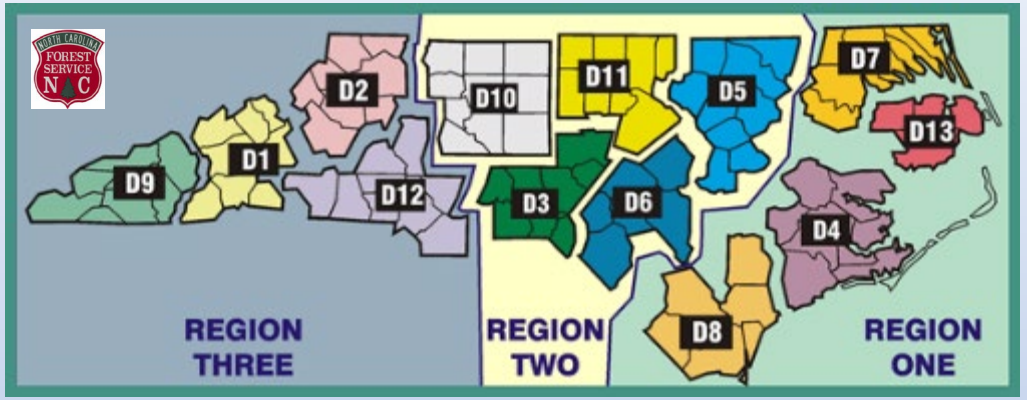
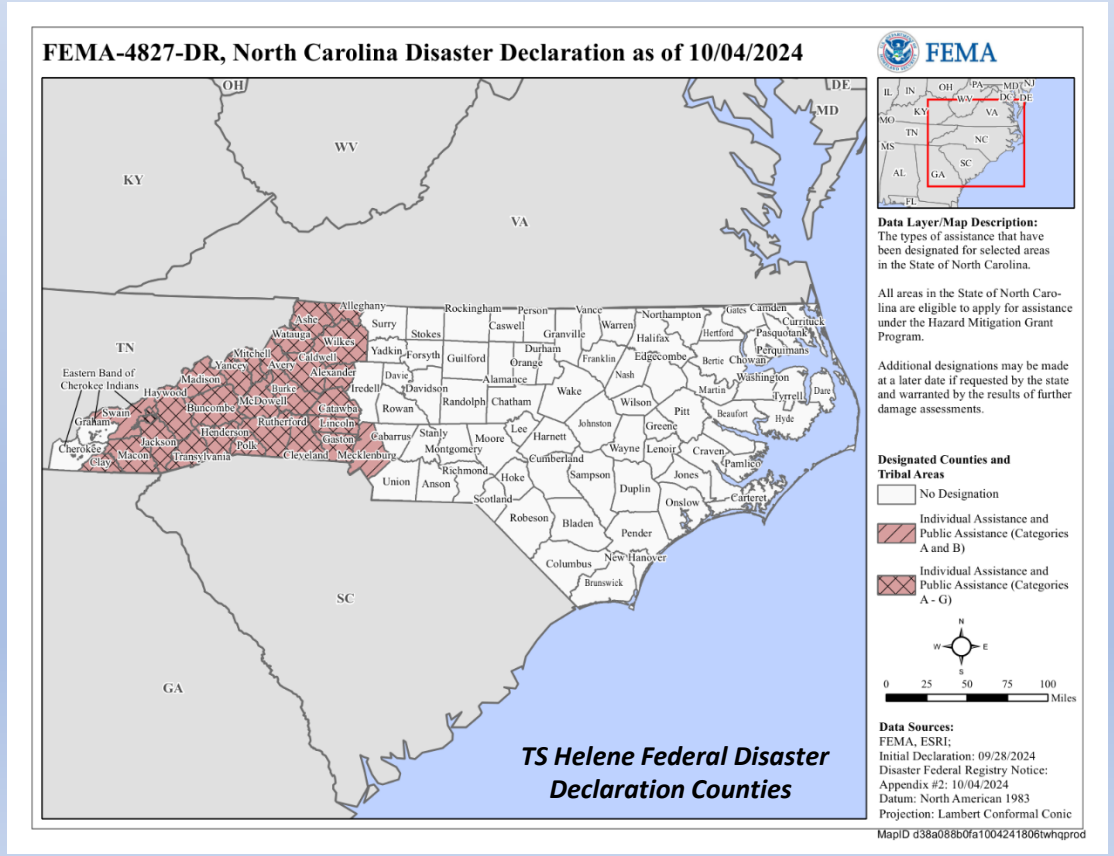
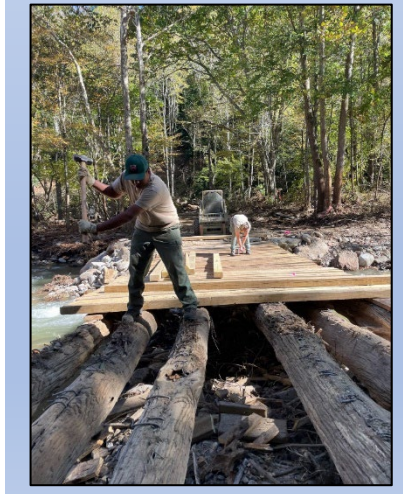
Statewide Seasonal Fire Danger Assessment



- October 11, 2024 Update -





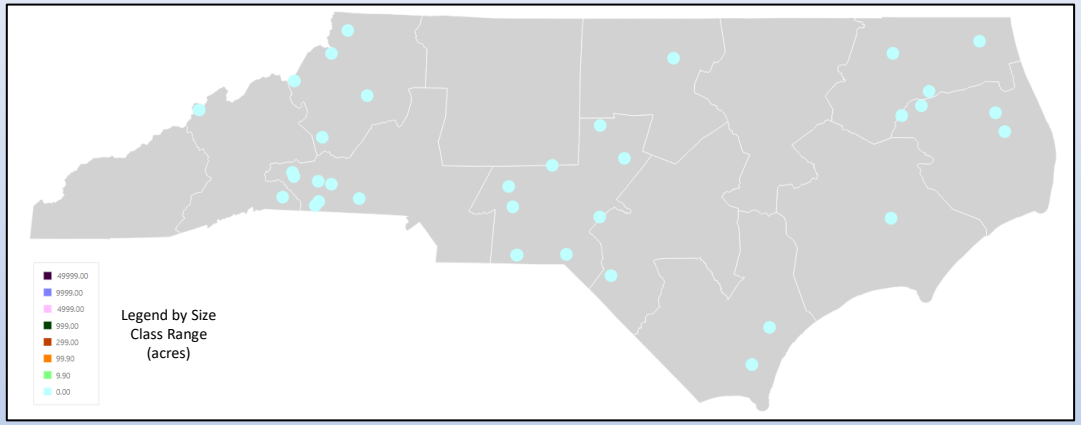
One example of on-going response efforts (of many) – temporary bridge construction.

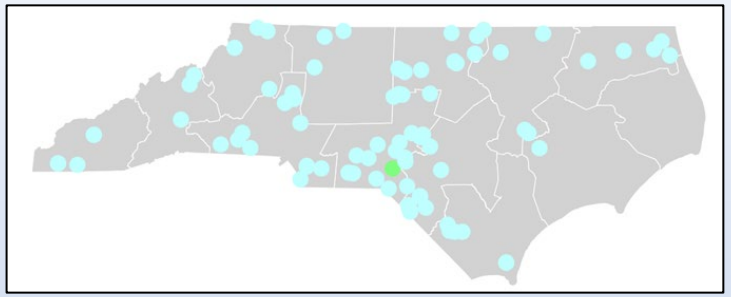
Created by: Jamie Dunbar
Fire Environment Staff Forester
NC Forest Service

Incident Activity

September 1-30

fiResponse Incident Location Map (for general context, preliminary data)
MTD Activity: 10/1 – 10/10, 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

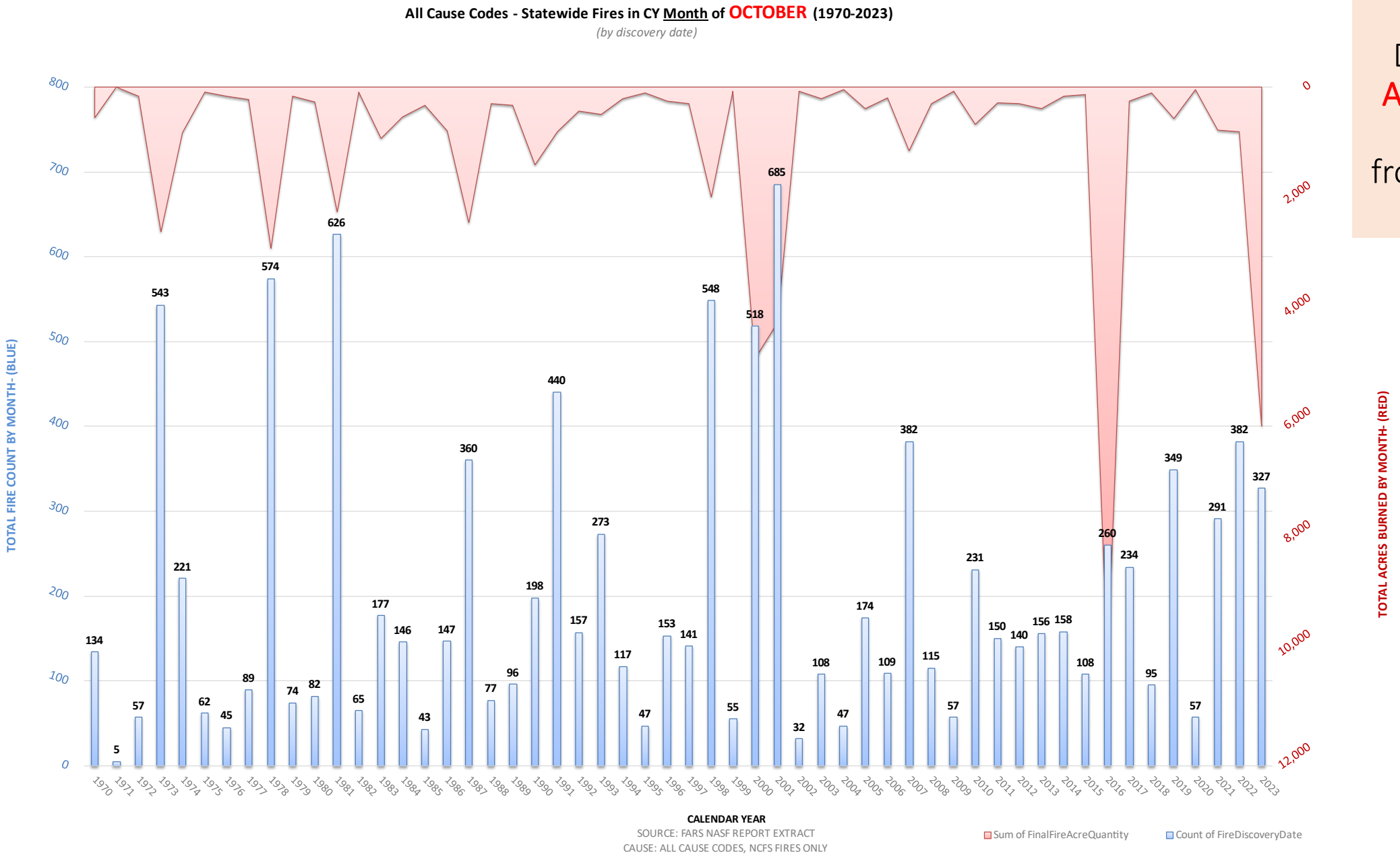
(10-yr Statewide averages, above, are based on FARS 2014-2023 Data)

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:	10/1 – 10/10, 2024			
Area	Wildfire Count	Wildfire Acres	RX Count (State & Private)	RX Acres (State & Private)
R1	10	15.5	1	45
R2	8	5.3	8	624
R3	12	2.3	0	0

This narrative does not include tropical storm incident response operations.

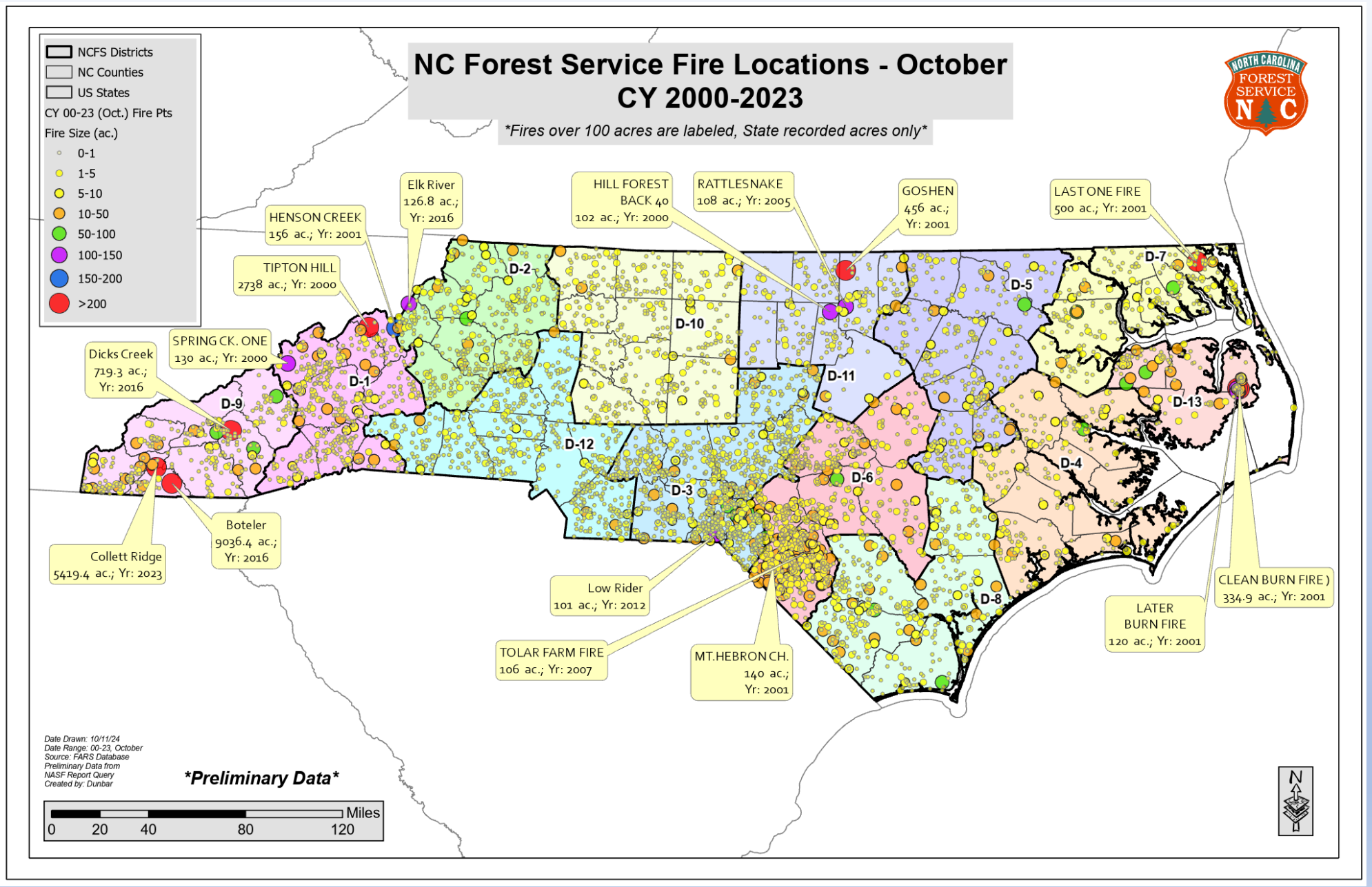
Largest incidents **MTD** (Ending 10/10):
from fiResponse & preliminary reporting only

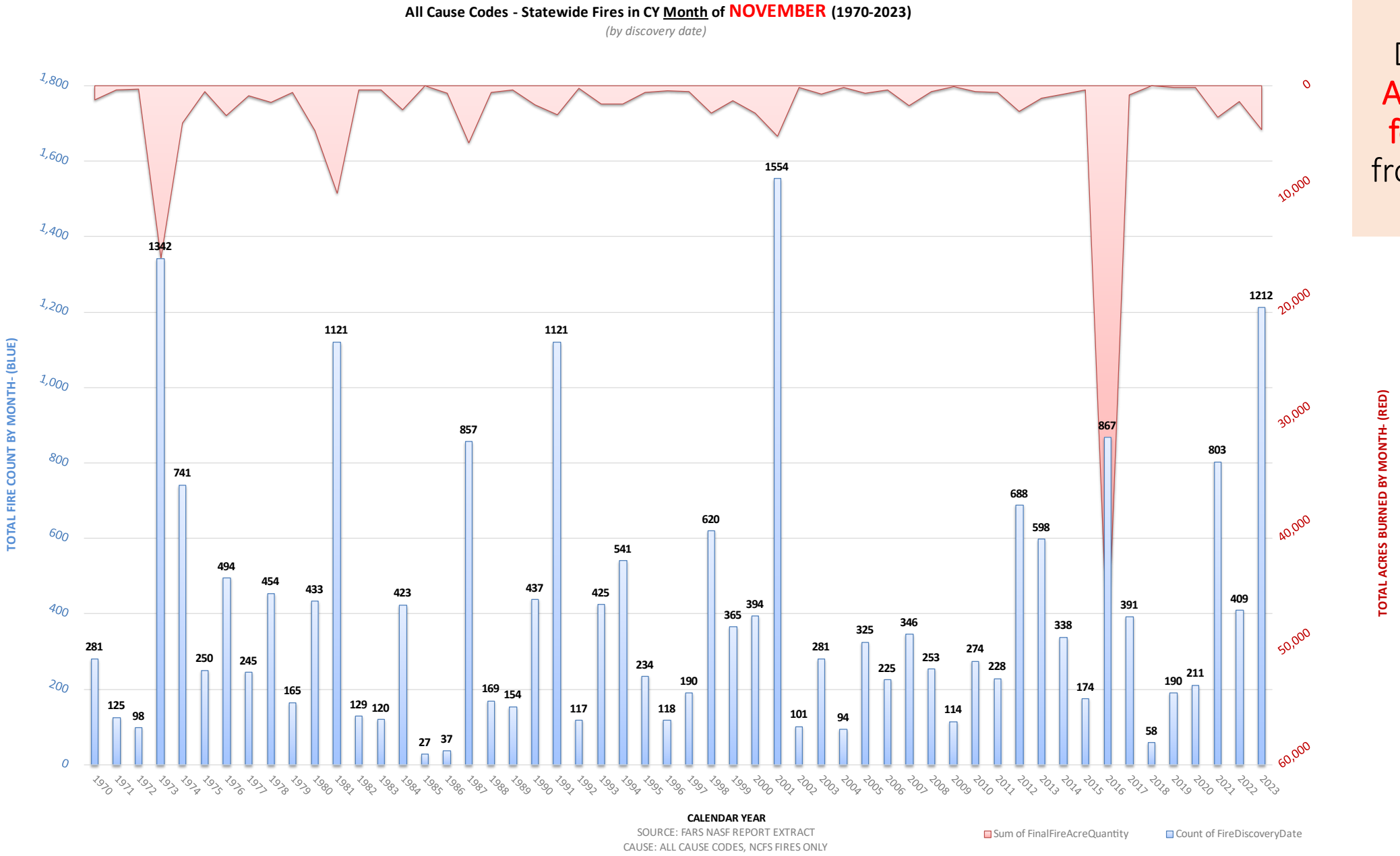
Incident Name	Discovery Date	Region	District	County	Acres
Old Place Road Fire	10/6/2024	Region 1	District 8	Brunswick County	5.00
Chowan County - Indian Trail Road	10/10/2024	Region 1	District 7	Chowan County	4.00
Harry Farm	10/5/2024	Region 2	District 3	Anson County	3.00
Blossom Ferry Rd	10/7/2024	Region 1	District 8	New Hanover County	3.00
Old Bay River Road	10/4/2024	Region 1	District 4	Pamlico County	2.50
North Grace Chapel Tower	10/6/2024	Region 2	District 3	Richmond County	1.00
Dare County - East Lake	10/3/2024	Region 1	District 13	Dare County	0.25
Mtn View	10/5/2024	Region 3	District 12	Cleveland County	0.25
Rutherford County - Harris Henrietta Rd	10/6/2024	Region 3	District 12	Rutherford County	0.25
Lazar Ln	10/10/2024	Region 2	District 3	Moore County	0.25



