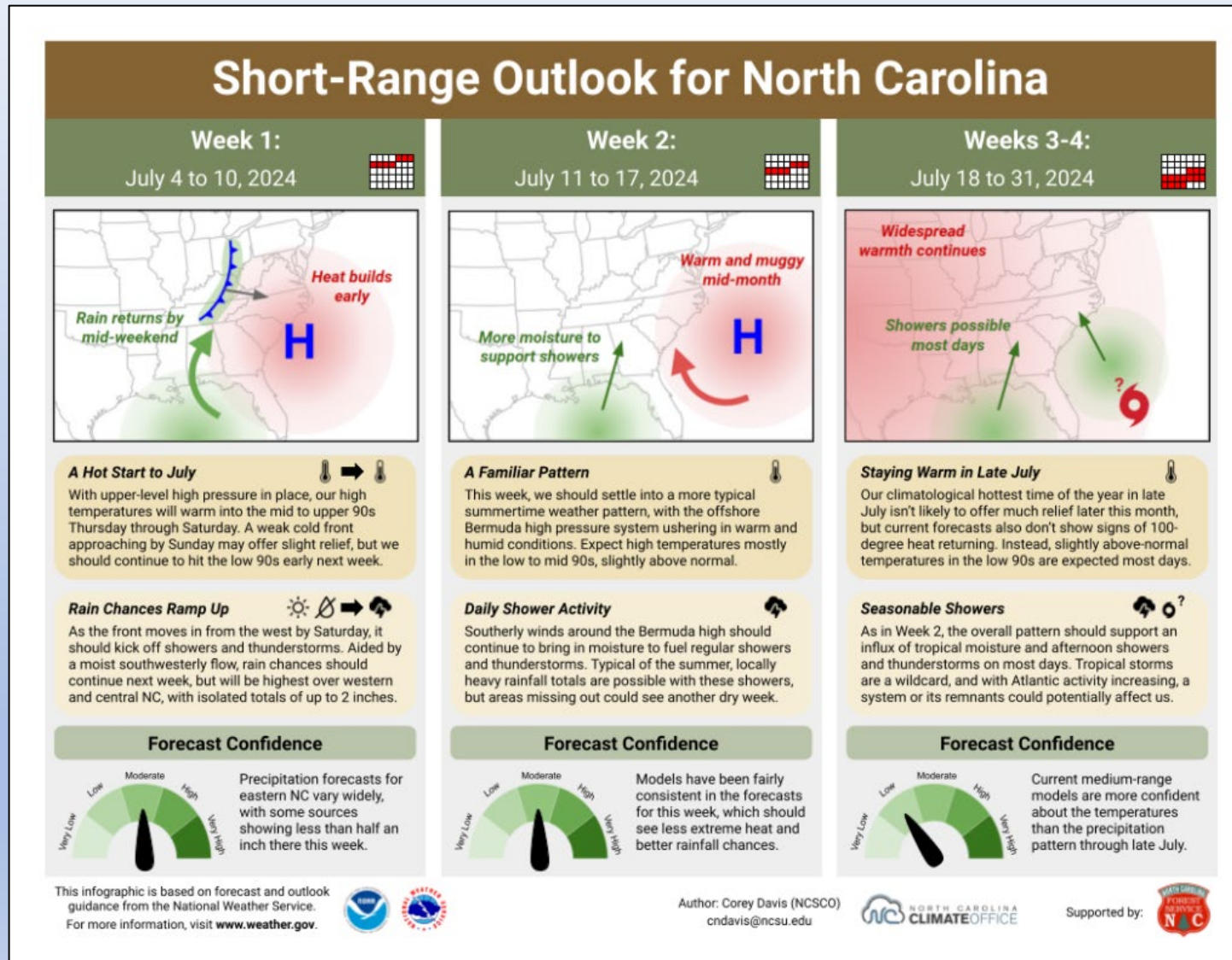


From the most recent CPC Diagnostic Discussion ([ENSO Diagnostics Discussion](#)):

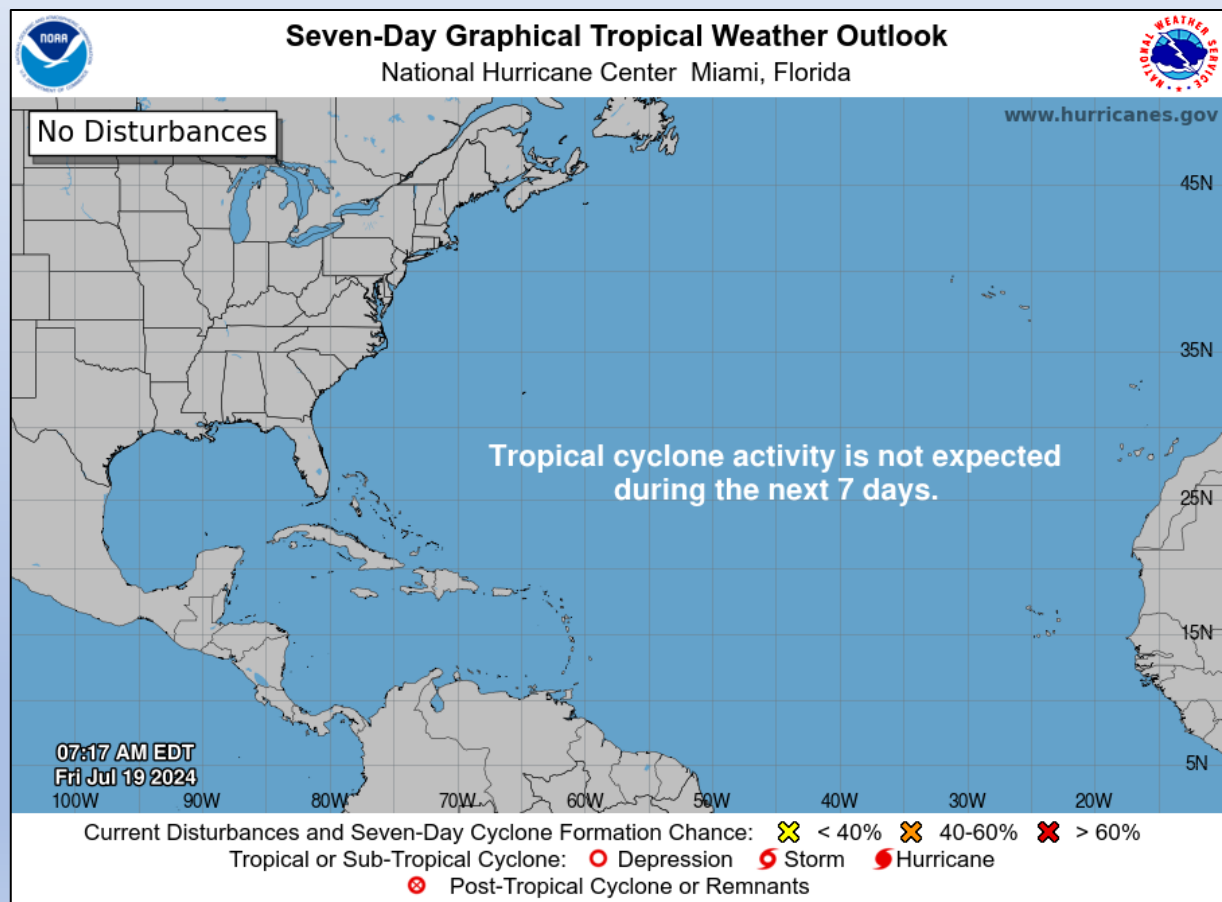
[Compared to the previous month, the most recent IRI plume delayed the emergence of La Niña to September-November 2024, with La Niña then persisting through the Northern Hemisphere winter [Fig. 6]. The forecast team is also favoring a delayed development of La Niña this month, but is anticipating the transition to occur earlier (August-October). This is, in part, supported by the continuation of below-average subsurface ocean temperatures and near-term forecasts suggesting a resurgence of easterly wind anomalies in July. In summary, ENSO-neutral is expected to continue for the next several months, with La Niña favored to emerge during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January; [Fig. 7]).