Distribution of **All Fires & Acres for October** from 1970 - 2023

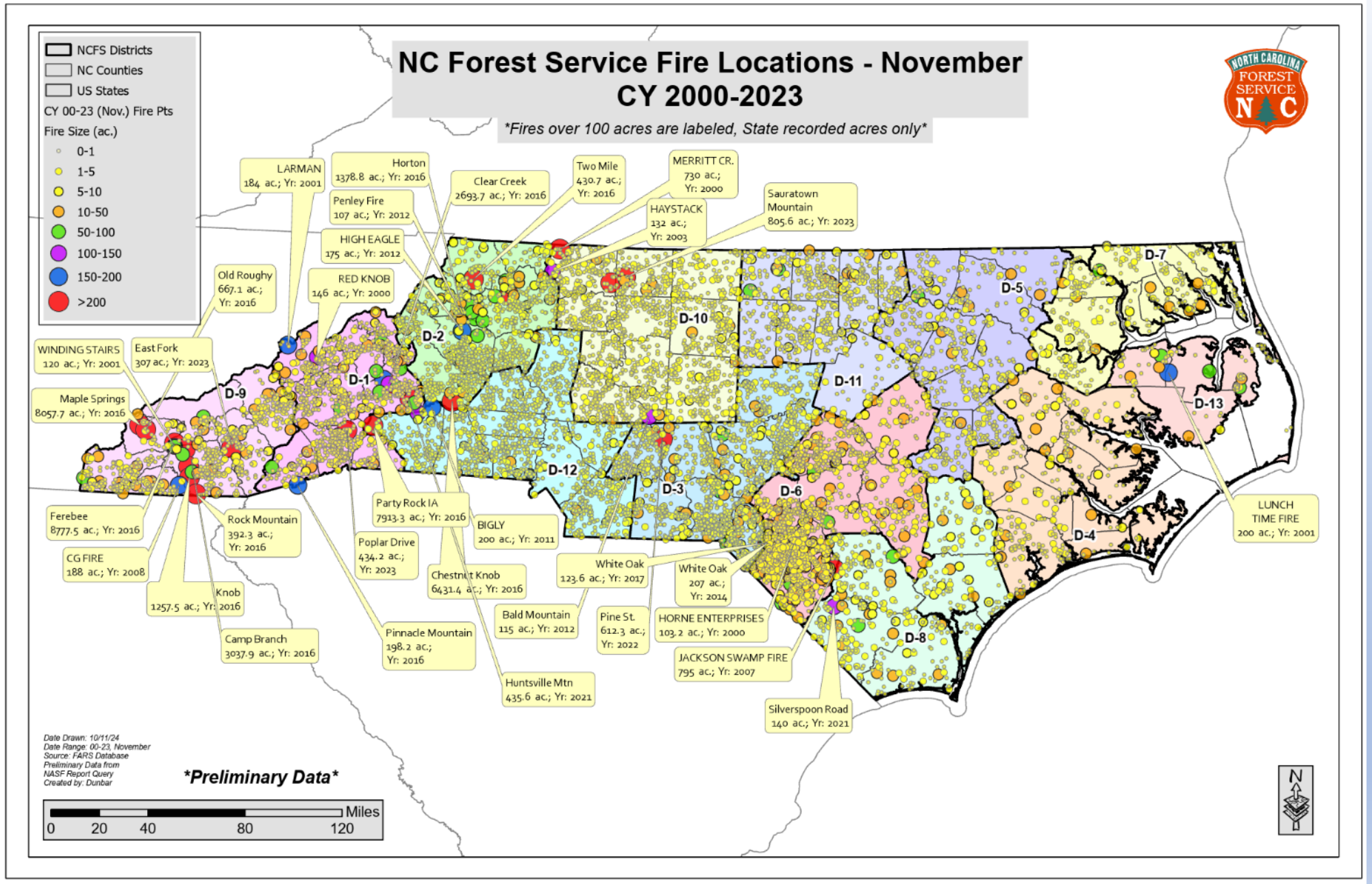
Cause: All Cause Codes, Statewide, NCFS Reported Fires Only


NC Forest Service Fire Locations - October
CY 2000-2023
Fires over 100 acres are labeled, State recorded acres only
NCFS Districts
NC Counties
US States
CY 00-23 (Oct.) Fire Pts
Fire Size (ac.)
0-1
1-5
5-10
10-50
50-100
100-150
150-200
>200
HENSON CREEK
156 ac.; Yr: 2001
Elk River
126.8 ac.;
Yr: 2016
HILL FOREST
BACK 40
102 ac.; Yr: 2000
RATTLESNAKE
108 ac.; Yr: 2005
GOSHEN
456 ac.;
Yr: 2001
LAST ONE FIRE
500 ac.; Yr: 2001
TIPTON HILL
2738 ac.; Yr: 2000
SPRING CK. ONE
130 ac.; Yr: 2000
Dicks Creek
719.3 ac.;
Yr: 2016
Boteler
9036.4 ac.;
Yr: 2016
Collett Ridge
5419.4 ac.; Yr: 2023
Low Rider
101 ac.; Yr: 2012
TOLAR FARM FIRE
106 ac.; Yr: 2007
MT.HEBRON CH.
140 ac.;
Yr: 2001
LATER
BURN FIRE
120 ac.; Yr: 2001
CLEAN BURN FIRE)
334.9 ac.; Yr: 2001
D-1
D-2
D-3
D-4
D-5
D-6
D-7
D-8
D-9
D-10
D-11
D-12
D-13
Date Drawn: 10/11/24
Date Range: 00-23, October
Source: FARS Database
Preliminary Data from
NASF Report Query
Created by: Dunbar
Preliminary Data
Miles
0 20 40 80 120
N



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

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



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

Southern Area Daily Outlook Page:

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

Product provides weekly context for Southern Area (Friday - 10/11 Outlook shown) & is typically updated daily during high SA Planning Levels.

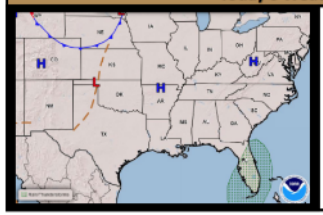
SACC Daily Outlook

Friday, October 11, 2024

Watches, Warnings and Advisories

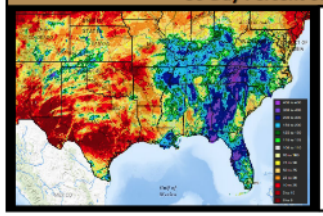
- **Freeze Warnings** and **Frost Advisories** for parts of NC and VA
- **Coastal Flood Warnings** in FL; **Coastal Flood Advisories** in TX and NC
- **Flood Warnings** in FL, GA, SC and NC
- **Excessive Heat Warnings** and **Heat Advisories** in PR/USVI

Today's Weather Outlook



- Scattered showers and isolated embedded thunderstorms will affect parts of eastern and southern FL
- Expect breezy and cool conditions across the FL peninsula, along with continued coastal flooding along the East Coast
- Hot, dry and breezy weather will overspread much of OK and TX, likely resulting in increasing IA and large fire potential
- High pressure will dominate most of the region, providing abundant sunshine and light winds

30-Day Percent of Normal Rainfall



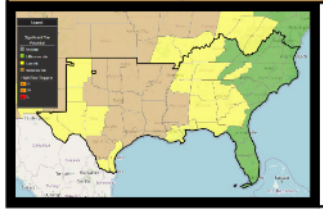
- Excess rainfall from Francine, PTC8, Helene and Milton is abundantly clear across central and eastern portions of the geographic area
- Francine's footprint will disappear this weekend, with many areas moving into significantly drier territory over MS, LA and adjacent areas
- Some pockets of dryness are depicted in northeast FL, eastern GA and the eastern coastal plain, in addition to southwest and northeast AL, southern middle TN and a few areas in MS
- Significant dry anomalies continue to expand over AR, OK, TX and LA, indicating a likely increase in fire potential as mostly dry weather continues

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

SACC Daily Outlook

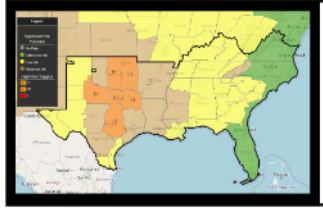
Friday, October 11, 2024

Significant Fire Potential Outlook Today



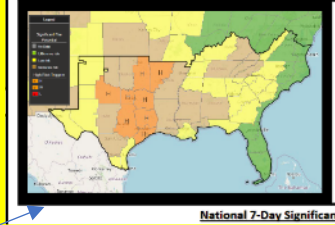
- NC: ridges impacted by Helene are exposed to extremely dry air aloft this morning, where RH did not recover and is as low as 8-20%; RH in the 10s and 20s will become more widespread this afternoon as temperatures increase a bit, and gusts to around 20 mph are possible; small IA have been observed the last few days, and an increase in this activity is probable today
- Hot, dry and breezy conditions across north TX into much of OK will result in increasing wildfire potential today; look for highs well into the 90s, with RH as low as 15-25% and 5-winds gusting from 20-30 mph, locally higher; ERCs above the 97th percentile are widespread over OK and at or above the 90th percentile elsewhere; isolated dry thunderstorms occurred overnight in OK and could lead to new ignitions in south-central and eastern parts of the state
- Very warm to hot and dry conditions will be common elsewhere in AR, southeast/east TX, and LA, where winds will be considerably lighter than farther west; RH will drop to 18-30% this afternoon, drying out fuels further
- West TX and the OK panhandle will see RH from 5-15% with record high temperatures, but winds will be light

Significant Fire Potential Outlook Saturday



- **HIGH RISK**: record or near-record heat and fuel dryness will overlap with dry and breezy conditions across OK and TX tomorrow; RH is forecast to be as low as 12-25%, locally in the single digits over far western North TX, where highs above 100 are likely; expect SW winds to gust from 20-35 mph much of the day, highest near the Red River and generally west of I-35 over TX
- Dry, very warm to hot and breezy conditions will be common elsewhere in most of the western half of the geographic area, but winds are too light for appreciable large fire risks in the High Plains and Trans Pecos, while activity is likely to increase further in southeast TX, LA and AR into MS and AL
- Appalachian areas recovering from Helene will see highly variable conditions, but extremely dry air aloft will maintain very poor recoveries in some of the areas with the most tree destruction; locally breezy conditions are possible near the ridges, but lower elevations will see light winds, along with warmer temperatures
- The rest of the region from the Southeast to the Ohio Valley will be dry, with a bit warmer temperatures and a potential increase in IA

Significant Fire Potential Outlook Sunday



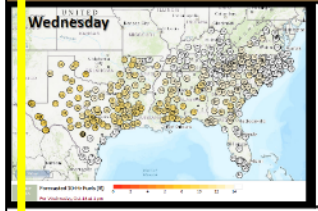
- **HIGH RISK**: widespread record heat ahead of an approaching dry front will combine with critically to extremely dry fuels, RH as low as 10-25% and SW winds gusting from 20-35 mph to result in a broad area of unusual significant fire potential over TX, OK and AR, perhaps into adjacent northwest LA; a wind shift will occur behind the front over OK, far northern TX and northwest AR and with sea breezes near the TX coast, adding complexities to any ongoing or new wildfire incidents
- This warm, dry and breezy pre-frontal environment will also result in increasing IA and large fire potential across the Appalachians, Tennessee Valley and portions of the Lower Mississippi Valley, where SW to W winds will likely gusts from 20-30 mph, higher in KY and western VA; a few thunderstorms ahead of the front could produce new ignitions in KY late, with some of this activity extending into the overnight hours over TN and VA, resulting in a wind shift over the rest of the mountains at night
- Southern MS and AL into adjacent areas will see a very warm and dry day followed by gusty winds behind a sea breeze, otherwise, most of the coastal plain from MS and AL into GA and SC will see light winds

National 7-Day Significant Fire Potential Outlook

SACC Daily Outlook

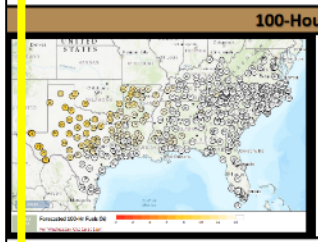
Friday, October 11, 2024

10-Hour Fuels



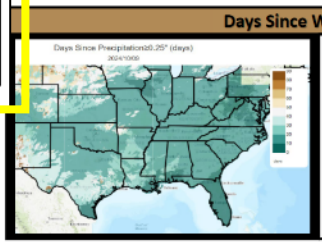
- 10-hour dead fuel moisture is forecast to be critically to extremely low throughout large parts of the geographic area at times during the next seven days
- Forecasted values for Wednesday are depicted, which may be the peak of dryness in the post-frontal environment for many areas next week
- 10-hour moisture will likely remain high over central and southern FL, while increasing moisture is depicted from south TX into portions of the western Plains by the end of next week ahead of an approaching storm system

100-Hour Fuels



- 100-hour dead fuel moisture will also be extremely low and at times below record values for this time of year in large portions of the region, most notably for the eastern Hill Country and southeast TX into western LA, AR and southeast OK
- Values for next Wednesday are depicted, and some additional drying is likely for the Southeast thereafter, while returning Gulf moisture may bring some improvement to south and west TX and OK by the end of next week

Days Since Wetting Rain



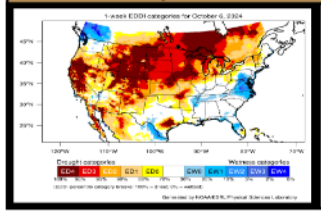
- Large parts of the region are near or beyond two weeks since wetting rain
- Across drier parts of southern AR, LA, MS and AL, wetting rain has not occurred in ~25-35 days
- Portions of northeast OK and northwest/west AR have not seen wetting rain in 40-42 days
- Growing areas from East TX into the Hill Country, South TX and West TX have been dry for at least 30-40 days, locally 45+ in far western TX

North Carolina State University Fire Weather Intelligence Portal

SACC Daily Outlook

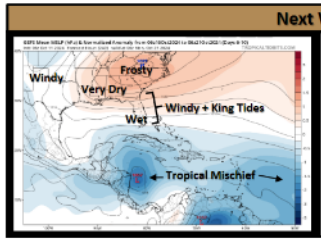
Friday, October 11, 2024

Evaporative Demand the First Week of October

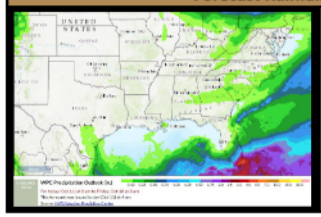


- The evaporative demand drought index (EDDI) for the first week of October shows the areas of extreme drying that are collocated with lack of wetting rain in northeast OK, western AR and parts of central/southeast TX
- Some abnormal drying has affected adjacent parts of TX, LA, AR and OK, as well
- EDDI factors in sunlight, humidity, temperatures and winds to account for the amount of moisture pulled out of the ground and plants and is a good indicator of where the most fire-receptive fuels may be as fire weather intensifies this weekend into parts of next week;
- Areas of most concern will be where 1- to 3-week values are above the 95th percentile

Next Week



Forecast Rainfall the Next Week



- Forecast rain the next week will mostly be limited to the FL peninsula, with some 2-4" totals forecast across southeast FL, where higher amounts will be possible
- A cold front passing through the region will mostly be dry; however, a few showers and thunderstorms are possible for KY, TN and VA into the Carolinas, GA and AL; widespread wetting rain is unlikely, but some local quarter to half inch totals are possible; a few snow or sleet showers could occur Tuesday in the highest elevations, as well
- Rain chances may begin to increase in South TX late next week, with an expansion into the High Plains possible by next weekend
- The majority of the Southern Area will not see rain

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

Note the increasing fuel dryness & poor recoveries expected at higher elevations throughout much of the Southern Appalachians over the next few days.

Forest Disturbance Interpretation

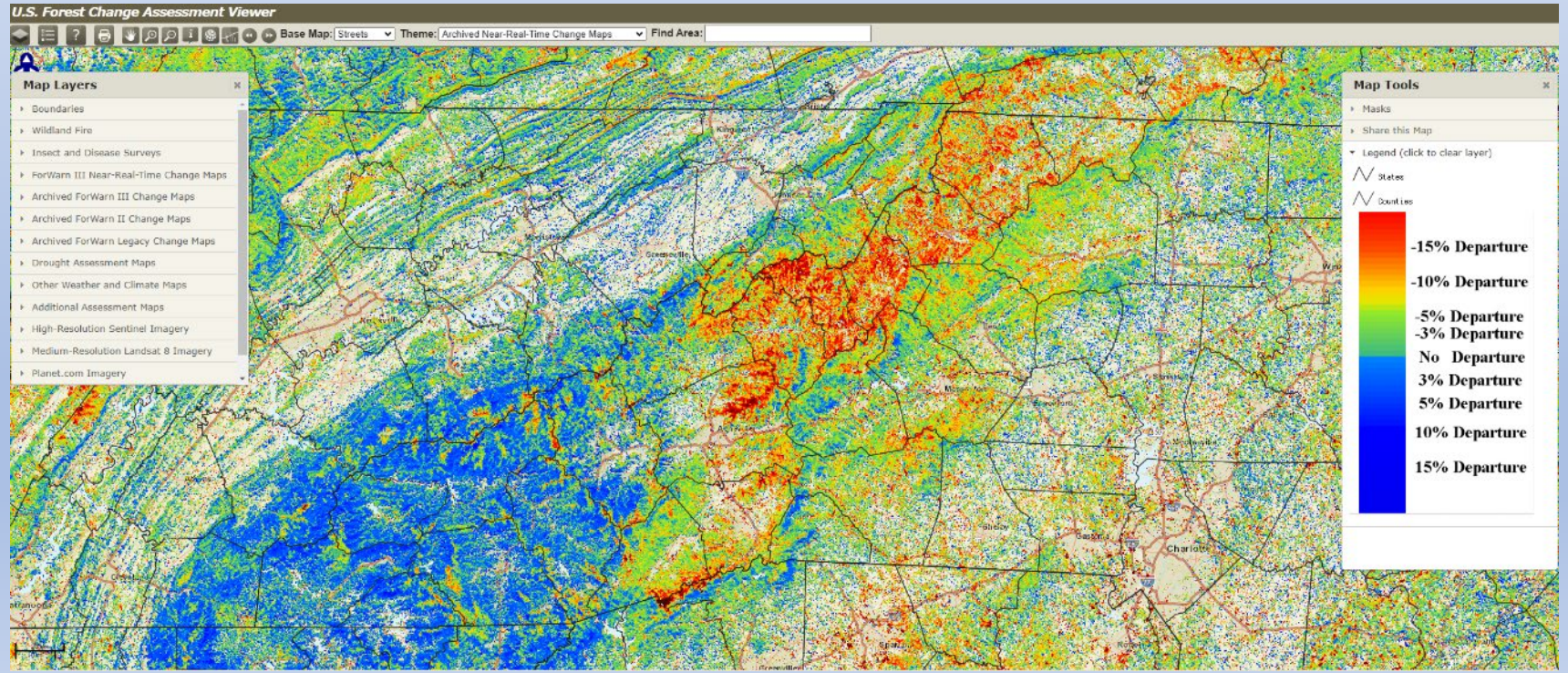
Note the NDVI change viewer graphic on bottom right – could potentially represent areas of simple defoliation or combination of stem breakage (especially for conifers), not able to discern but good for general context.

NCFS captured images to the left are from Ashe County, top image shows storm related defoliation while bottom image shows stem breakage example.

(From USFS SRS Provided info):

"Pre Storm" ForWarn 7-day all-year percent forest NDVI change map from 10-6-24 for parts of western North Carolina. This post storm forest NDVI change map for shows changes in forest greenness for the current compared to all previous years (2003-2023) according to pheno-region. The link also shows an Imagery Basemap as an underlay, along with state and county boundaries super imposed.

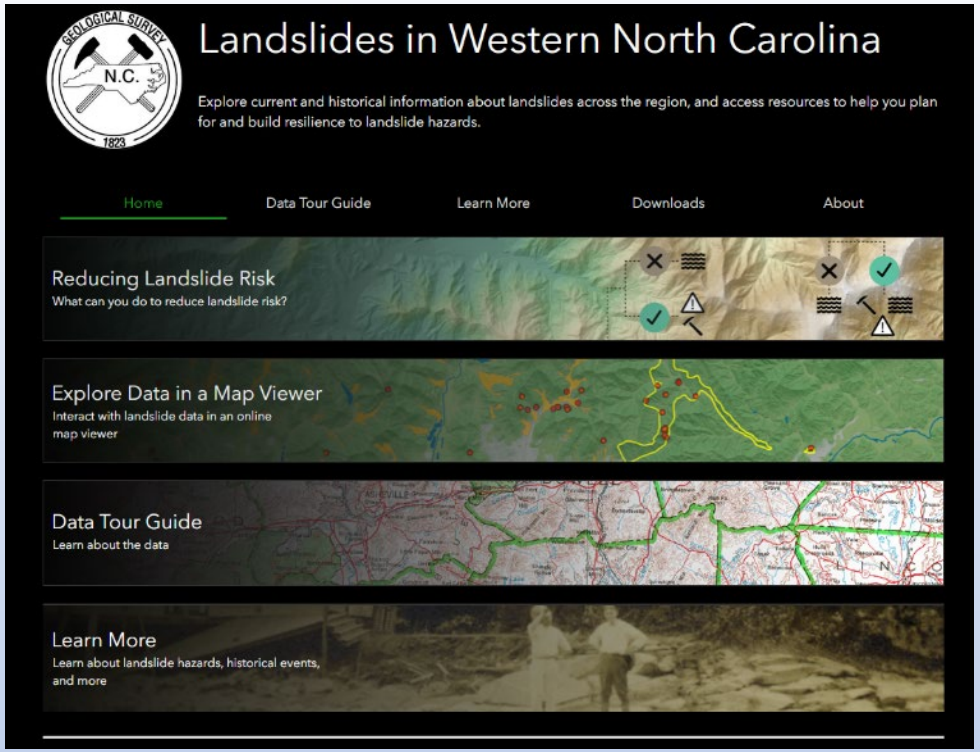
https://forwarn.forestthreats.org/fcav2?theme=MODIS_Forest_Change_Products&layers=FW3_phenoregionEED_20241006,AAB,AAC&mask=Forest&alphas=1,1,1&accgp=GForWarn3_Current&basemap=Imagery&extent=-9366416.3500038,4212479.4064892,-8975058.7651838,4395775.400317



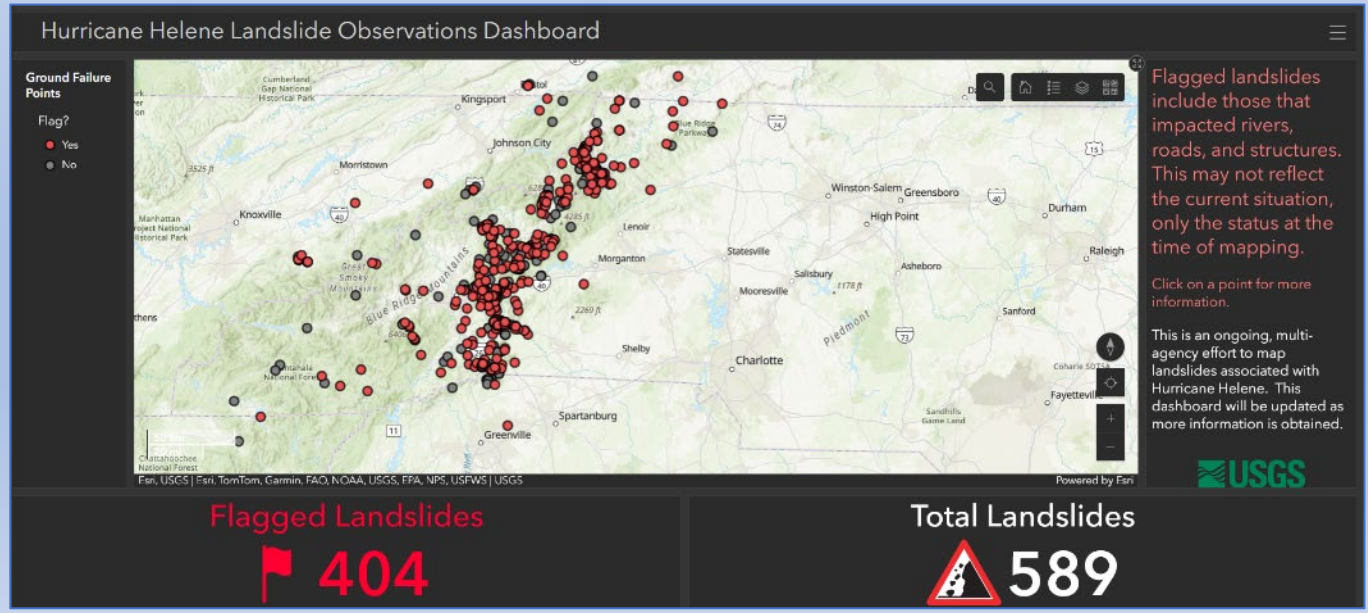
Landslide Information/Safety

NCDEQ – NC Geological Survey:

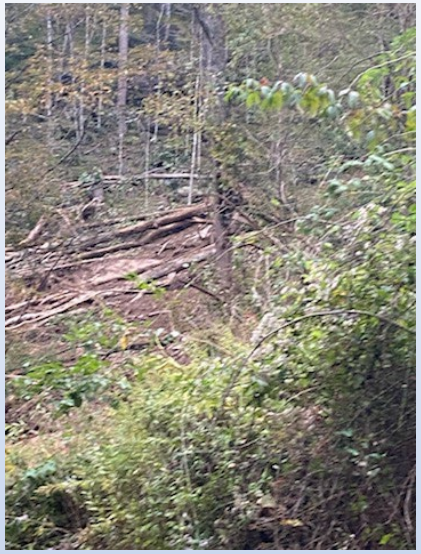
- See the following link (here) for variety landslide information including topics on types of slides, historical locations, etc.
- See section on "**Indicators That Further Movement is Likely In The Upslope Area" & "Movement Indicators".**
- The ArcGIS viewer to the top right provides an interactive interface also from the NCGS. *https://experience.arcgis.com/experience/b55c8497d115400aa09d9cb7a27f5dc8/*
- The ArcGIS dashboard to the bottom right displays noted landslides related to Helene from USGS. *https://www.arcgis.com/apps/dashboards/01b4f51fc0b64002bf7722a9acfc181d*



Hurricane Helene 2024
Landslide Observations (USGS)
– image from 0800 on 10/11 –



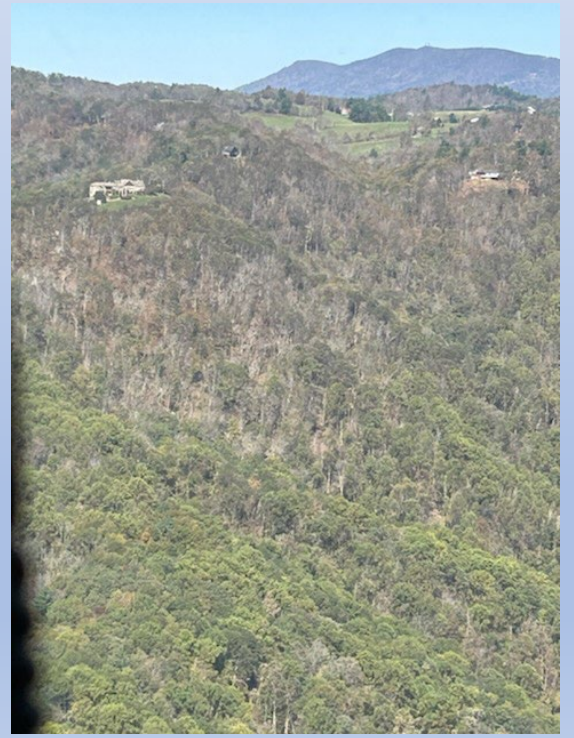
Post-Hurricane Considerations related to Fuels & Fire Danger



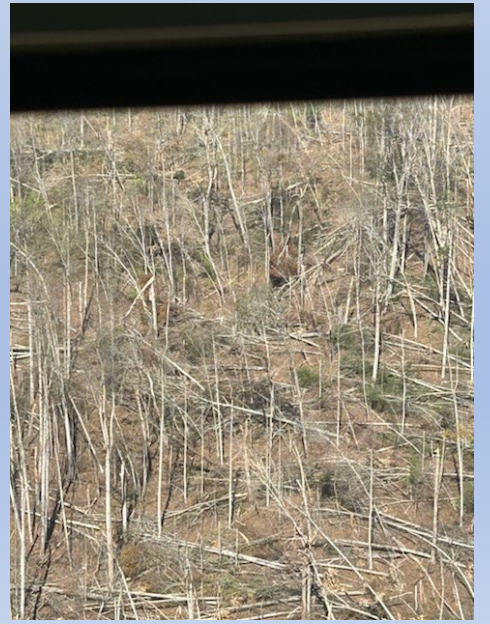
Drought conditions have improved significantly, but rainfall since TS Helene has been limited with many areas well over 10-14 days since ≥ 0.25" of rainfall.

A very dry air mass is currently in place over the state. The dry, comfortable "fall" air is drying smaller dead fuels out more rapidly (seasonal context of the past couple months) especially where the dry air intersects higher elevation mountain areas with repeated poor overnight recovery. Be watchful for situations where consecutive days of dry air aligns with higher air temps, approaching dormancy, wind and heavy loading of drying storm debris as we progress through October. Currently the Blue Ridge Escarpment FDRA is seeing the most significant drying.

Relative greenness of live fuels will quickly decline as more frost/freeze events come + respond to daily decrease in daylength until around December 21st (Winter Solstice). This means more fuels will become available, including herbaceous species helping reduce debris burn escapes & difficulty of control. Areas with significant defoliation are seeing that leaf litter dry and become available sooner than normal. Debris burning will likely increase along with related escape risk as the public begin the cleanup process.



Storm impacted areas - additional fuel loading, landslide related concerns, many more overhead hazards & limited access to new fire starts will likely hinder traditional initial attack methods, line production rates & overall speed of control/mop-up. This is on top of the normal Fall Fire Season load that builds through October & November. NCFS provided images to the left are from several central mtn. counties.



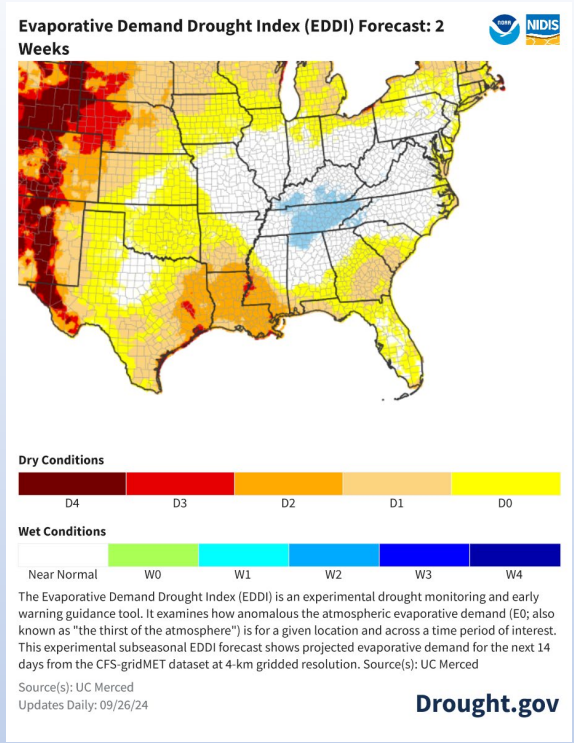
Post-Hurricane Fuels and Suppression Considerations Bulletin - please refer to the attached document for much more detailed discussion – it was generated by joint efforts within the SA. This bulletin highlights key considerations to ensure the safety and effectiveness of suppression efforts, and the unique challenges and hazards associated with hurricane impacted areas – in context for impacted areas throughout the Southern Area.

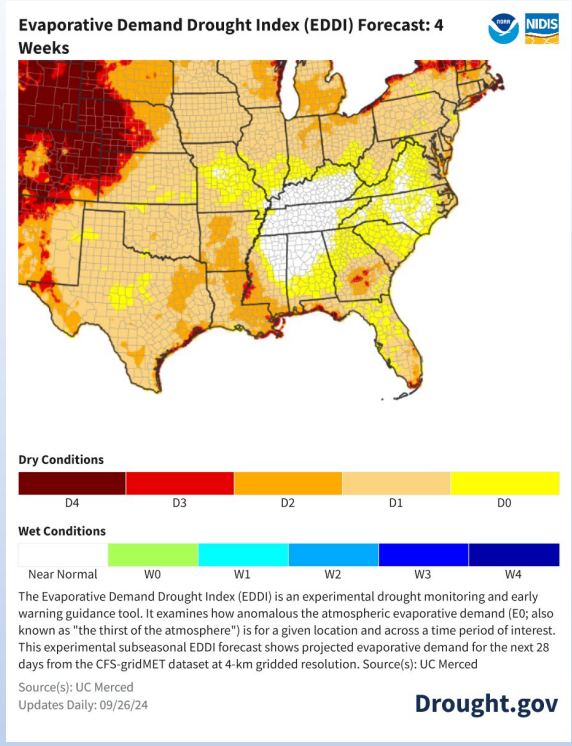
EDDI & Drought

EDDI Maps - The EDDI maps at the top right illustrate modeled evaporative demand at the two-week and four-week level. They represent enhanced drying potential later in the period as warmer conditions are forecast to return.

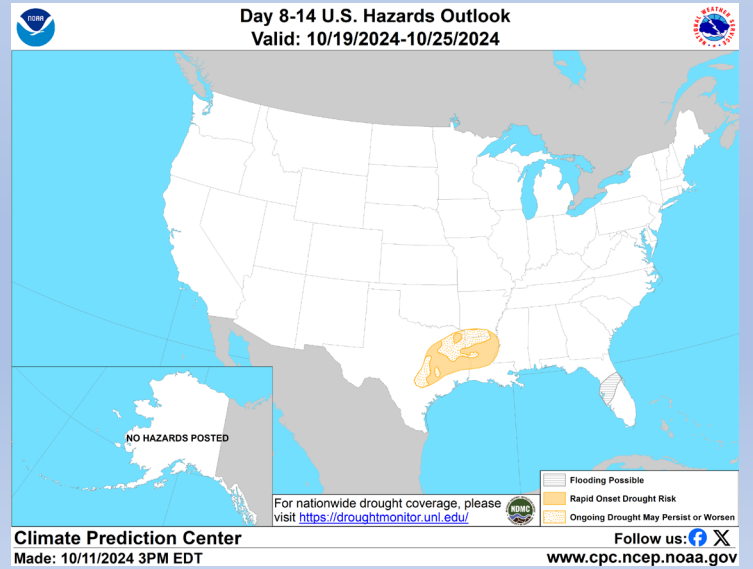
Regional Rapid Onset Drought Risk - The CPC has outlined a portion of the Southeast US as being at risk for rapid onset drought ("flash drought"). Many of these areas have already experienced an uptick in fire activity due to fuel dryness & abnormal heat being seen throughout much of the country.