State Climate Office: Short-Range Monthly Outlook for NC

Released 7/3/24 & Location: <https://climate.ncsu.edu/fire/outlooks/>

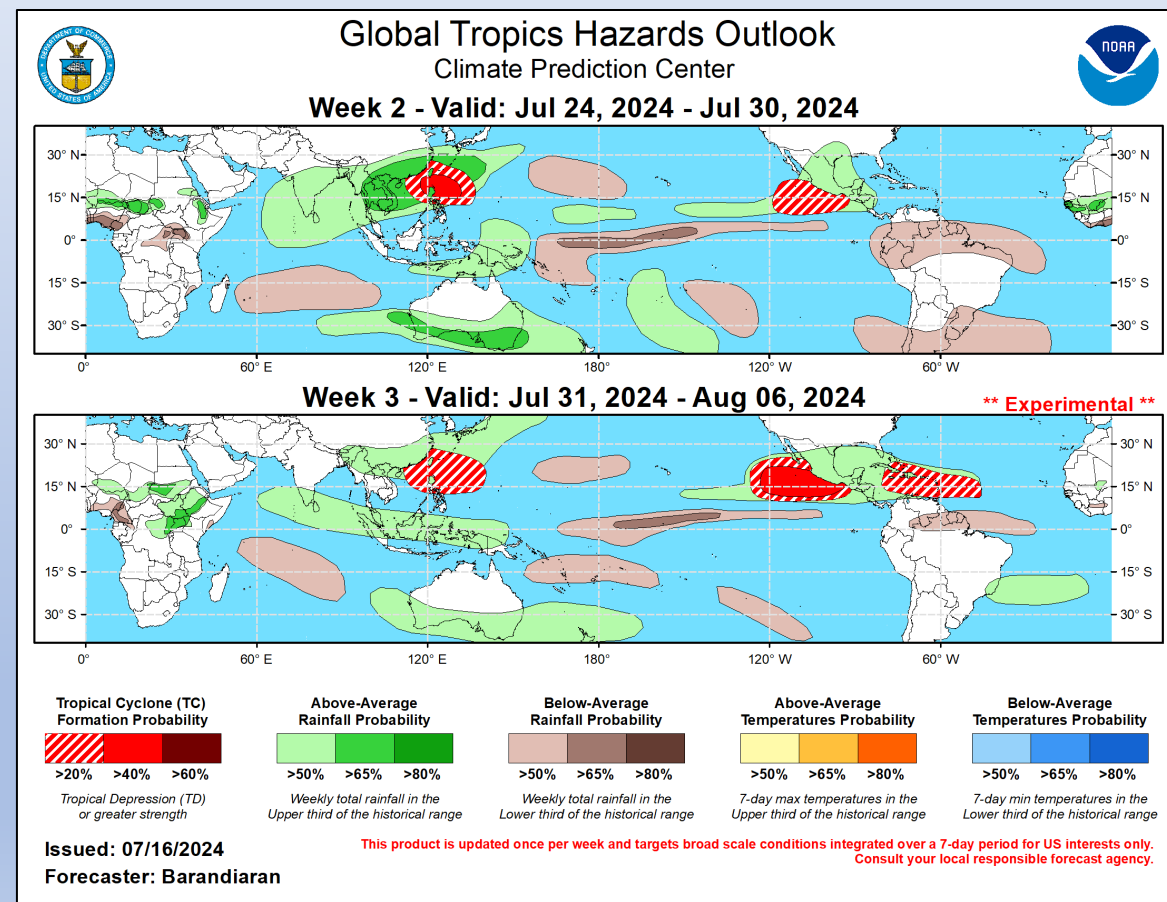


7-Day Tropical Weather Outlook



<https://www.nhc.noaa.gov/gtwo.php?basin=atlc&fdays=7>

Week 2 & 3: Tropics Hazards Outlook

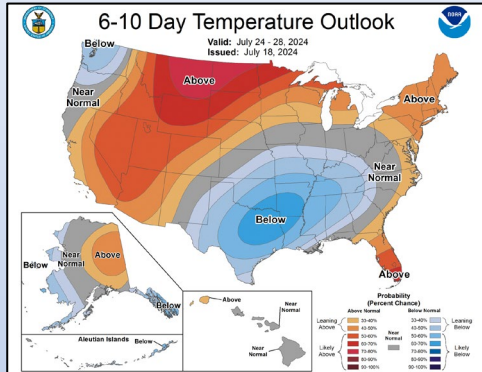


<https://www.cpc.ncep.noaa.gov/products/precip/CWlink/ghaz/index.php>

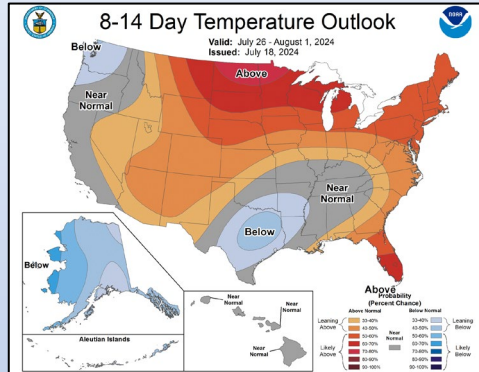
CPC Temp & Precip Outlook

6-10 Day, 8-14 Day, Next Month, 3-Month Seasonal

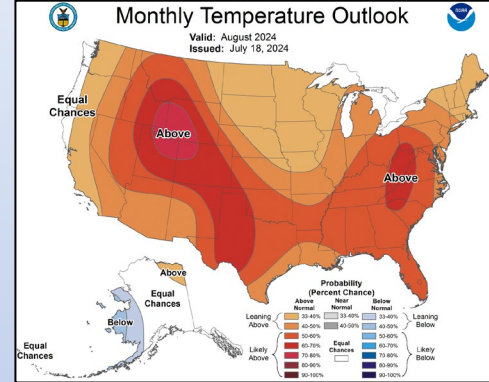
Updated 7/18/24



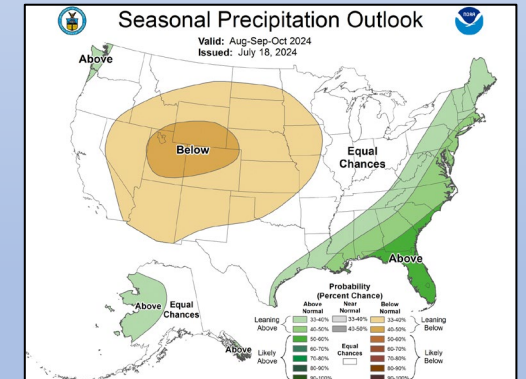
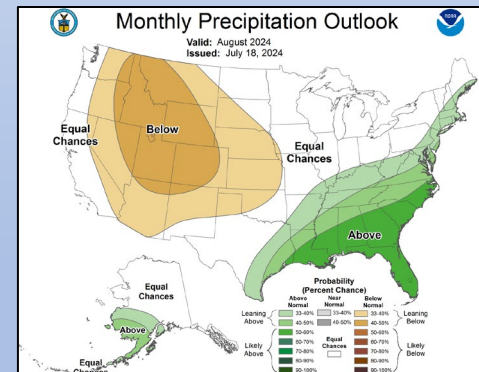
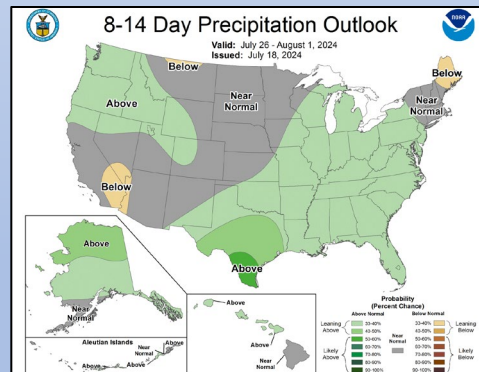
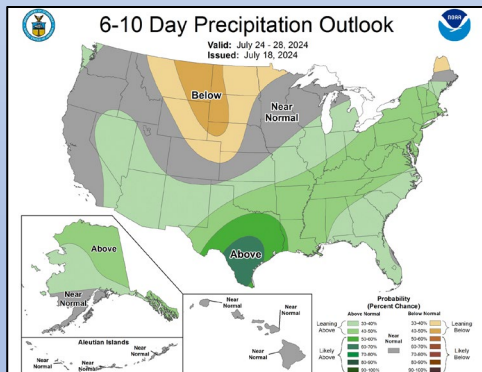
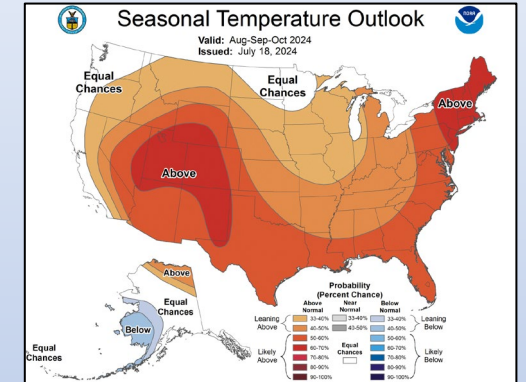
Updated 7/18/24