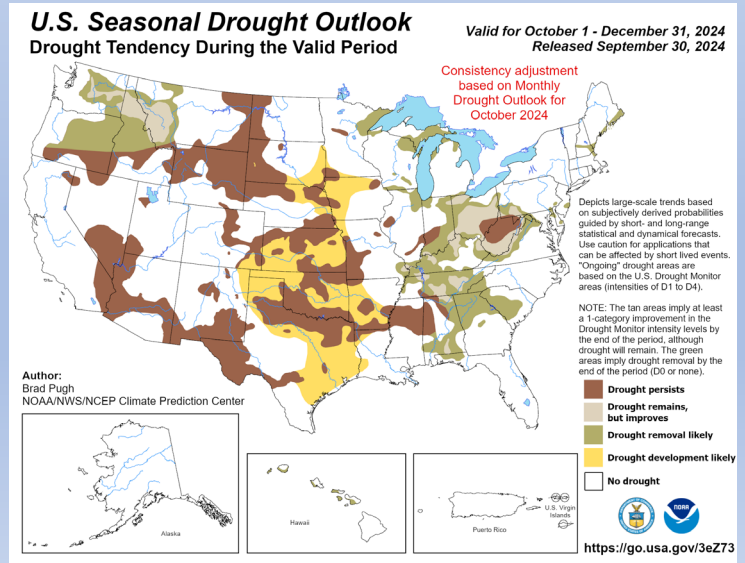
US Seasonal Drought Outlook - released on 9/30/24, shown at bottom right. See detailed state/regional discussions here. *All of this is dependent upon any potential tropical impacts that may/may not occur & influence of any eventual La Nina type influences.*





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





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

10/11/24 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	2024-10-11	26.87 41.6%	18.87 60.5%	3.80 63.4%	6.50 36.2%	152.33	11.40 20.2%	14.62 20.8%	18.14 31.0%	24.31 93.9%	230.20	184.33	63.7°F	37.7%	SW 4.0 mph	0.00 in.	0.0
Central Mountains	3	2024-10-11	20.23 29.1%	14.13 38.7%	2.47 38.8%	4.50 31.7%	167.33	13.02 46.9%	17.72 51.4%	18.22 34.3%	23.76 97.0%	250.00	200.00	70.0°F	30.3%	SSE 5.0 mph	0.00 in.	0.0
Northern Highlands	2	2024-10-11	22.90 40.4%	13.45 43.5%	2.75 58.1%	6.10 38.6%	124.50	12.95 37.9%	18.23 49.9%	18.57 50.6%	25.26 98.5%	250.00	200.00	67.5°F	33.0%	SSW 2.5 mph	0.00 in.	0.0
Blue Ridge Escarpment	3	2024-10-11	27.67 36.8%	19.53 49.9%	4.07 46.1%	6.40 25.7%	182.33	11.51 46.8%	15.32 31.1%	15.94 15.0%	19.11 35.2%	208.87	171.33	71.0°F	39.0%	WNW 2.3 mph	0.00 in.	0.0
Western Piedmont	3	2024-10-11	15.73 15.2%	12.43 20.5%	2.07 25.0%	2.93 11.3%	175.33	12.79 63.5%	21.13 78.2%	18.53 62.7%	23.36 94.8%	250.00	200.00	70.7°F	39.3%	WSW 2.0 mph	0.00 in.	0.0
Sandhills	3	2024-10-11	26.30 25.8%	27.40 27.4%	6.53 44.7%	4.37 32.9%	174.67	11.18 46.1%	18.56 68.3%	19.68 68.3%	23.20 94.5%	250.00	200.00	71.3°F	35.3%	SSE 2.0 mph	0.00 in.	0.0
Eastern Piedmont	4	2024-10-11	15.80 10.5%	12.88 17.7%	1.93 20.7%	2.88 6.8%	138.00	12.87 59.9%	19.83 72.9%	19.14 55.5%	24.05 98.0%	250.00	200.00	67.5°F	43.5%	W 4.3 mph	0.00 in.	0.3
Southern Coastal	7	2024-10-11	17.79 12.5%	14.90 21.0%	2.36 22.3%	3.26 7.2%	276.71	12.37 47.5%	19.56 71.6%	19.29 46.5%	22.96 88.7%	250.00	200.00	72.3°F	39.1%	ENE 3.3 mph	0.00 in.	0.0
Northern Coastal	4	2024-10-11	21.33 15.8%	20.08 28.1%	3.05 29.2%	3.70 10.3%	326.00	11.45 36.6%	18.40 63.0%	19.26 52.8%	23.18 91.6%	186.90	185.25	72.3°F	41.8%	WSW 3.0 mph	0.00 in.	0.0

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.

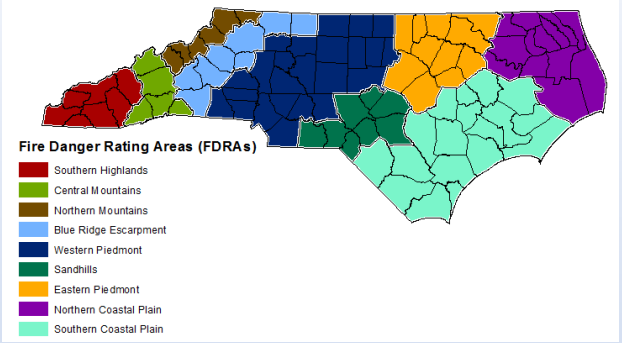
Important notes for next slide group:

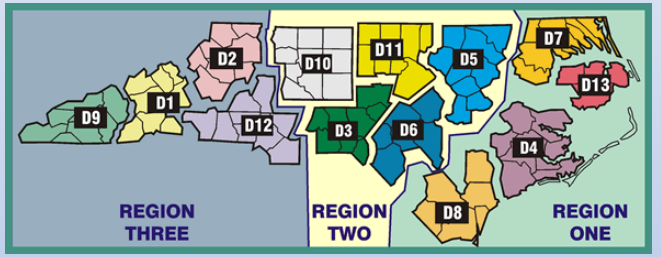
A. Current ERC, KBDI, GSI, 10-Hr, 100-Hr & 1000-Hr Graphics:

- 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:

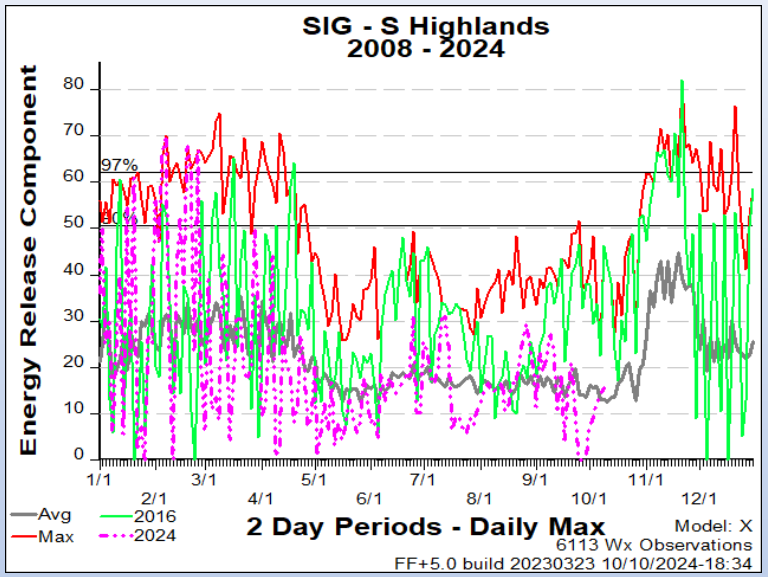
- Read the key and notes for each FDRA, included on the outlook matrix page.
- Forecasts are variable and can change significantly over a forecast cycle and across the landscape.
- This is another tool for gaining better situational awareness, and should be used for general planning purposes only.
- 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.

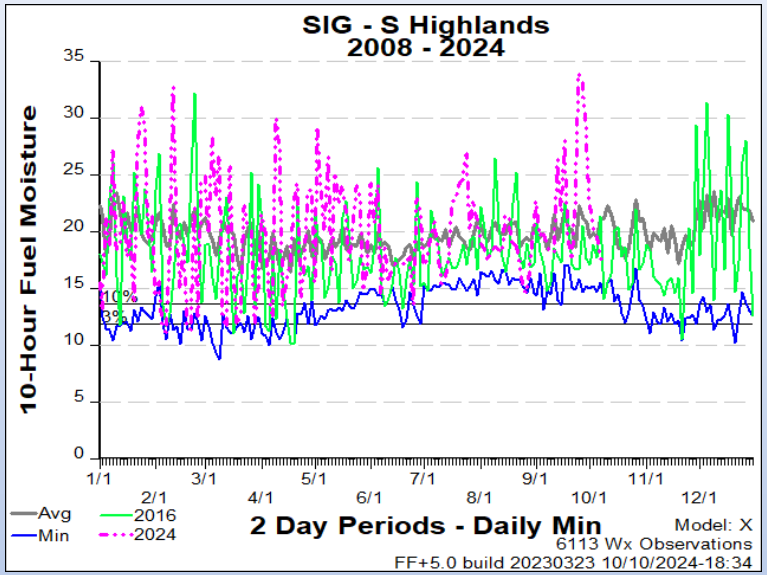
To reduce duplication & increase situational awareness, slides 14-35 are organized by FDRA in this order:

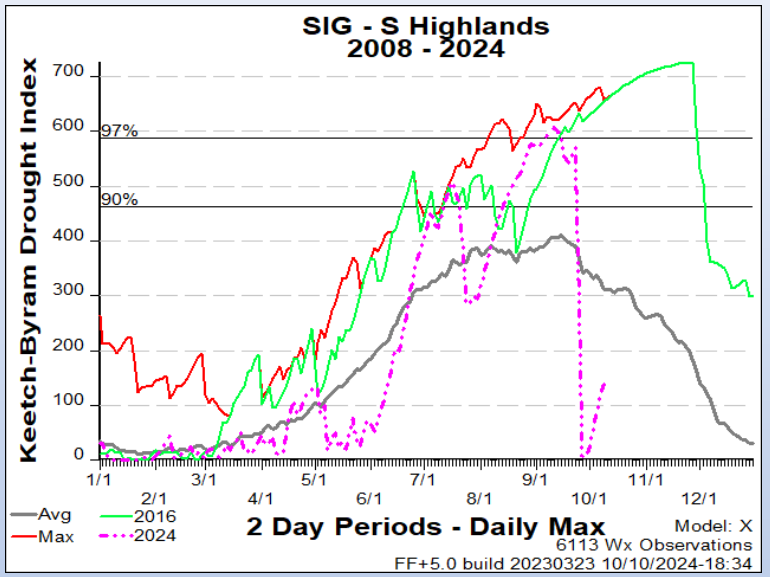
**(R3 = Region 3, R2 = Region 2, R1 = Region 1)*

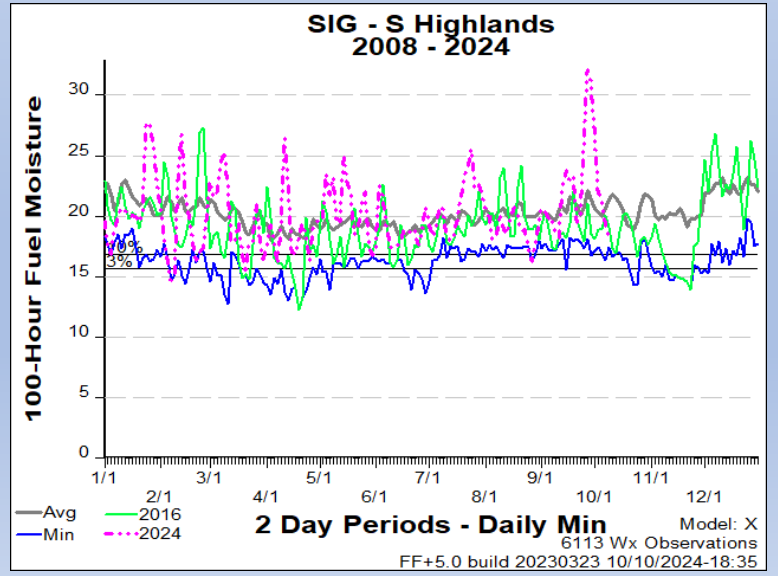
- Southern Highlands (R3)
- Central Mountains (R3)
- Northern Highlands (R3)
- Blue Ridge Escarpment (R2 & R3)
- Western Piedmont (R2 & R3)
- Eastern Piedmont (R2)
- Sandhills (R2)
- North Coast (R1)
- South Coast (R1 & R2)

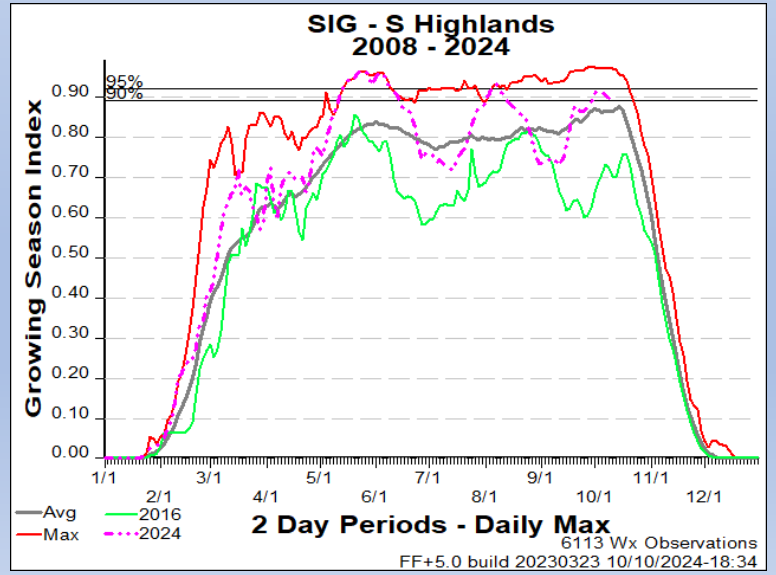
FDRA – Southern Highlands

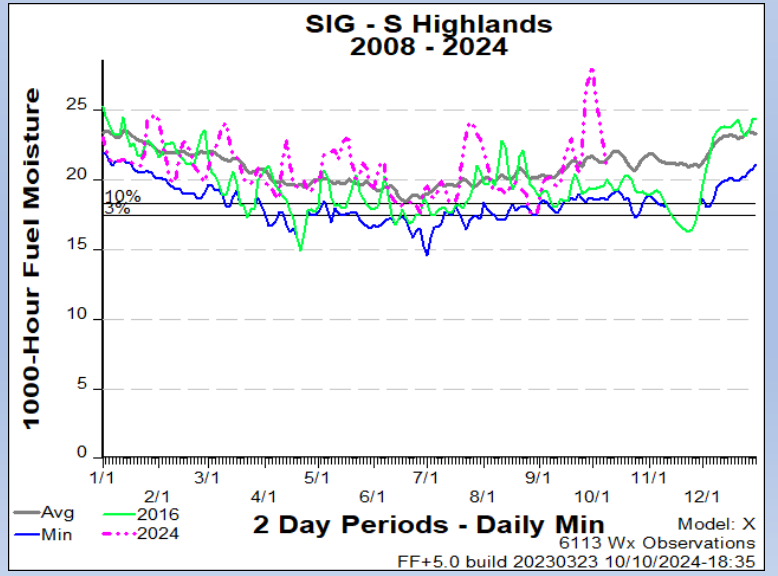






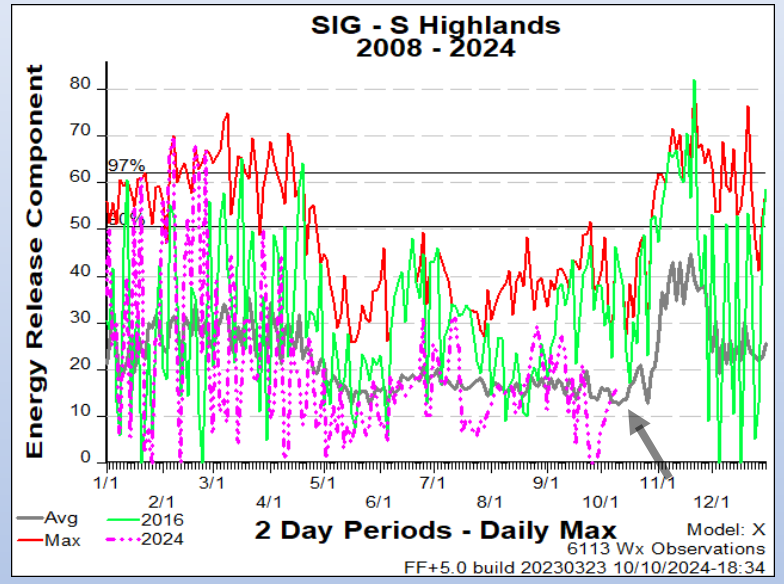




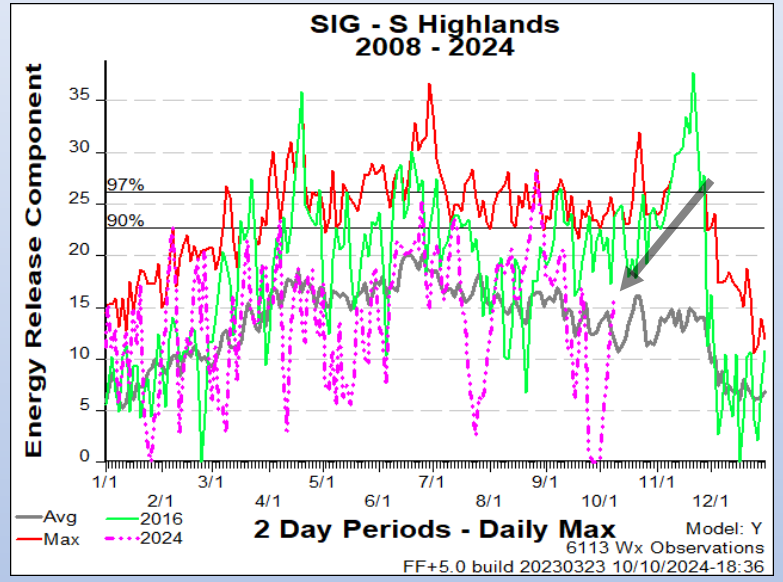


FDRA – Southern Highlands

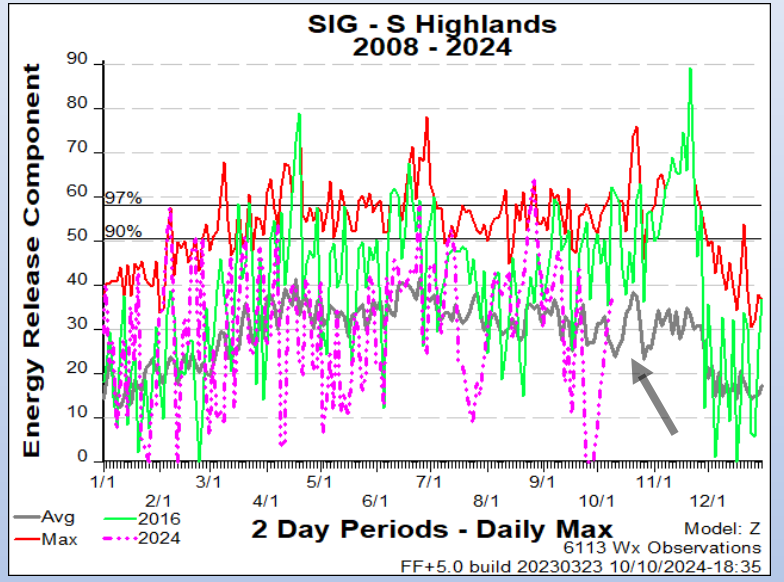
ERC-X



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

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Average, Max, Min, CY Year 2016 are displayed along with Year-to-Date 2024

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	69	70	74	63	52	54	62
Avg. Min. Humidity (%)	40	36	49	41	47	42	43
Avg. 20' Wind Speed (mph)	2	2	3	6	5	4	2
Avg. Wind Direction*	W	WSW	WSW	WNW	NNW	NNW	SSW
Avg. Probability of Precip. (%)	0	0	7	5	4	3	1
Days Since a Wetting Rain**	12.7	13.7	14.7	15.7			
Forecast ERC (Fuel Model X)	16.3	15.5	15.3	13.6	14.8	15.3	16.1
Forecast BI (Fuel Model X)	22.9	21.2	24.5	25.3	26.2	23.1	22.8
Forecast IC (Fuel Model X)	2.9	2.7	3.3	3.3	2.6	2.1	2.3
Forecast 100-Hr. FMC	17.5	17.1	16.8	16.8	17.2	17.1	16.8
Forecast 1000-Hr. FMC	24.1	23.8	23.5	23.2	22.9	22.8	22.6
KBDI	144.3						

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:

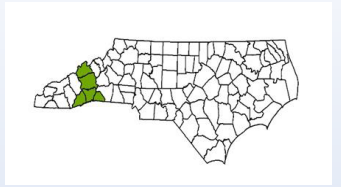
- **Tusquitee** (315602)
- **Locust Gap** (315802)
- **Highlands** (315803)

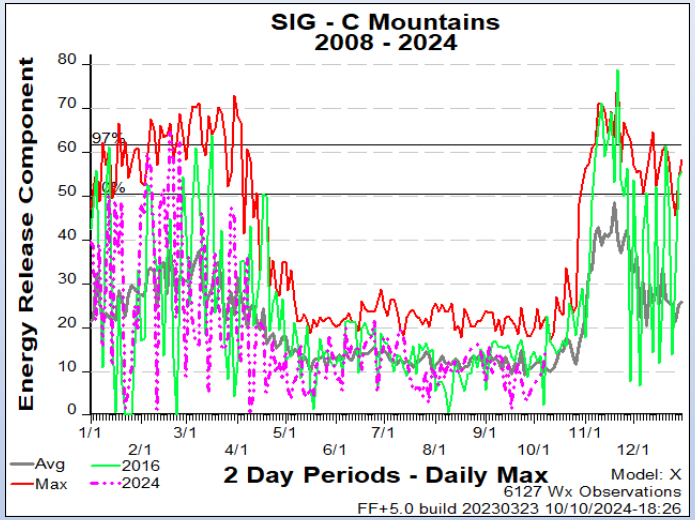
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 55°F	Greater than 55°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph	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

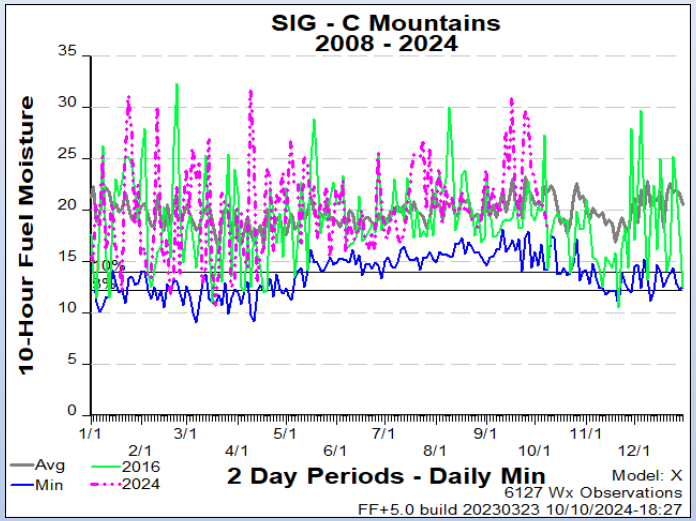
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

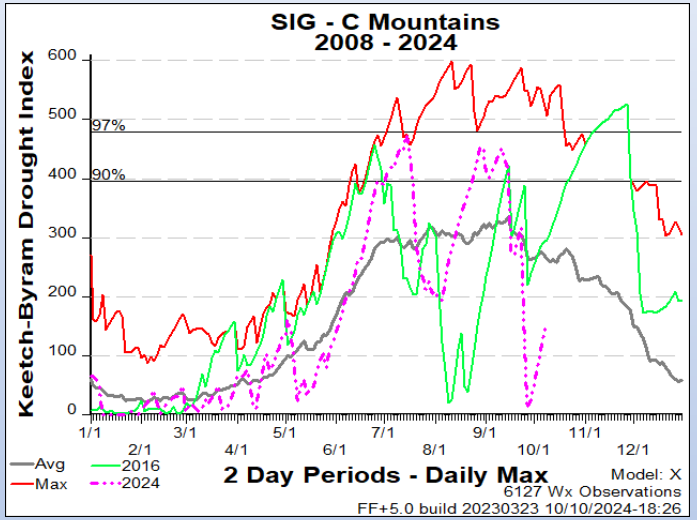
0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

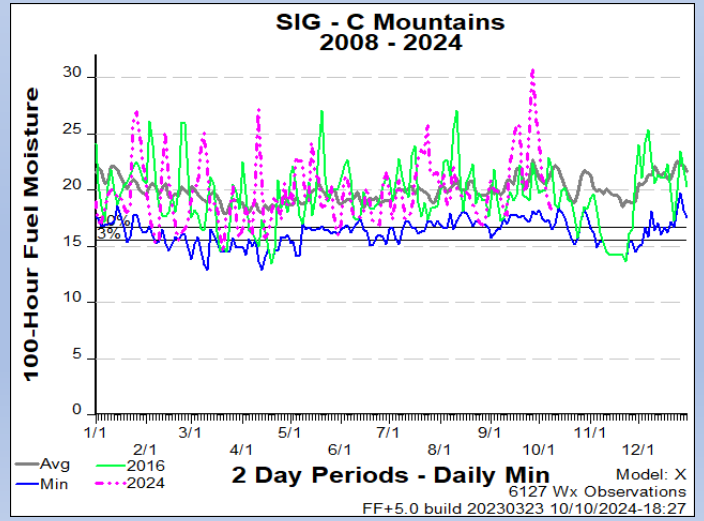
FDRA – Central Mountains

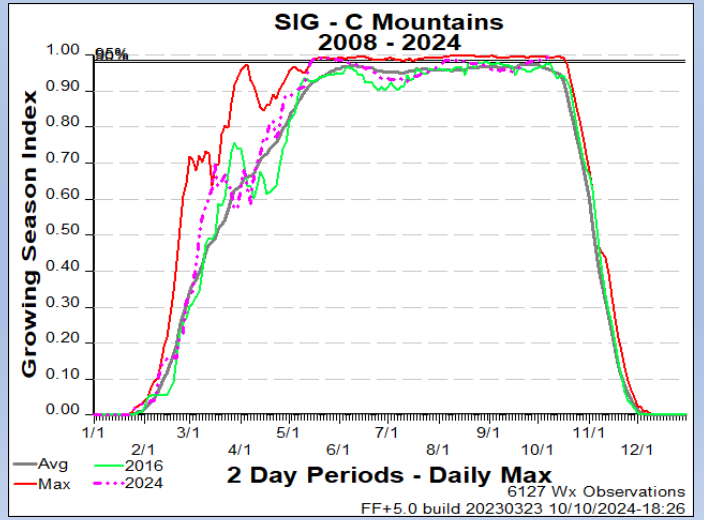


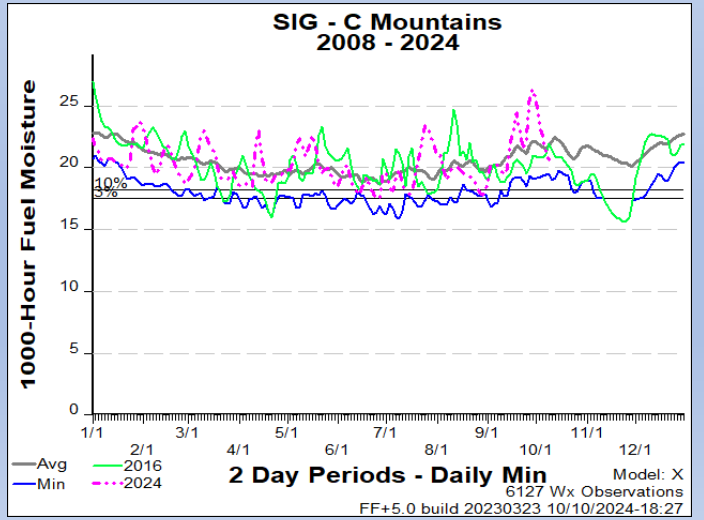




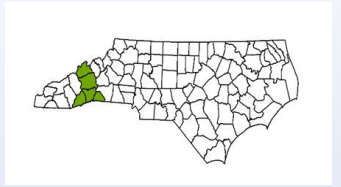




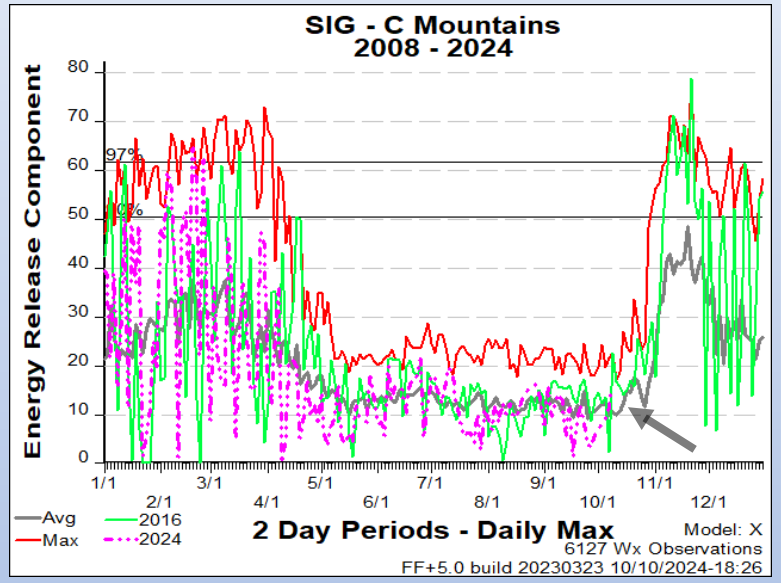




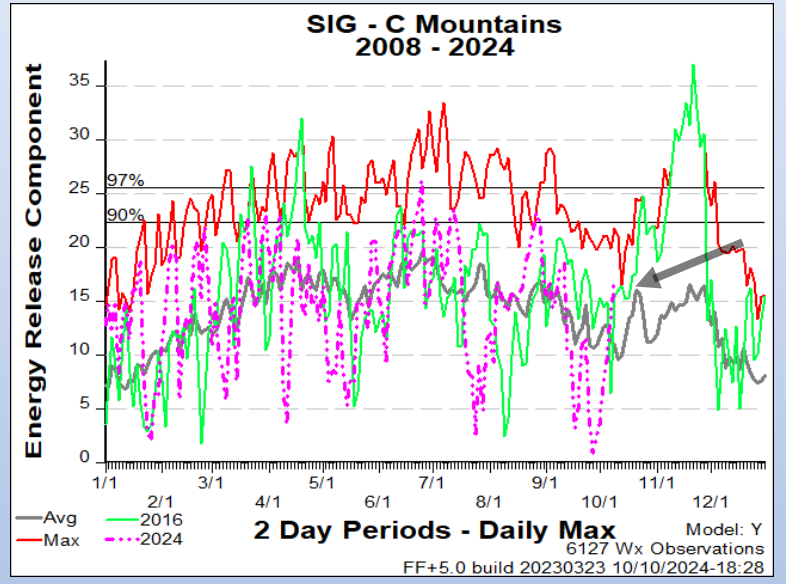
FDRA – Central Mountains



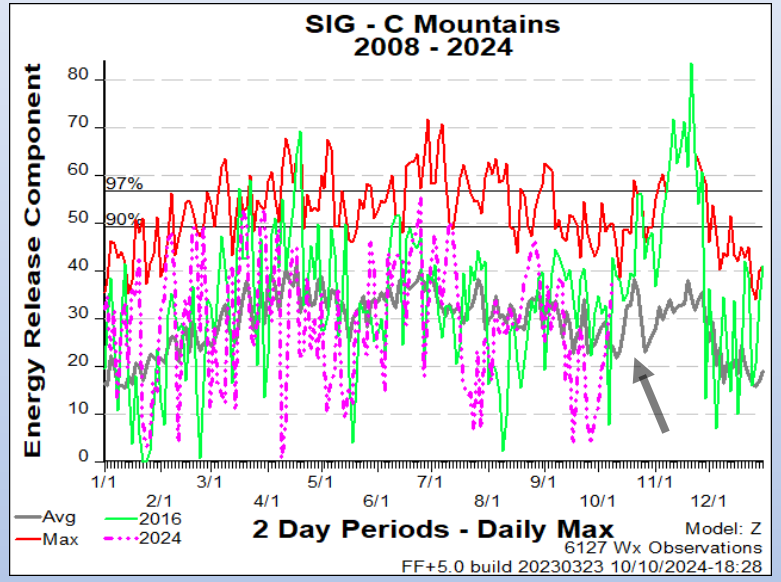
ERC-X



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

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Average, Max, Min, CY Year 2016 are displayed along with Year-to-Date 2024

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	71	74	80	67	55	56	65
Avg. Min. Humidity (%)	36	32	44	42	48	44	43
Avg. 20' Wind Speed (mph)	4	3	3	7	6	5	3
Avg. Wind Direction*	SSW	W	WSW	NW	NNW	NNW	W
Avg. Probability of Precip. (%)	0	0	11	5	4	4	3
Days Since a Wetting Rain**	8.7	9.7	10.7	11.7			
Forecast ERC (Fuel Model X)	16.5	18.7	16.8	13.8	14.9	15.8	16.4
Forecast BI (Fuel Model X)	21.2	22.1	21.9	24.9	26.7	24.8	20.6
Forecast IC (Fuel Model X)	3.0	3.5	3.3	3.4	2.7	2.4	2.3
Forecast 100-Hr. FMC	17.3	16.6	16.1	16.0	16.5	16.5	16.2
Forecast 1000-Hr. FMC	23.6	23.3	23.0	22.6	22.3	22.2	22.0
KBDI	159.7						

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

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

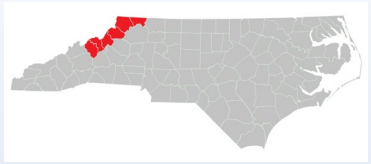
Values in the table above are averages from 3 stations in this FDRA:

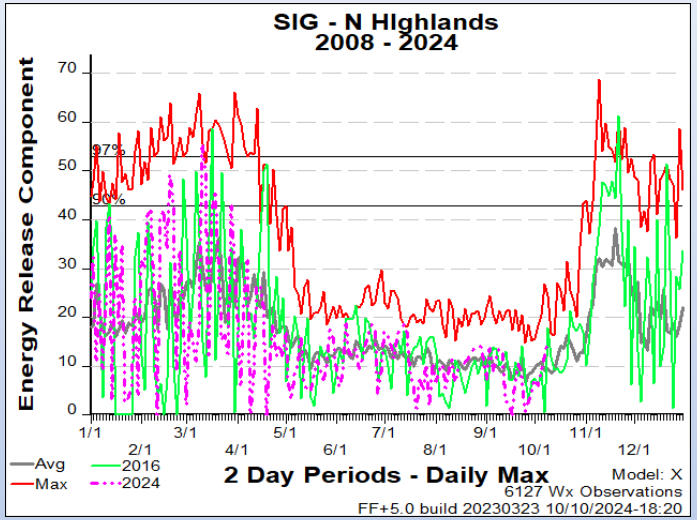
- **7 Mile Ridge** (313302)
- **Davidson River** (316001)
- **Mtn Horticultural Crops Res Stn** (316141)

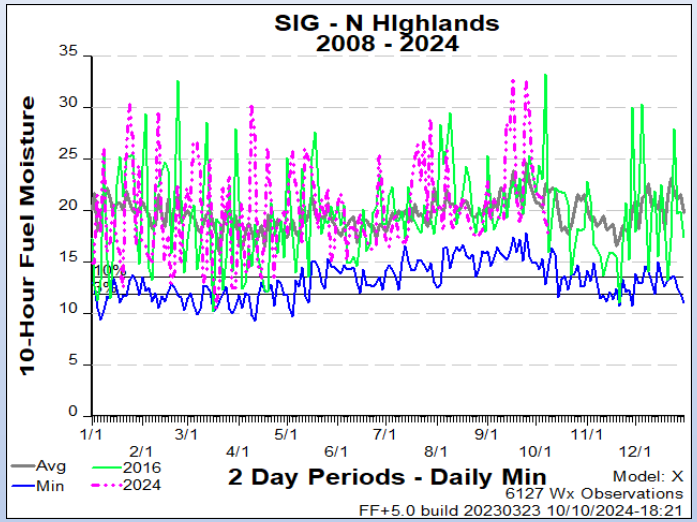
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph	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

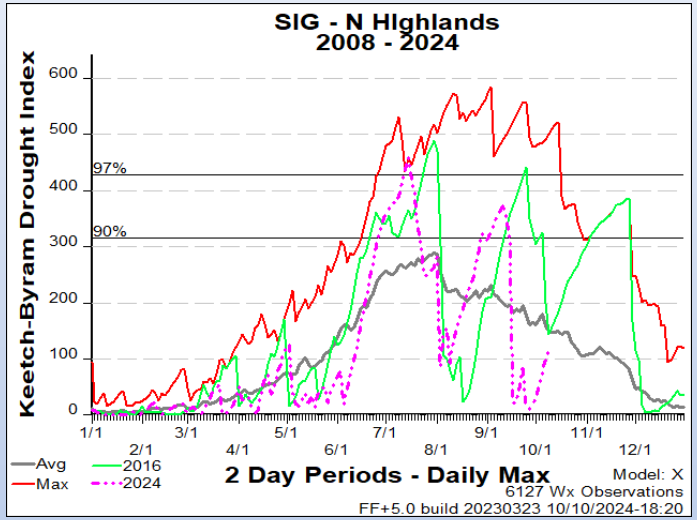
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