Updated 7/18/24



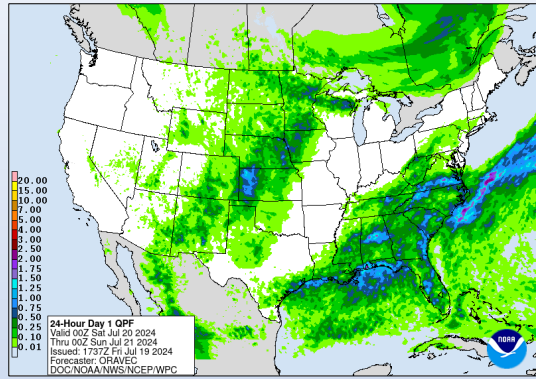
Updated 7/18/24 – [Discussion Link](#)



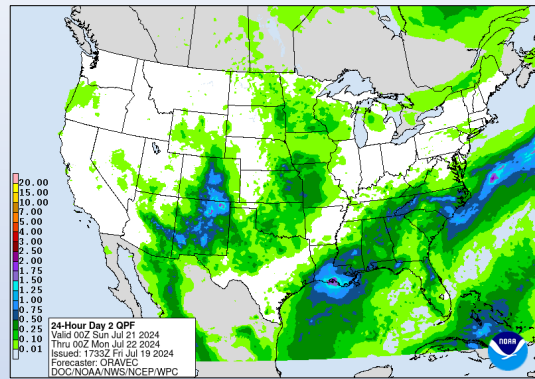
Quantitative Precipitation Forecast, 7-Day

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

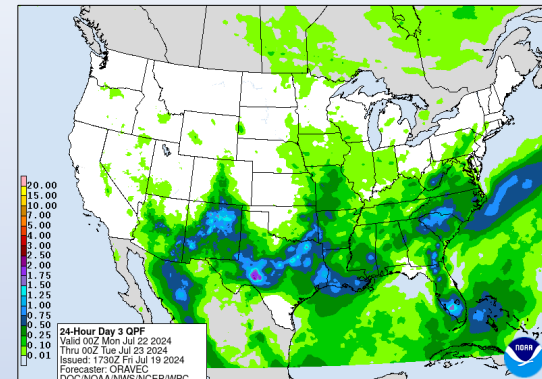
Day - 1



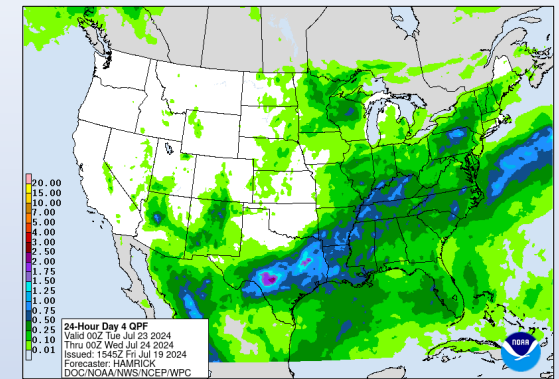
Day - 2



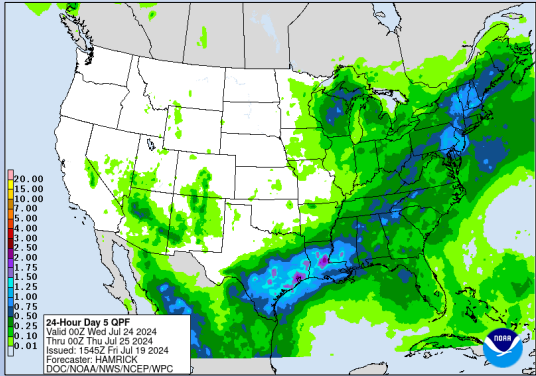
Day - 3



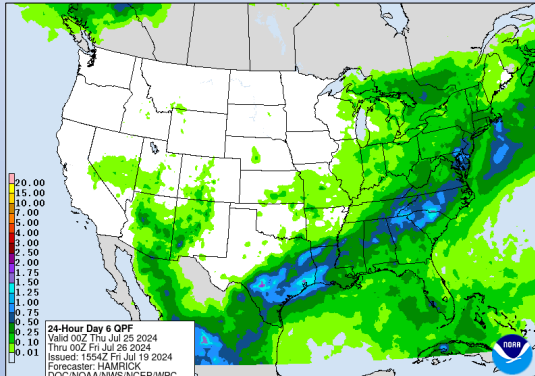
Day - 4



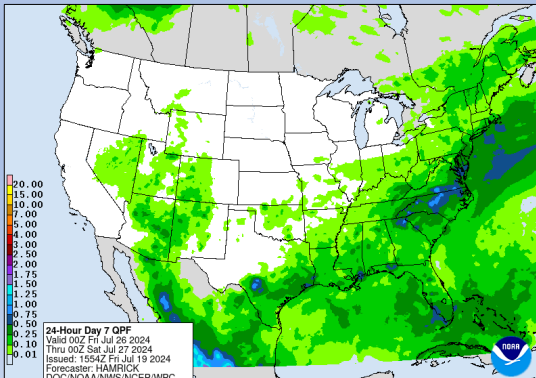
Day - 5



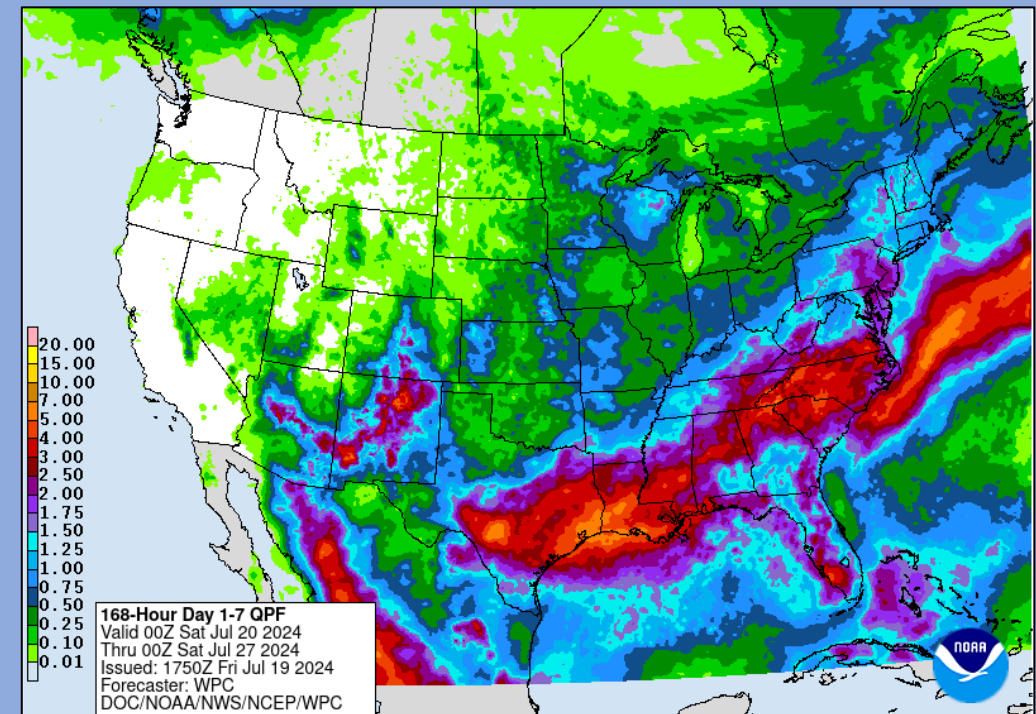
Day - 6



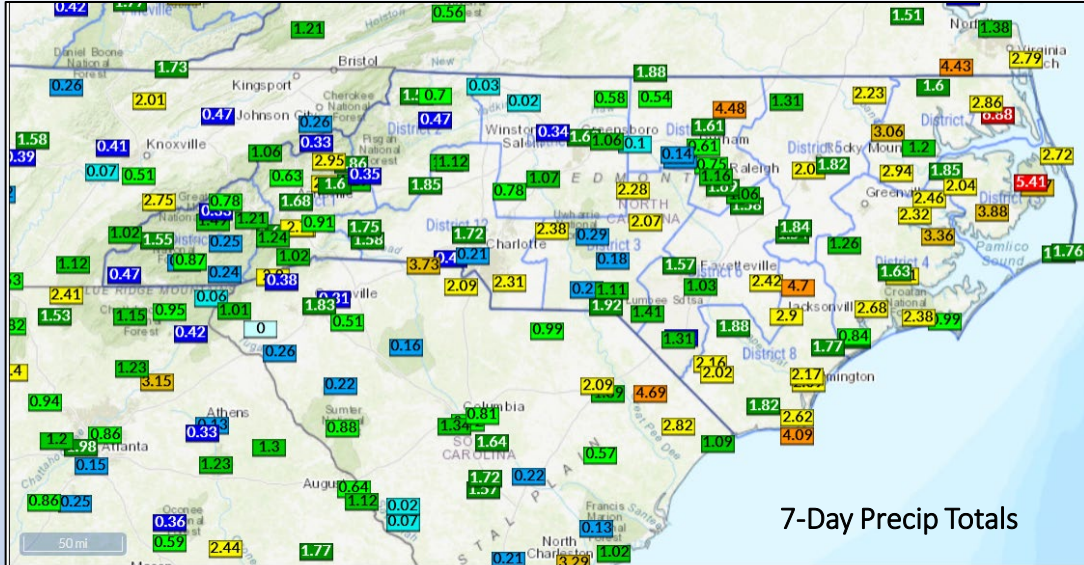
Day - 7



Important to note these values are subject to **significant change as weather system modeled tracks adjust farther out in time.*

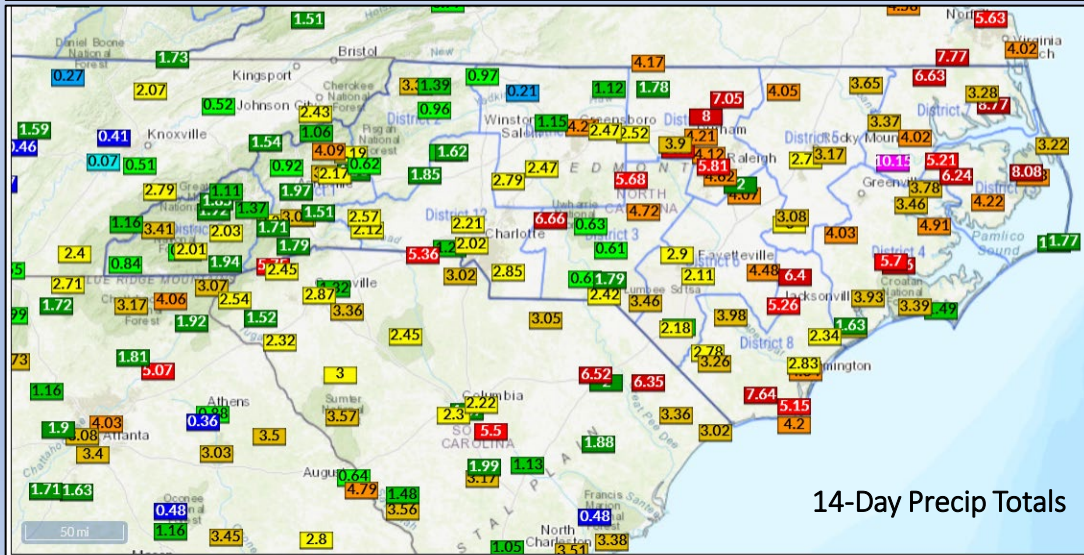


Observed Precipitation



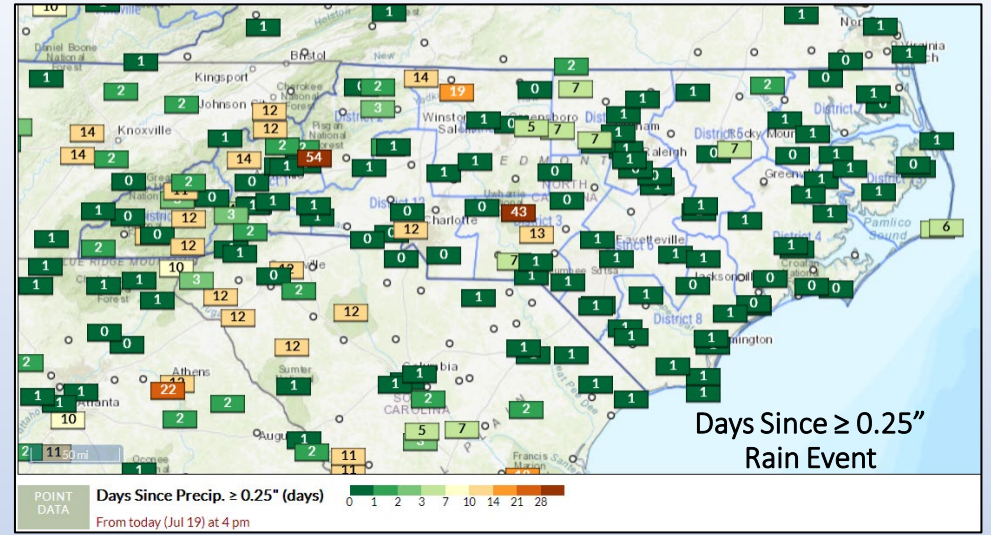
POINT DATA Precipitation (7 Day) (in.)

From Friday, Jul 12 at 4 pm to today (Jul 19) at 4 pm



POINT DATA Precipitation (14 Day) (in.)

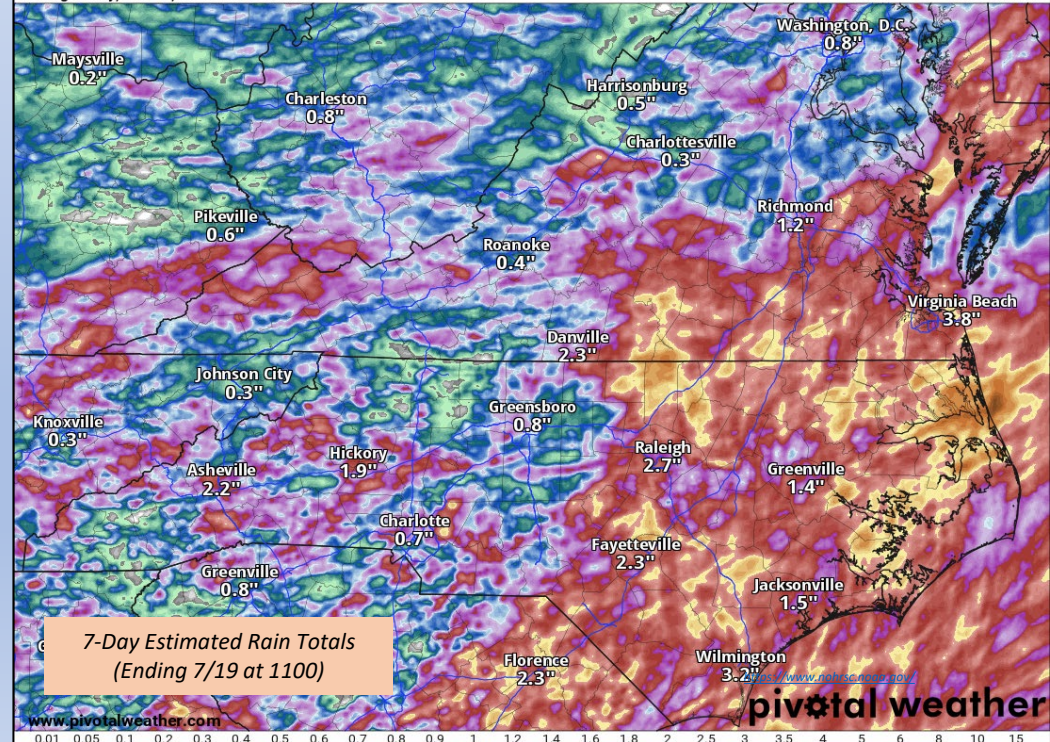
From Friday, Jul 5 at 4 pm to today (Jul 19) at 4 pm



168-Hour MRMS Multi-Sensor Precipitation Analysis (in)

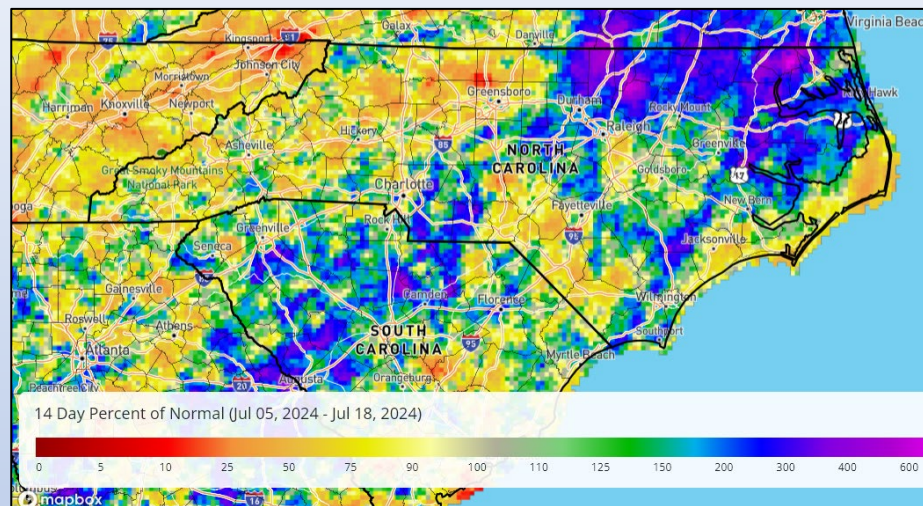
Ending Friday, Jul. 19, 2024 at 11 a.m. EDT