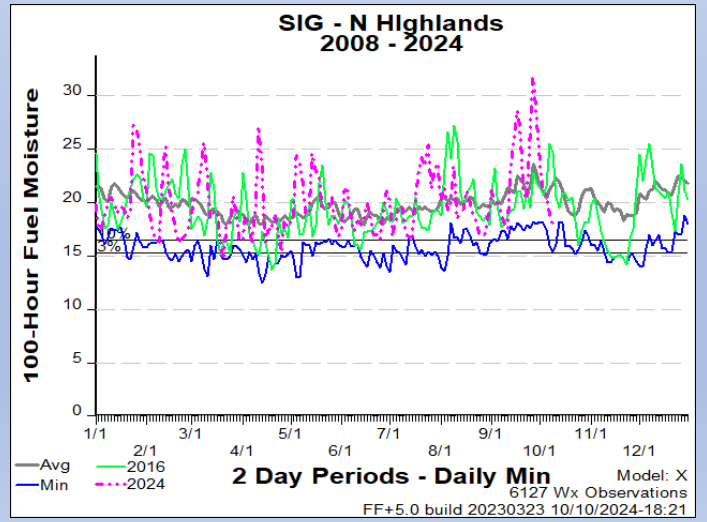
FDRA – Northern Highlands

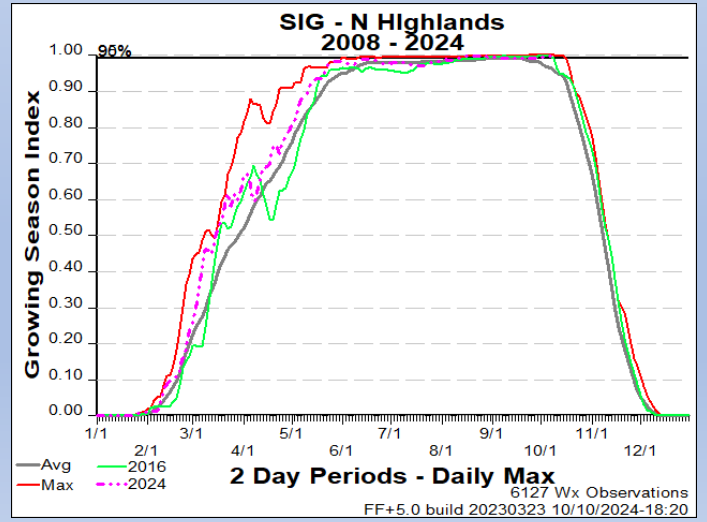


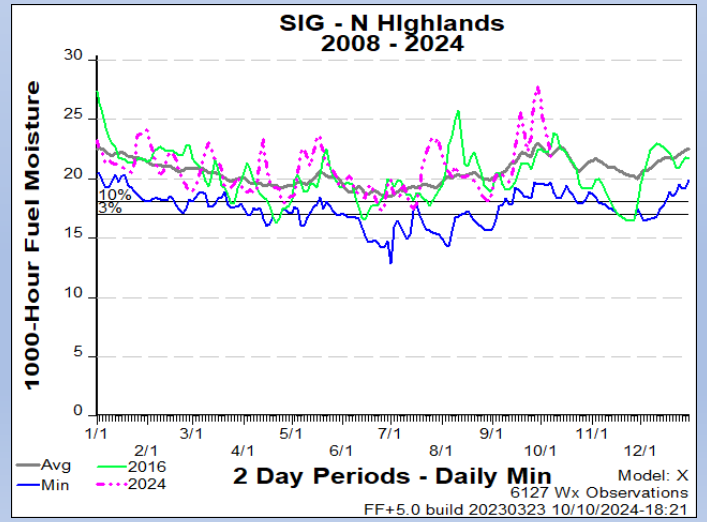




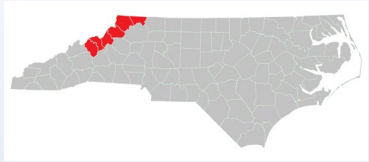




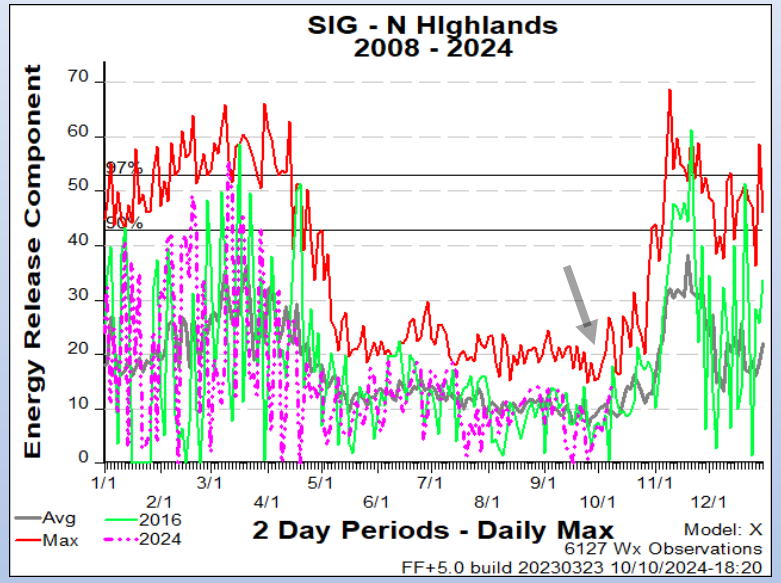




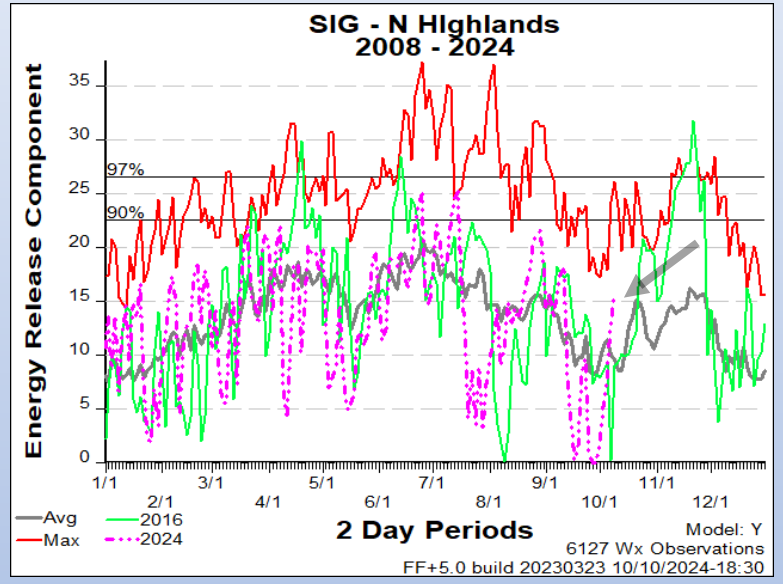
FDRA – Northern Highlands



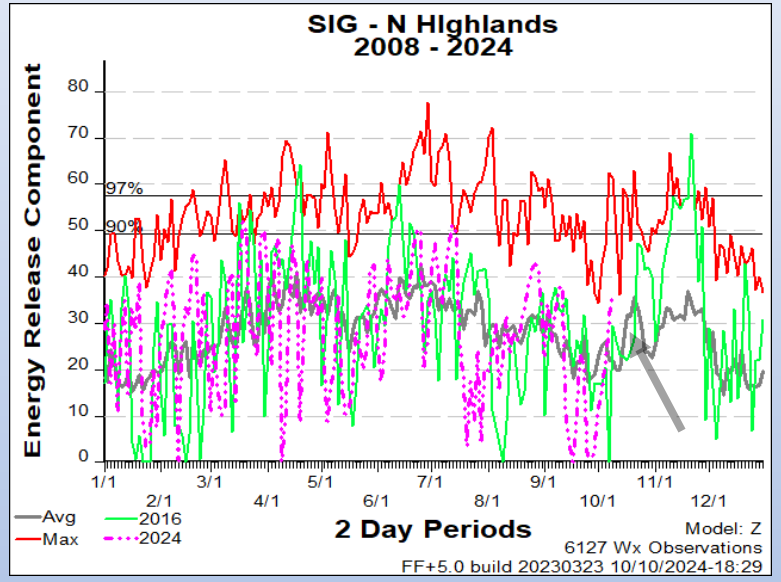
ERC-X



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

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Average, Max, Min, CY Year 2016 are displayed along with Year-to-Date 2024

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	67	72	75	61	51	52	59
Avg. Min. Humidity (%)	46	34	48	42	50	47	44
Avg. 20' Wind Speed (mph)	3	4	5	10	8	8	4
Avg. Wind Direction*	WSW	WNW	W	WNW	NW	NW	NW
Avg. Probability of Precip. (%)	0	0	11	5	5	5	3
Days Since a Wetting Rain**	4.7	5.7	6.7	7.7			
Forecast ERC (Fuel Model X)	13.5	18.9	19.7	15.7	15.3	15.5	15.4
Forecast BI (Fuel Model X)	19.9	24.2	28.3	29.4	28.2	26.2	22.3
Forecast IC (Fuel Model X)	2.2	3.9	4.9	3.7	2.7	2.3	2.1
Forecast 100-Hr. FMC	18.5	17.8	16.6	16.1	16.0	15.9	15.6
Forecast 1000-Hr. FMC	25.2	24.9	24.6	24.2	23.9	23.7	23.5
KBDI	118.5						

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:

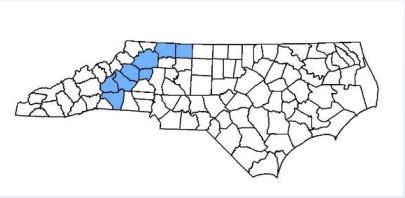
- **Laurel Springs** (310101)
- **Upper Mountain Research Stn** (310141)
- **Busick** (313402)

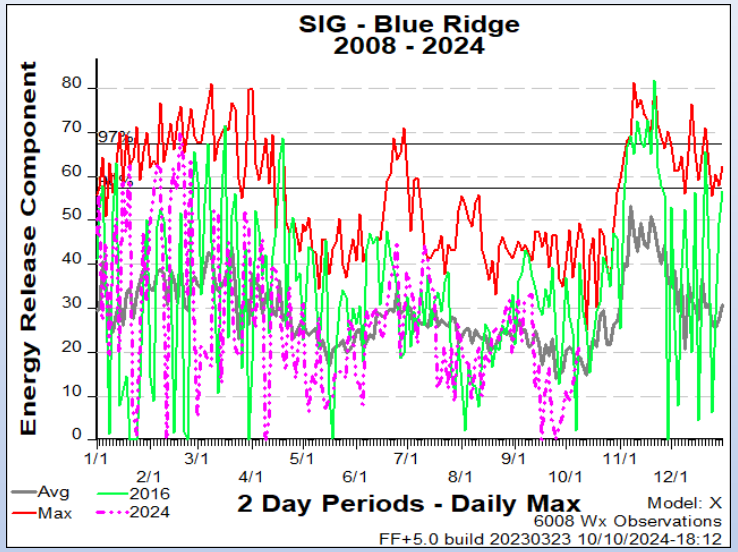
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 58°F	Greater than 58°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	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

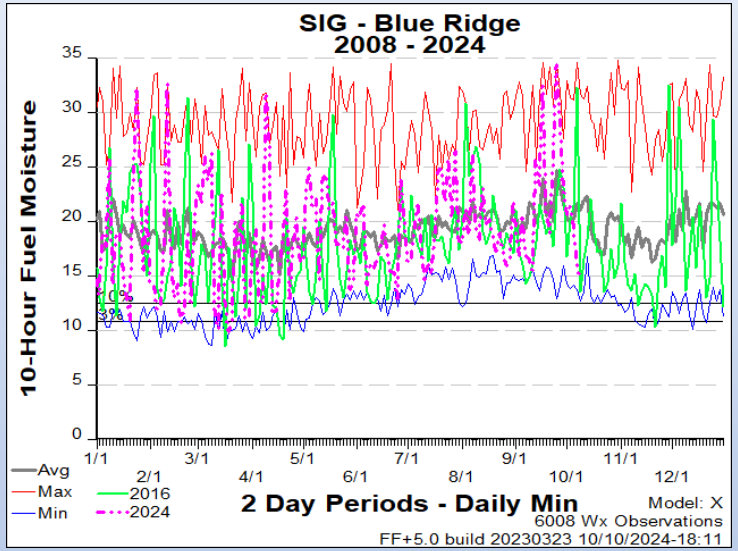
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

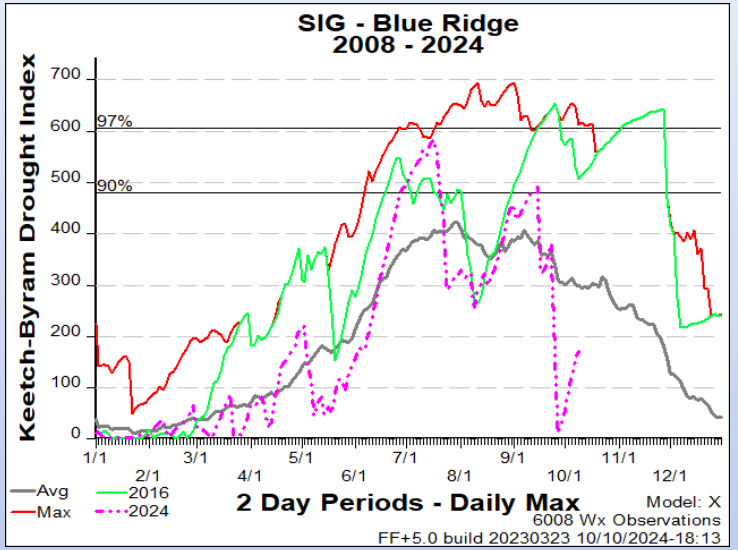
0-74th; 75-89th; 90th+ (Indices)
26-100th; 11-25th; 0-10th (Fuel Moisture)