Init: Fri 2024-07-19 15z MRMS

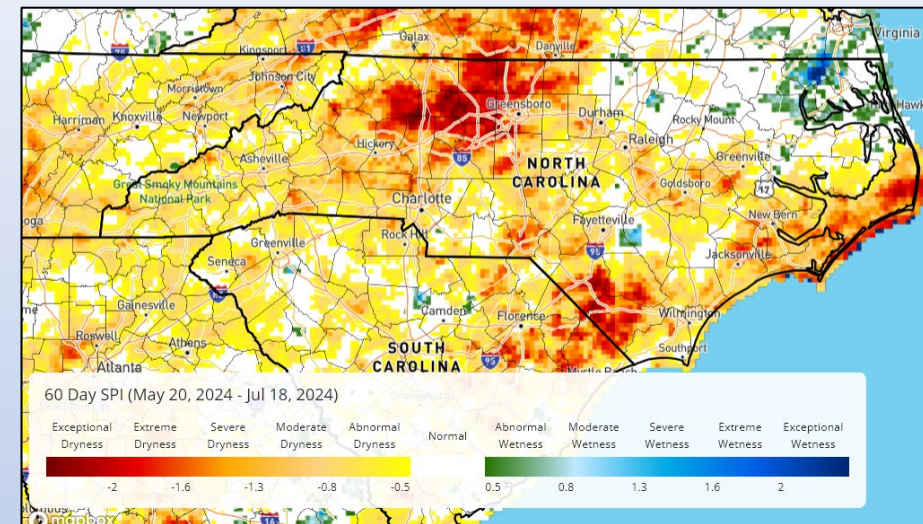


Comparing Observed Precip to 30-Yr Normals, *SRCC* (Ending Thursday, 7/18)

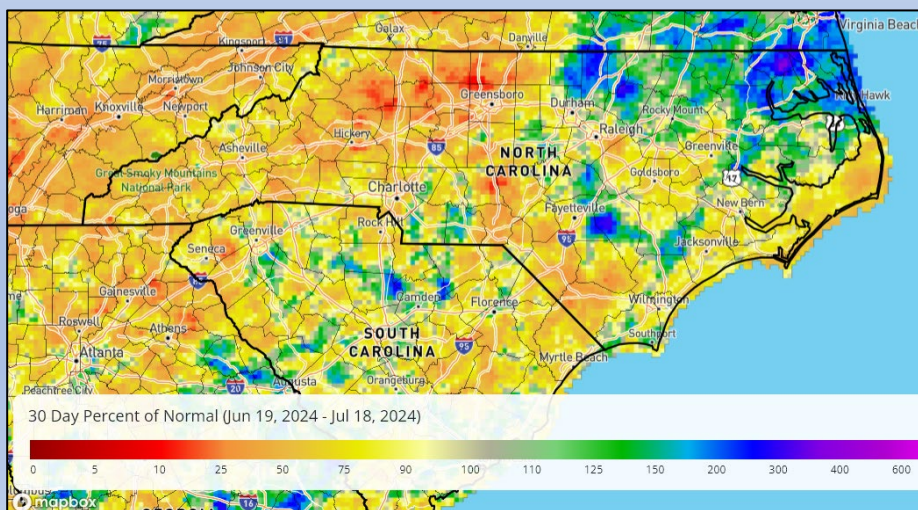
14-Day % of Normal



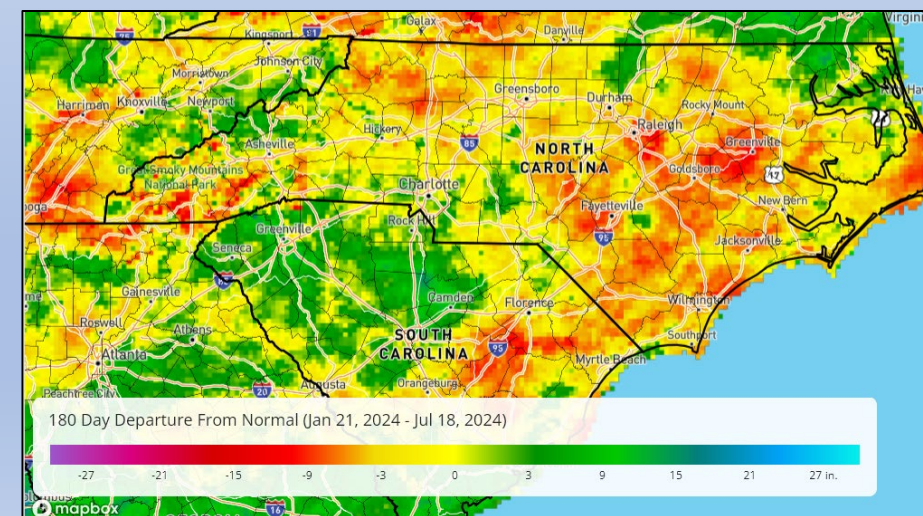
60-Day SPI



30-Day % of Normal

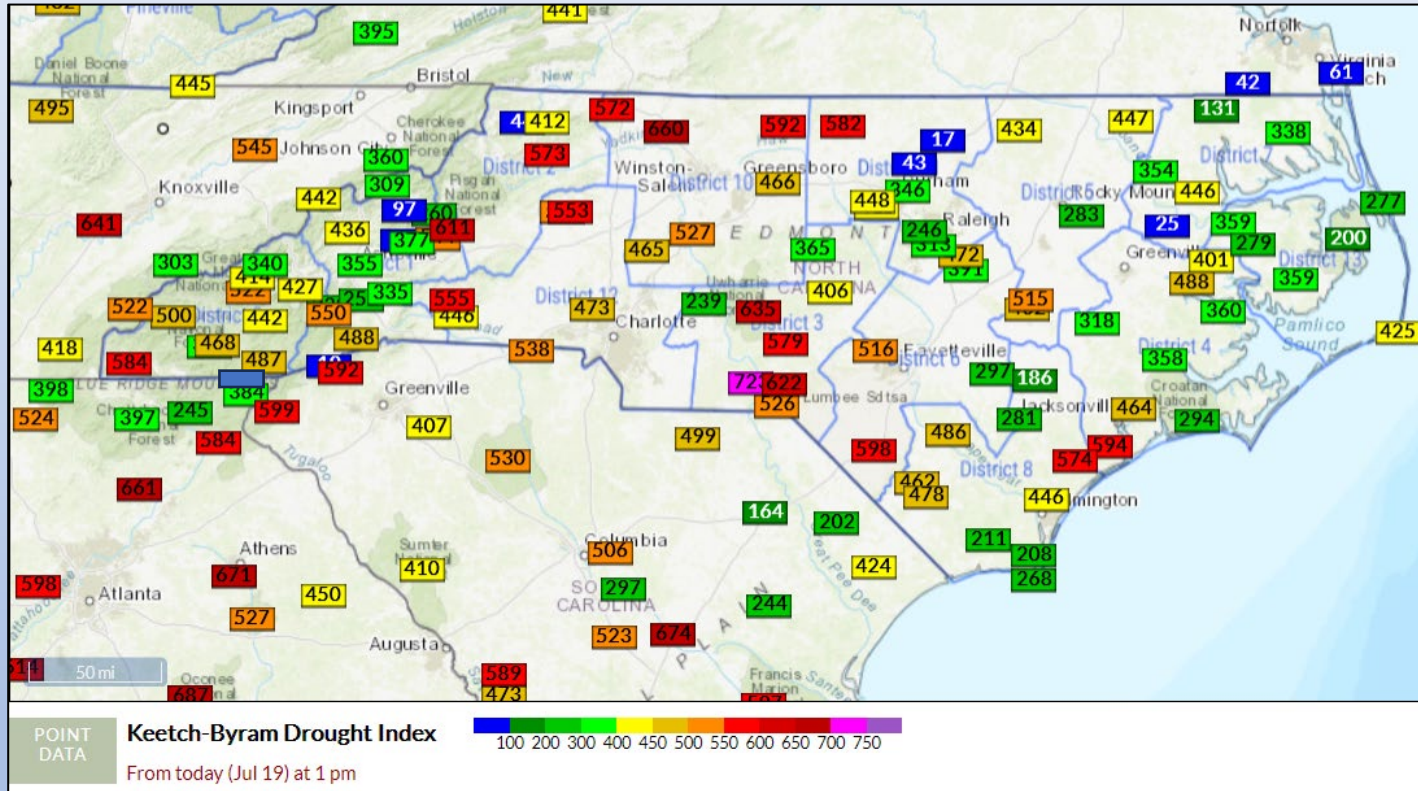


6-Month Departure from Normal (in.)