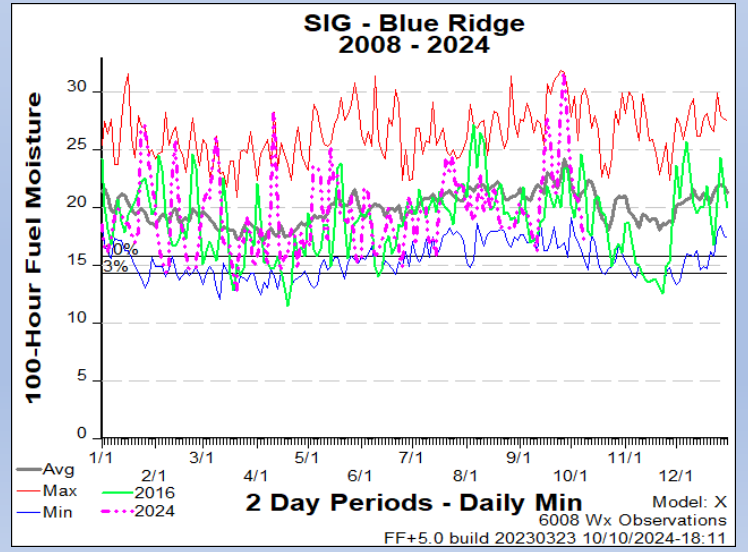
FDRA – Blue Ridge Escarpment

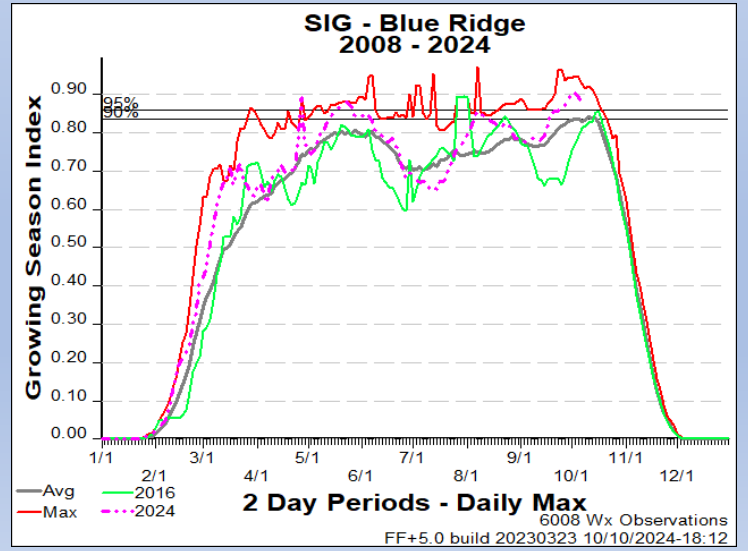


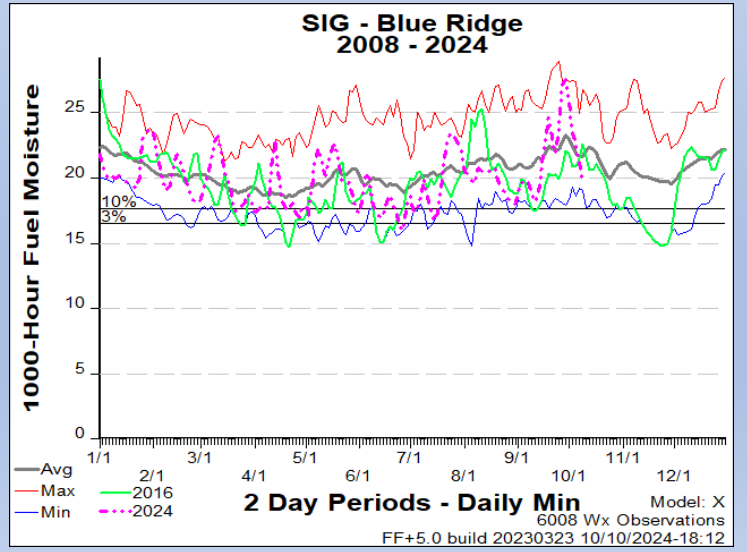




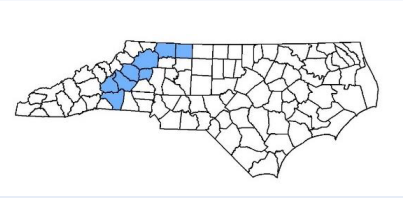




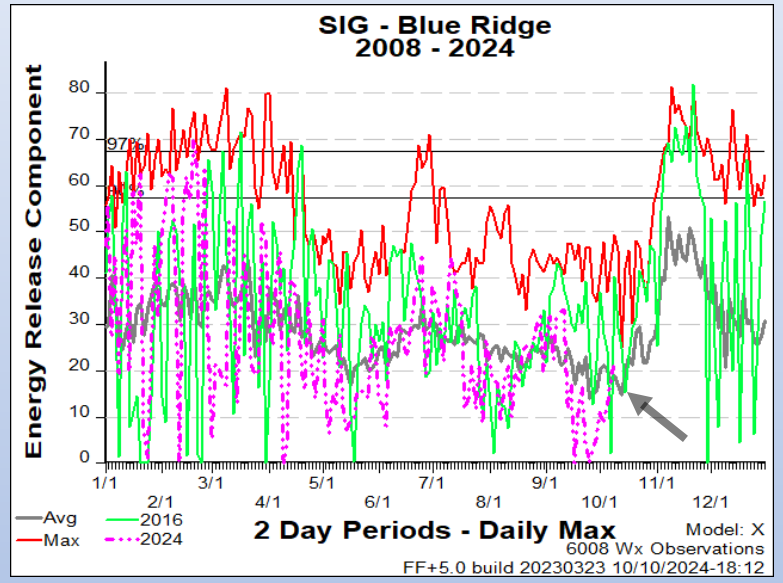




FDRA – Blue Ridge Escarpment



ERC-X



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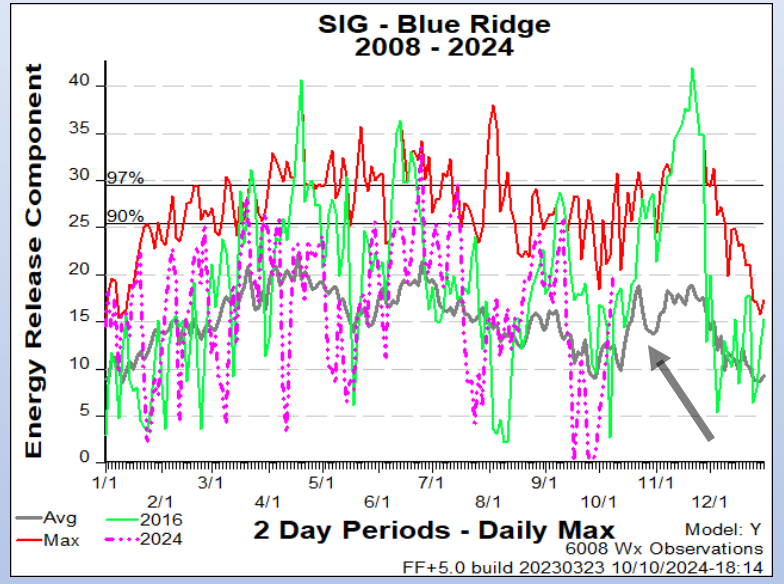
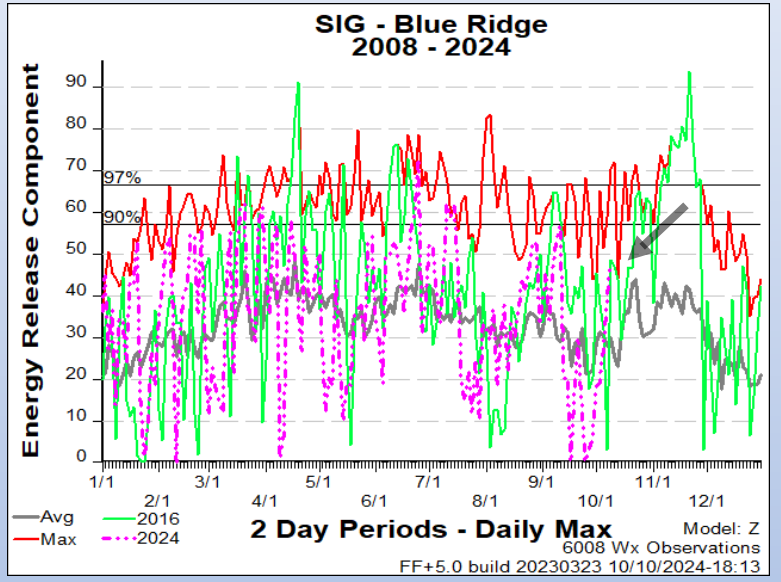


ERC-Z



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

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Average, Max, Min, CY Year 2016 are displayed along with Year-to-Date 2024

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	70	76	78	68	57	57	65
Avg. Min. Humidity (%)	42	32	44	37	43	42	41
Avg. 20' Wind Speed (mph)	2	3	3	6	5	5	3
Avg. Wind Direction*	SW	WNW	W	WNW	NNW	NNW	WNW
Avg. Probability of Precip. (%)	0	0	8	5	4	4	3
Days Since a Wetting Rain**	15.0	16.0	17.0	18.0			
Forecast ERC (Fuel Model X)	17.6	20.8	20.0	18.3	18.4	19.2	19.3
Forecast BI (Fuel Model X)	23.4	23.7	29.7	30.6	30.4	28.3	27.6
Forecast IC (Fuel Model X)	2.9	3.7	4.6	4.3	3.4	3.0	3.0
Forecast 100-Hr. FMC	15.6	14.9	14.5	14.9	15.4	15.3	15.0
Forecast 1000-Hr. FMC	18.9	18.3	17.8	17.5	17.3	17.2	17.0
KBDI	174.3						

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

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

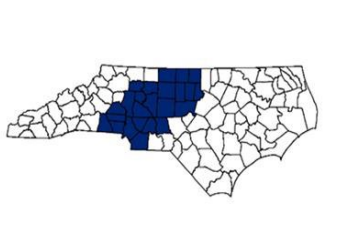
Values in the table above are averages from 3 stations in this FDRA:

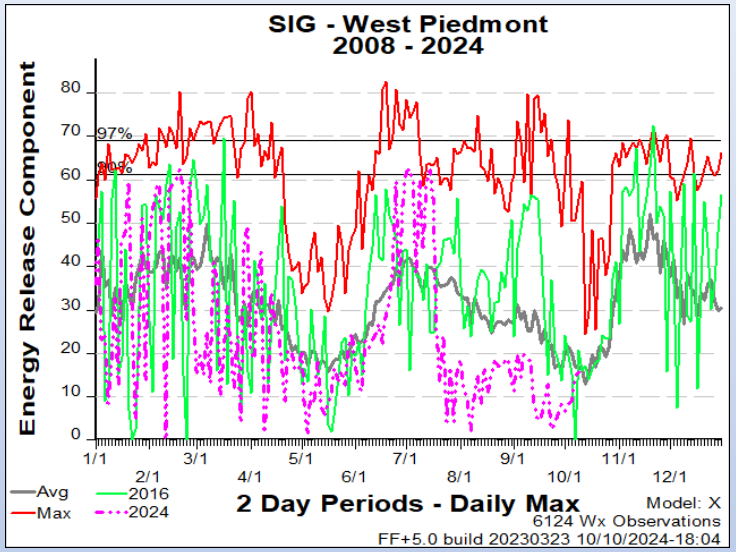
- **Rendezvous Mtn.** (312001)
- **North Cove Pinnacle (fr1)** (314301)
- **Rutherford County** (316302)

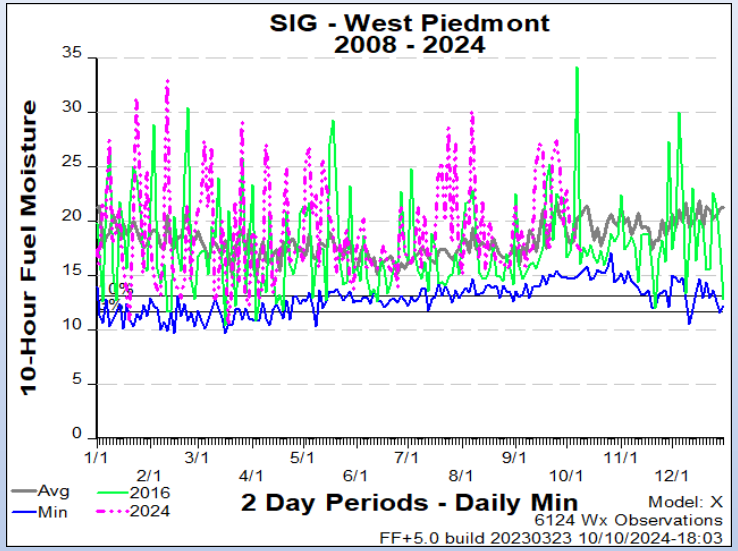
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 40°F	Between 40°F and 50°F	Greater than 50°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	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

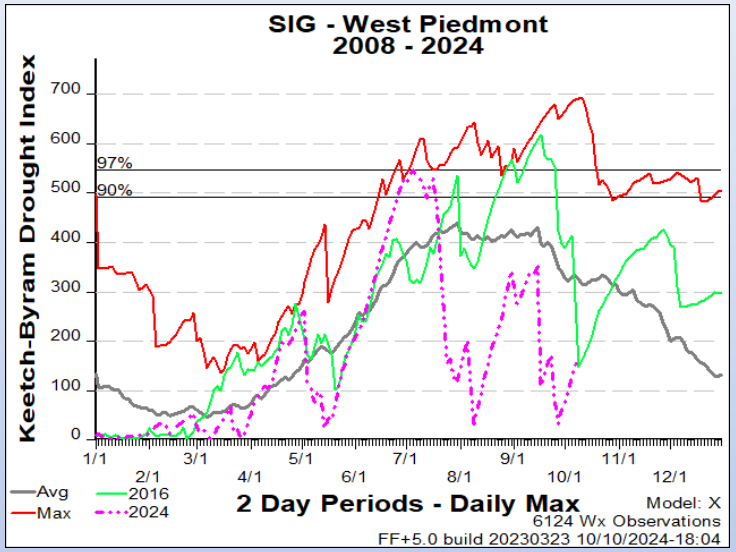
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

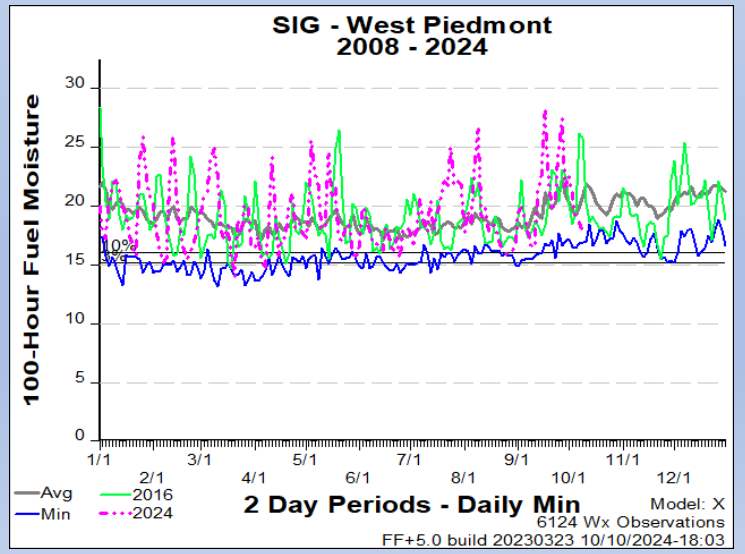
FDRA – Western Piedmont

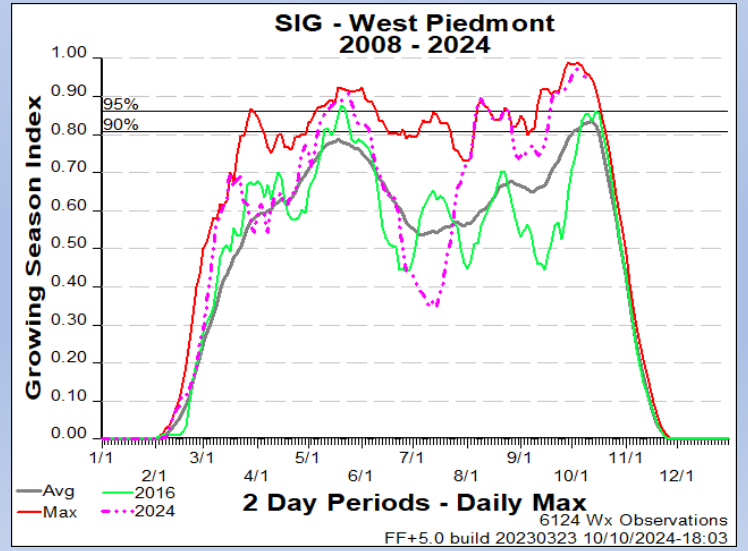


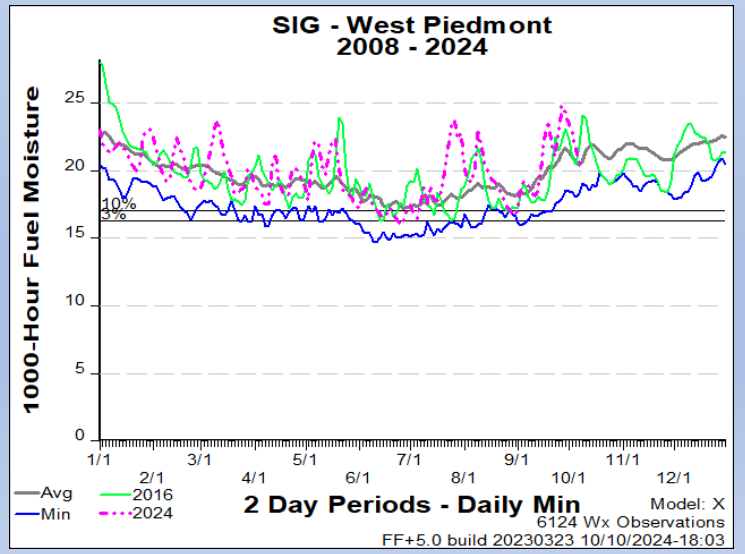












Weekly Outlook

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	70	77	78	73	61	60	66
Avg. Min. Humidity (%)	43	36	45	41	46	47	49
Avg. 20' Wind Speed (mph)	2	3	4	6	5	5	3
Avg. Wind Direction*	WSW	WSW	SW	WNW	NW	NNW	WNW
Avg. Probability of Precip. (%)	0	0	1	9	4	6	3
Days Since a Wetting Rain**	11.7	12.7	13.7	14.7			
Forecast ERC (Fuel Model X)	13.0	12.6	12.4	14.6	16.7	16.8	13.5
Forecast BI (Fuel Model X)	13.7	15.1	20.0	22.7	23.0	22.4	16.1
Forecast IC (Fuel Model X)	1.4	1.9	2.6	3.5	2.9	2.6	1.5
Forecast 100-Hr. FMC	18.2	18.0	18.0	18.1	17.8	17.2	17.0
Forecast 1000-Hr. FMC	23.3	23.1	22.9	22.7	22.5	22.4	22.2
KBDI	170.0						

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

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

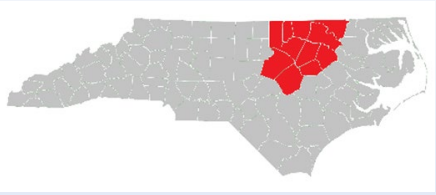
Values in the table above are averages from 3 stations in this FDRA:

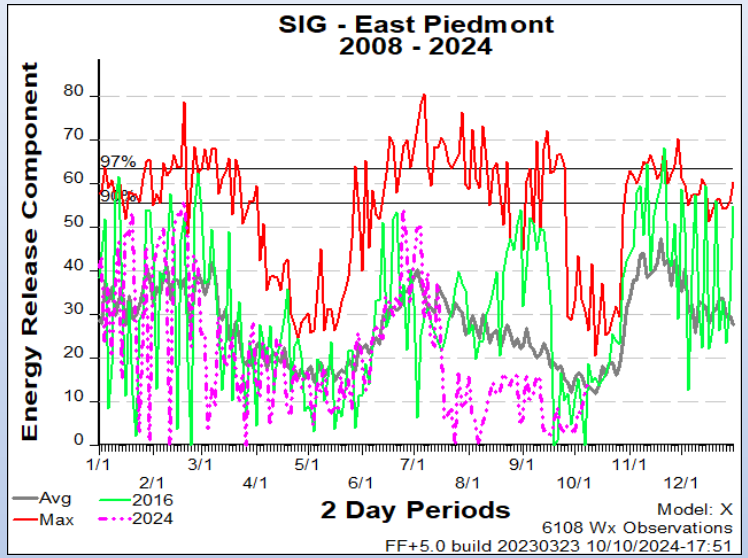
- **Duke Forest** (312501)
- **Lexington** (314602)
- **Mt. Island Lake** (316602)

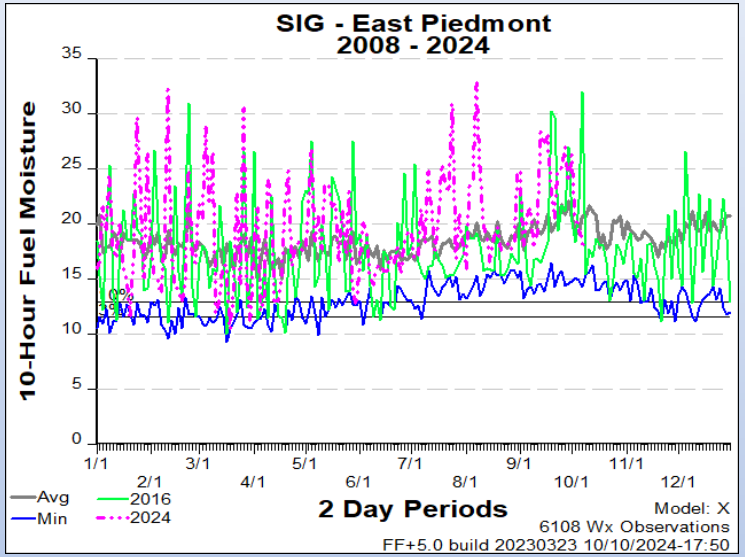
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 40°F	Between 40°F and 50°F	Greater than 50°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph	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