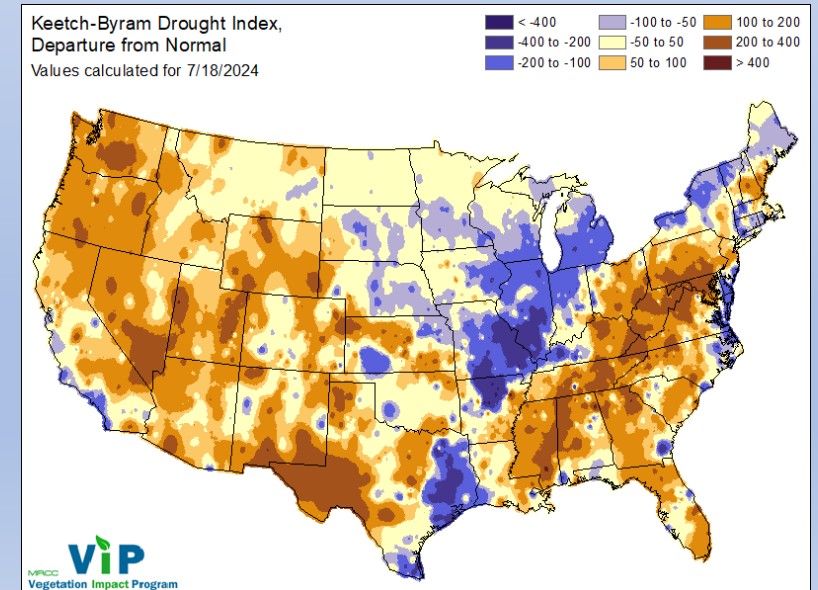
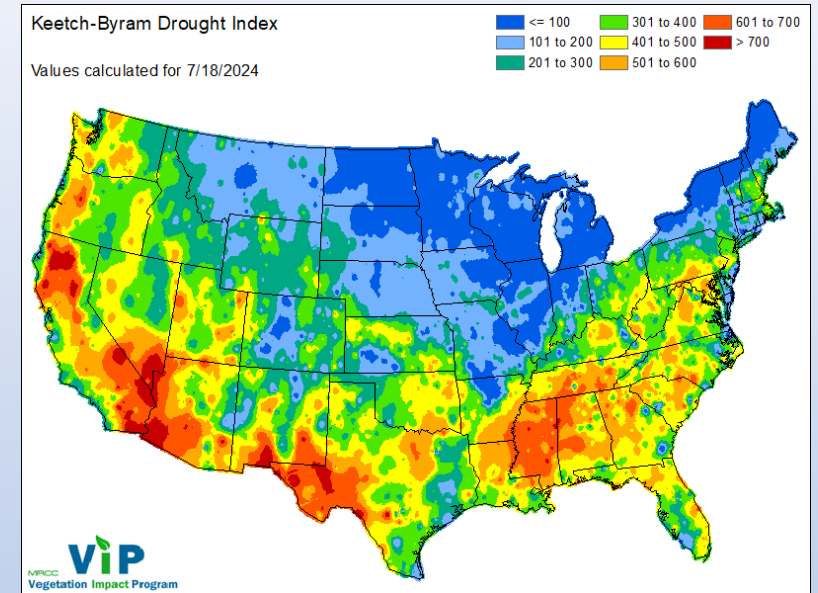


KBDI - Station Points

FWIP (Point calculation from WIMS @ 1300 on 7/19)



Product below is created by the Midwestern Regional Climate Center. See [FAQ](#).



Drought Situation

North Carolina Drought Update

For the assessment period ending **July 16, 2024**
From the US Drought Monitor, with input from the NC DMAC

The Main Takeaway

Heavy rains across eastern NC brought some drought improvement, but another dry week for western NC allowed for more drought expansion and degradation.

This Week's Summary

Widespread soaking rains late last week were overdue for parched parts of eastern NC, although that moisture may have come too late to save the corn crop. The driest areas in the short-term are now in the northern Foothills. Yadkinville is off to its driest start to summer on record, and in Wilkes County, dry vegetation helped a lightning-sparked wildfire burn 75 acres on Sunday.

Next Week's Outlook

Moist southwesterly flow along a stalled front should fuel frequent showers through the weekend, with totals ranging from 1 inch in the west to 4 inches in the east.

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

Created By:

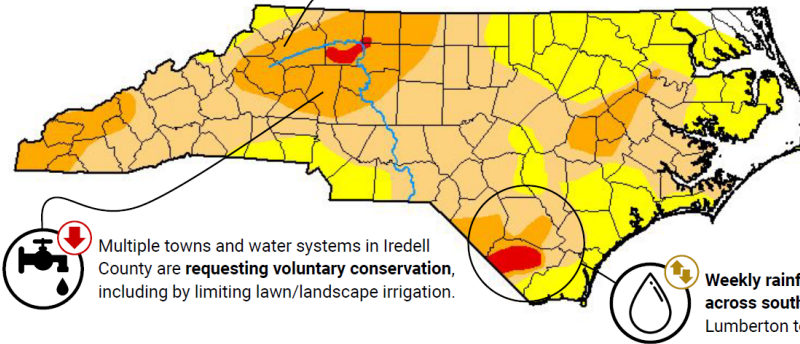
North Carolina
Drought Management Advisory Council
www.ncdrought.org

NC STATE
NORTH CAROLINA CLIMATE OFFICE
climate.ncsu.edu @NCSCO

As a lack of rain continues, Surry and Yadkin County Extension report **major pasture losses and row crop stress**.



Streamflows spiked across eastern NC after the recent rain, with flash flooding observed where the highest totals occurred.

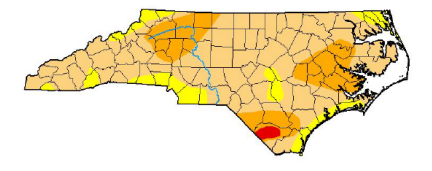


Multiple towns and water systems in Iredell County are **requesting voluntary conservation**, including by limiting lawn/landscape irrigation.



Weekly rainfall totals varied widely across southeastern NC, from 0.41" in Lumberton to 7.10" at Green Swamp.

Last Week's Drought Status



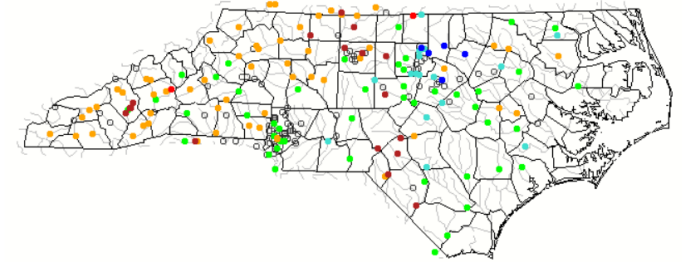
Statewide Coverage by Category

Category	Current Coverage	Change Since Last Week
D0: Abnormally Dry	30.04%	+18.05%
D1: Moderate Drought	47.17%	-20.74%
D2: Severe Drought	19.94%	+0.70%
D3: Extreme Drought	1.34%	+0.48%
D4: Exceptional Drought	0.00%	0.00%

Map of 7-day average streamflow compared to historical streamflow for the day of the year (North Carolina)

North Carolina or Water-Resources Regions All Days

Thursday, July 18, 2024



USGS

Search USGS streamgage

Choose a data retrieval option and select a location on the map
 List of all stations Single station Nearest stations

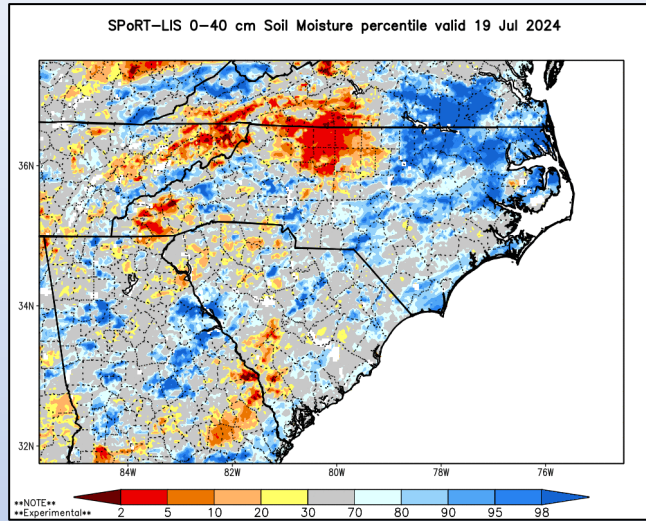
Explanation - Percentile classes						
●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	Not-ranked

Source: <https://waterwatch.usgs.gov/index.php?m=pa07d&r=nc&w=map>

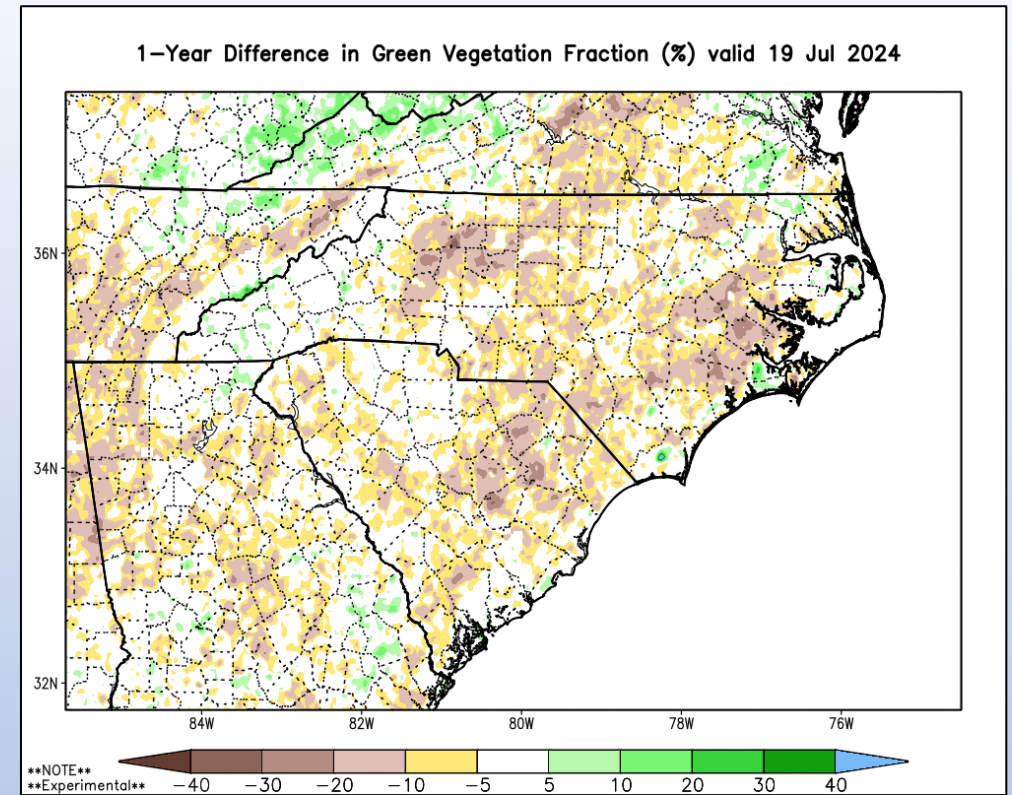
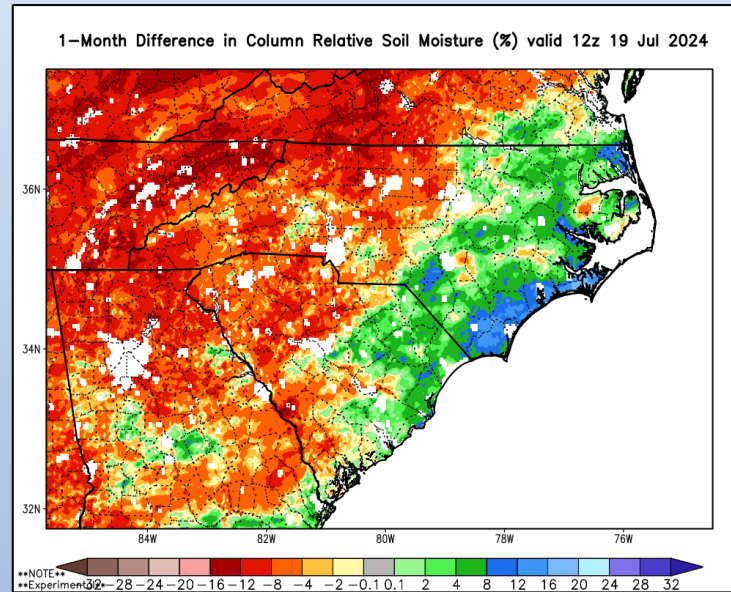
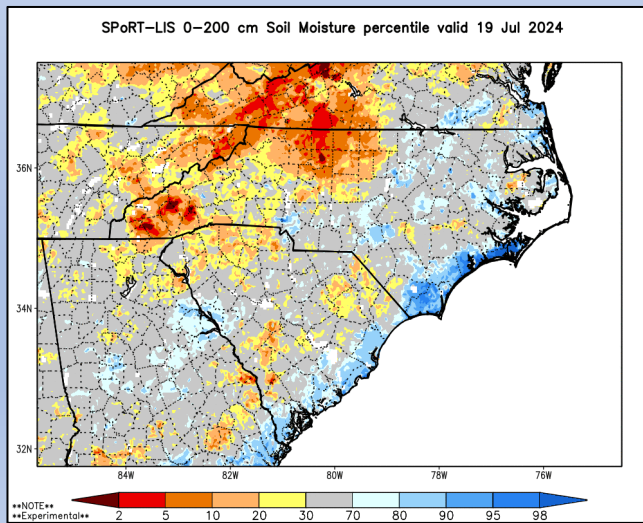
- Note continued decline in streamflow values to the west (see above).
- ~69% of the state now in D1 to D3 conditions (left).
- Conditions will have to be carefully monitored going into the Fall. Recent & predicted rains are very beneficial, but much of the state is 4-10" + behind at the 6-month time scale (see Slide #39).
- Rapid runoff and low infiltration occur with intense storms on dry landscapes. Longer duration and repeated events will be required to adequately recharge & maintain plant available water storage.

SPoRT Modeled Relative Soil Dryness

0-40 cm Depth



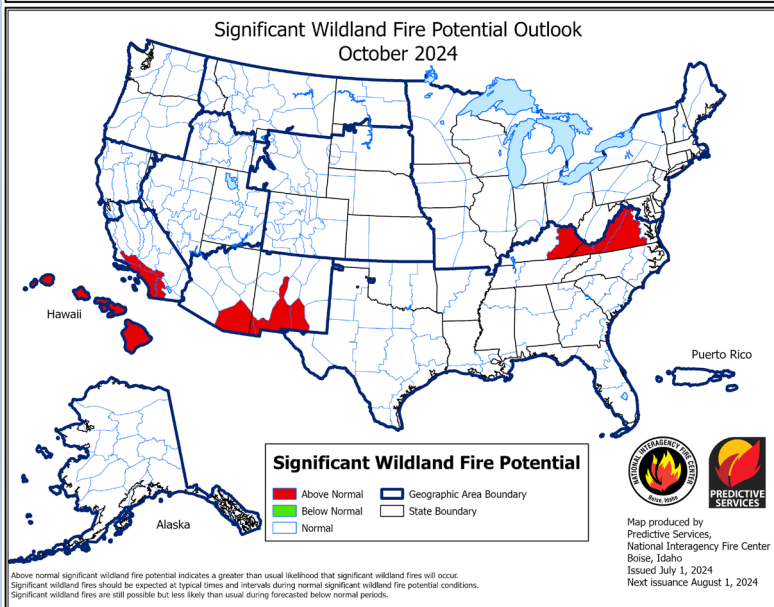
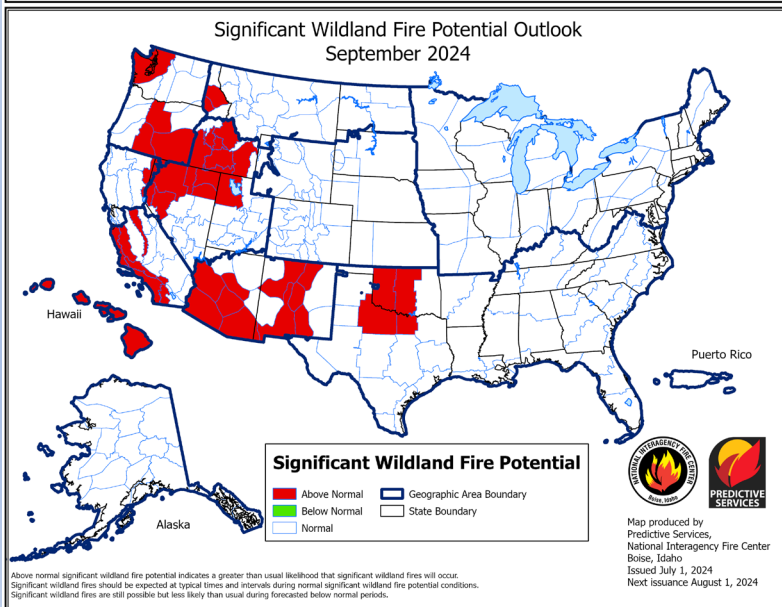
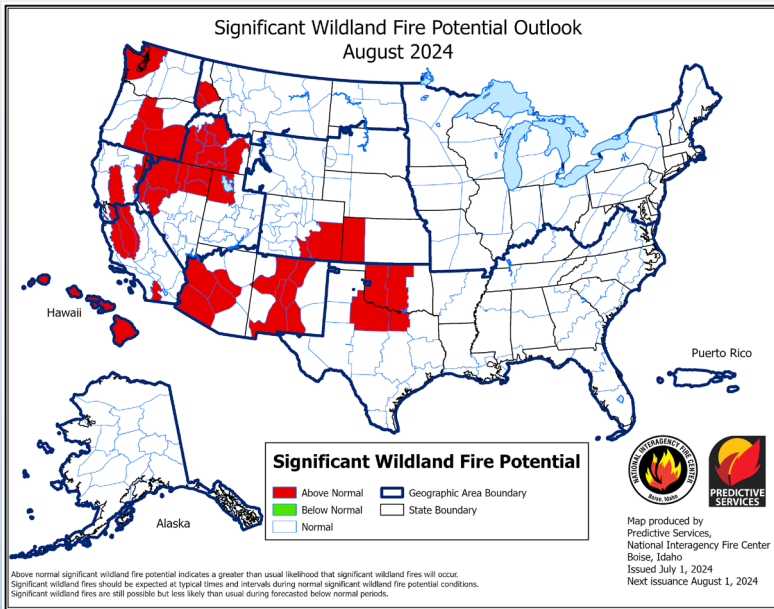
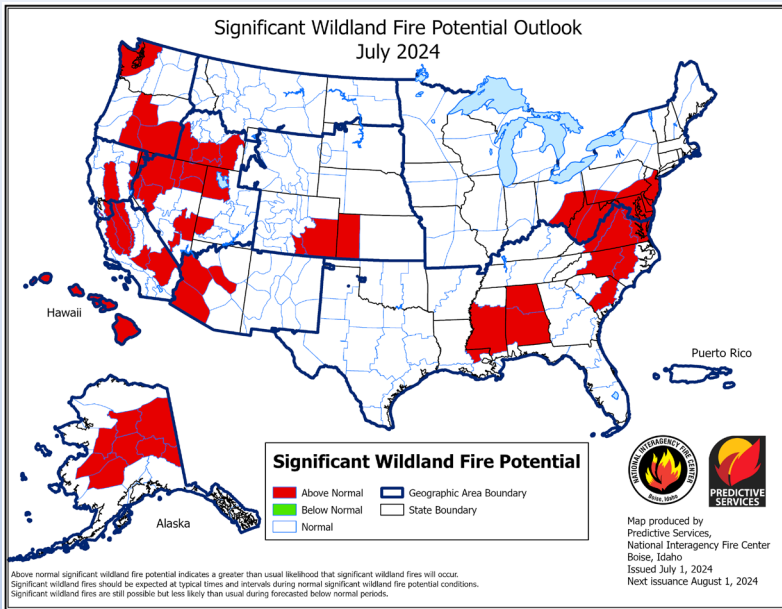
0-200 cm Depth



- See areas of **modeled** improvement & degradation near the surface and for the entire soil profile (left).
- The “1-Month” Difference map shows the recent rain influences to the column relative soil moisture, at least short-term (center).
- The Green Vegetation “1-Year Difference” map can provide useful context for various drought impacts to the landscape, as compared to last year at this time (above).

Significant Wildland Fire Potential Outlook:

Updated 7/1/24 – Next Update on 8/1/24



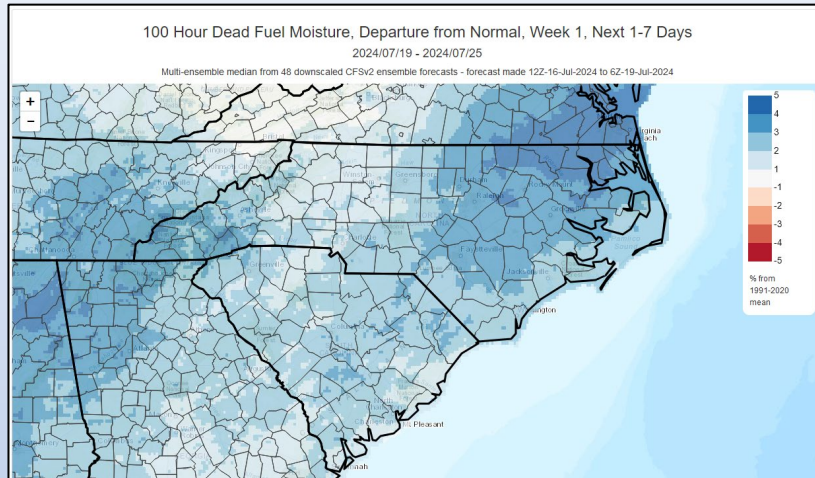
A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have seen this year.

***Forecast uncertainty could easily lead to an expansion of “Above Normal” Fire Potential if abnormally dry conditions expand/worsen going through the rest of July.**

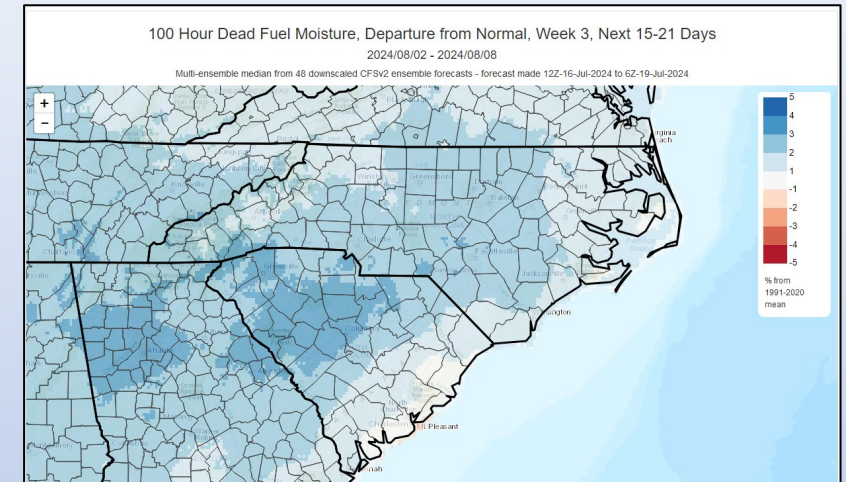
Modeled Departure from Normal by Week: 100-hr Fuels

Output relies on experimental forecast outputs and is subject to change

Week-1



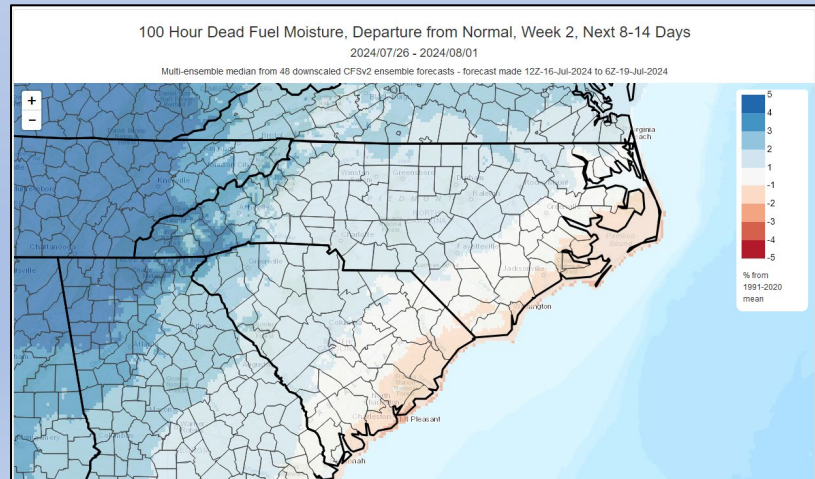
Week-3



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.

Note that modeled wetter than normal conditions continue through Week-1 with a return of more near normal conditions for Weeks 2-4.

Week-2



Relates to interactions of warmer/colder temps, moist/dry air masses, precip amt/duration and overnight RH recovery trends.

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

Week-4