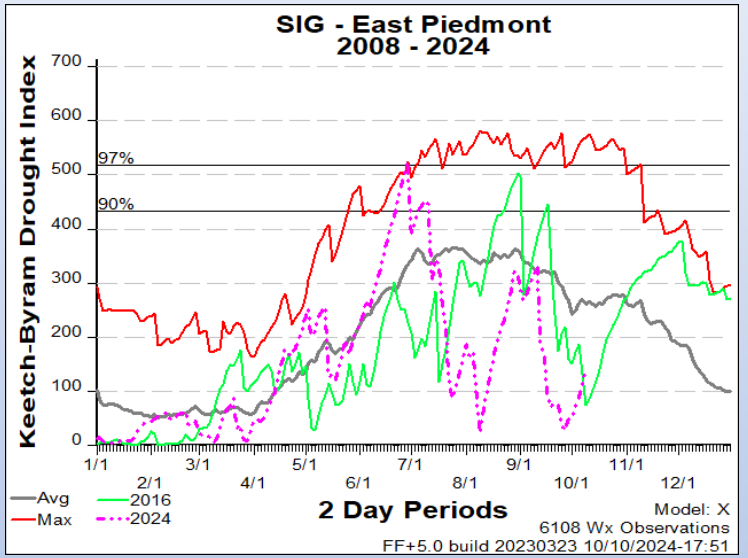
Other factors to consider when determining fire danger: **sky conditions, precipitation amount, number of days since rain,** and **season**

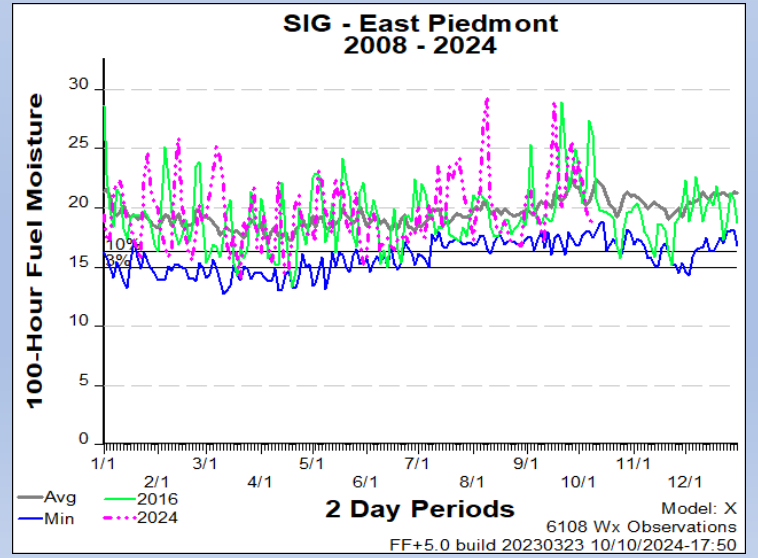
FDRA – Eastern Piedmont

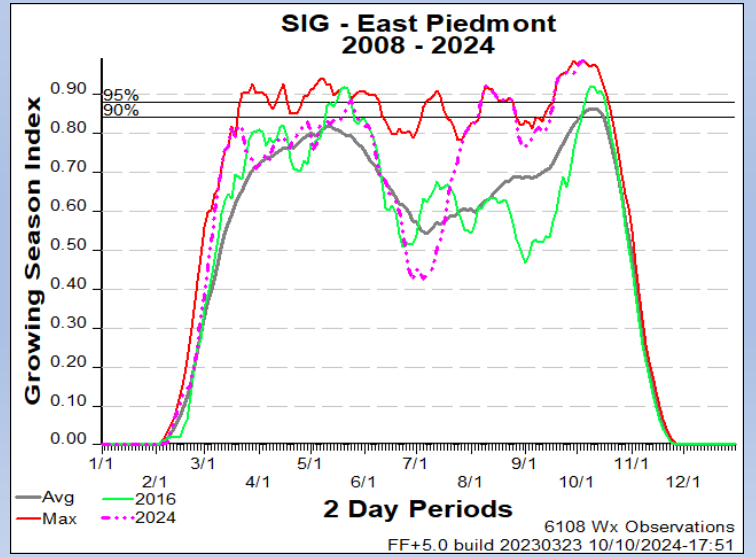


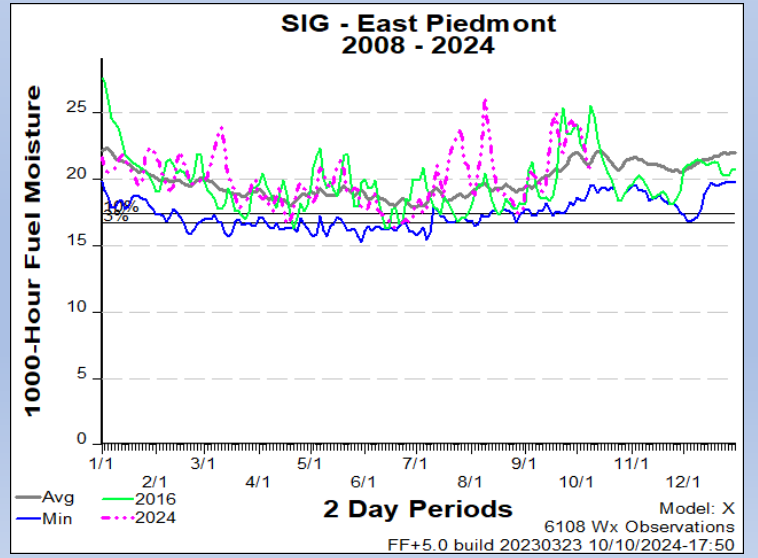












Weekly Outlook

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	70	76	78	74	62	60	66
Avg. Min. Humidity (%)	44	42	45	46	48	51	51
Avg. 20' Wind Speed (mph)	2	3	5	7	5	5	3
Avg. Wind Direction*	WSW	WSW	SW	W	NNW	NW	WNW
Avg. Probability of Precip. (%)	0	0	1	15	5	8	5
Days Since a Wetting Rain**	1.0	2.0	3.0	4.0			
Forecast ERC (Fuel Model X)	13.8	12.3	12.5	13.8	16.1	16.0	13.7
Forecast BI (Fuel Model X)	16.7	17.0	22.0	23.9	23.1	23.9	17.9
Forecast IC (Fuel Model X)	1.8	2.1	3.0	3.5	3.0	2.8	1.8
Forecast 100-Hr. FMC	18.9	18.6	18.4	18.5	18.2	17.5	17.3
Forecast 1000-Hr. FMC	24.1	23.8	23.6	23.3	23.1	22.9	22.7
KBDI	133.0						

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

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

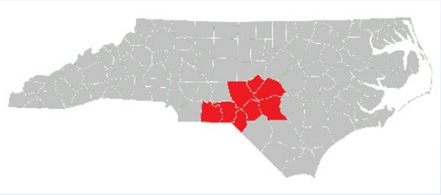
Values in the table above are averages from 4 stations in this FDRA:

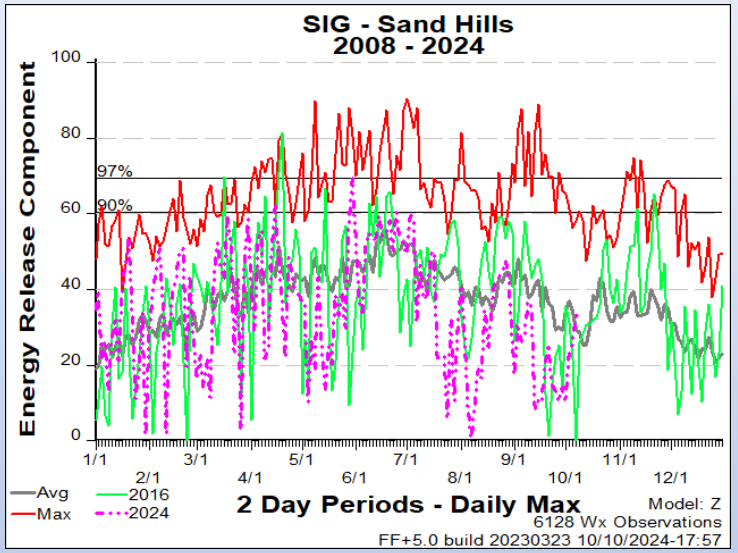
- **Oxford Tobacco Research Stn** (310841)
- **Upper Coastal Plain Res Stn** (312940)
- **Lake Wheeler Rd Field Lab** (314941)
- **Central Crops Research Station** (317441)

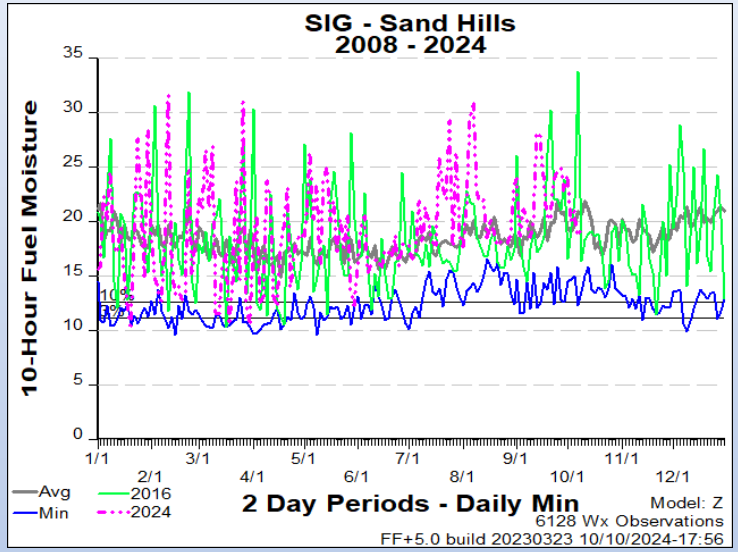
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 10 mph	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

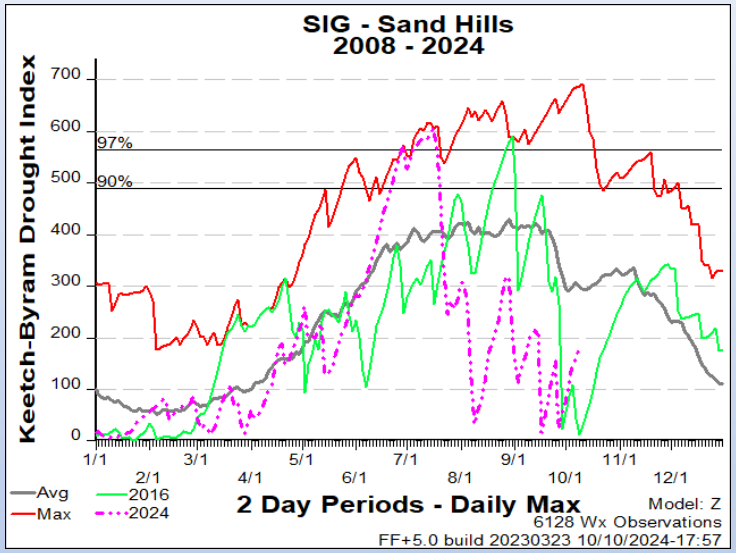
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

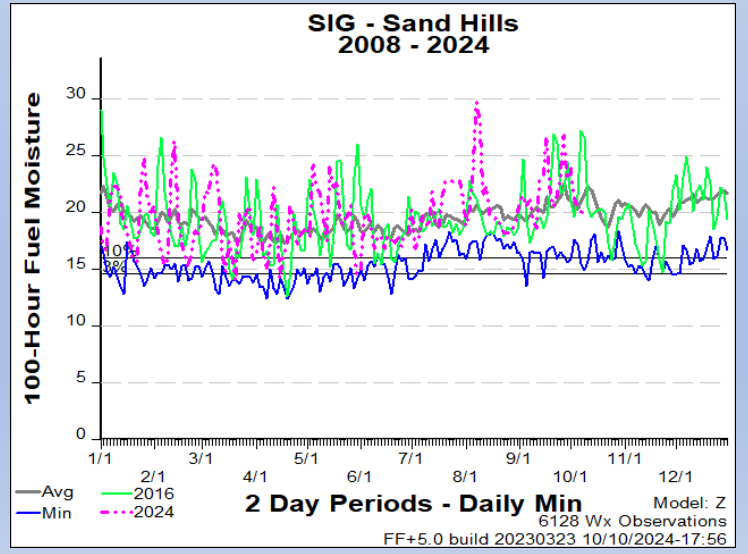
FDRA – Sandhills

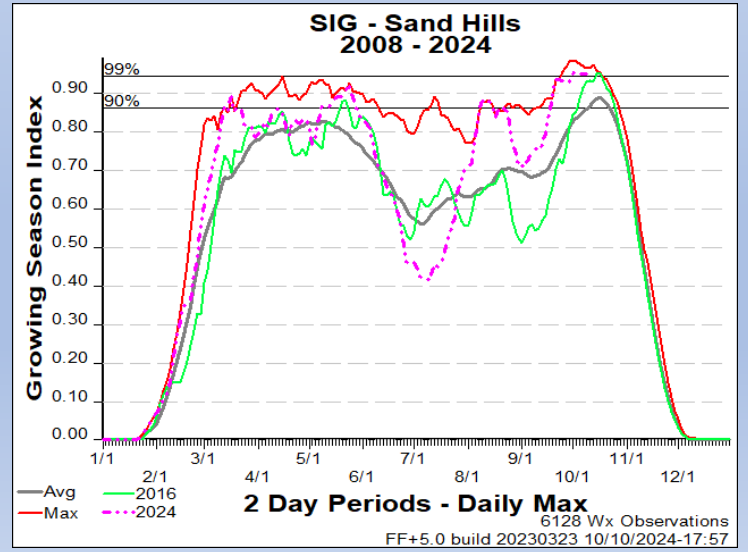


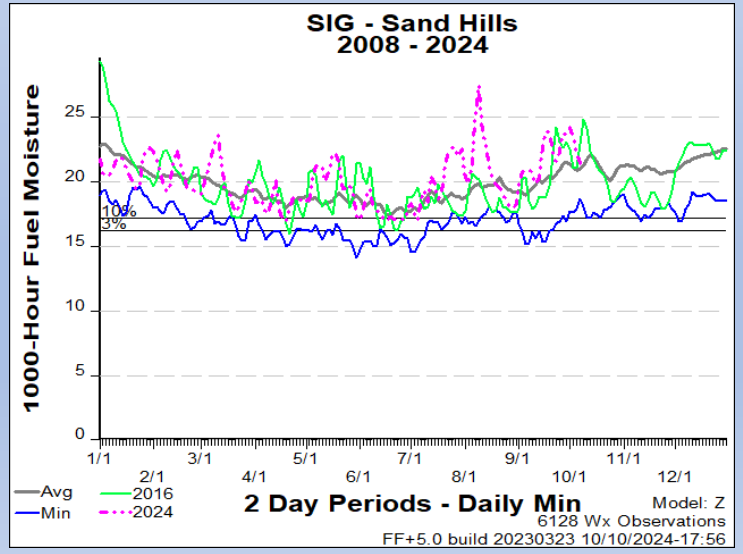












Weekly Outlook

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	72	78	80	79	65	63	69
Avg. Min. Humidity (%)	35	37	42	43	44	44	46
Avg. 20' Wind Speed (mph)	2	3	4	6	5	4	3
Avg. Wind Direction*	SSE	WSW	SW	SW	WSW	NNW	W
Avg. Probability of Precip. (%)	0	0	0	15	4	6	3
Days Since a Wetting Rain**	9.3	10.3	11.3	12.3			
Forecast ERC (Fuel Model Z)	34.7	29.5	29.7	33.2	41.2	42.9	36.9
Forecast BI (Fuel Model Z)	28.6	26.1	32.5	34.8	40.8	40.3	30.0
Forecast IC (Fuel Model Z)	6.2	5.2	7.1	8.6	9.8	8.5	5.1
Forecast 100-Hr. FMC	19.4	18.9	18.7	18.7	18.2	17.3	17.1
Forecast 1000-Hr. FMC	23.2	23.0	22.8	22.6	22.4	22.3	22.1
KBDI	182.0						

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

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

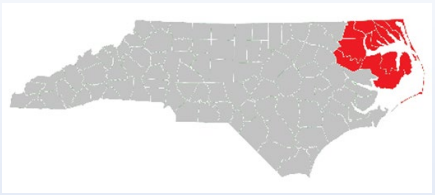
Values in the table above are averages from 3 stations in this FDRA:

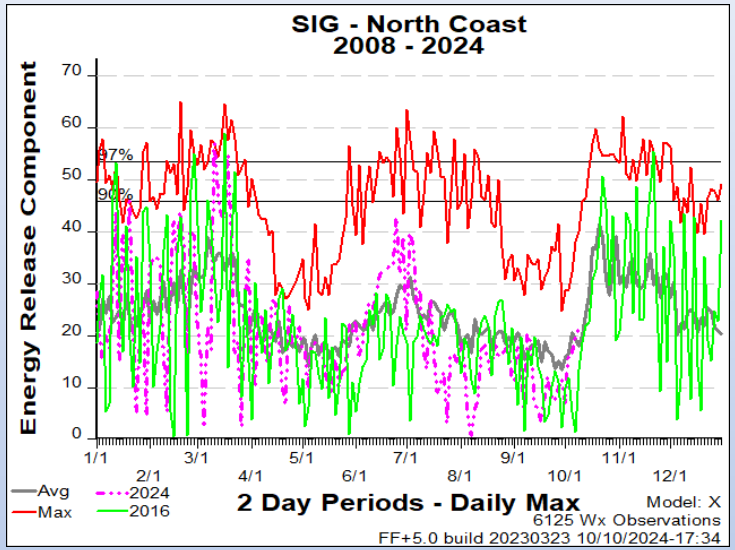
- **Sandhills Research Station** (317040)
- **Rockingham** (318202)
- **Fort Liberty** (318503)

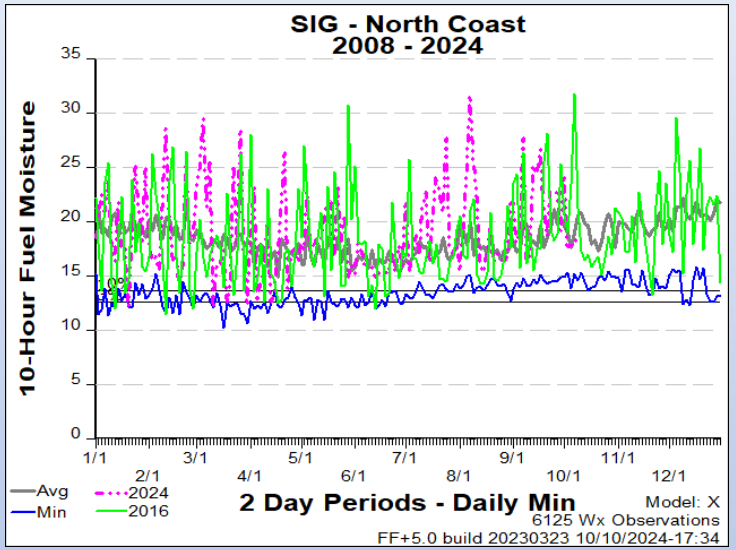
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 40%	Between 30% and 40%	Less than 30%
Avg. 20' Wind Speed	Less than 4 mph	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

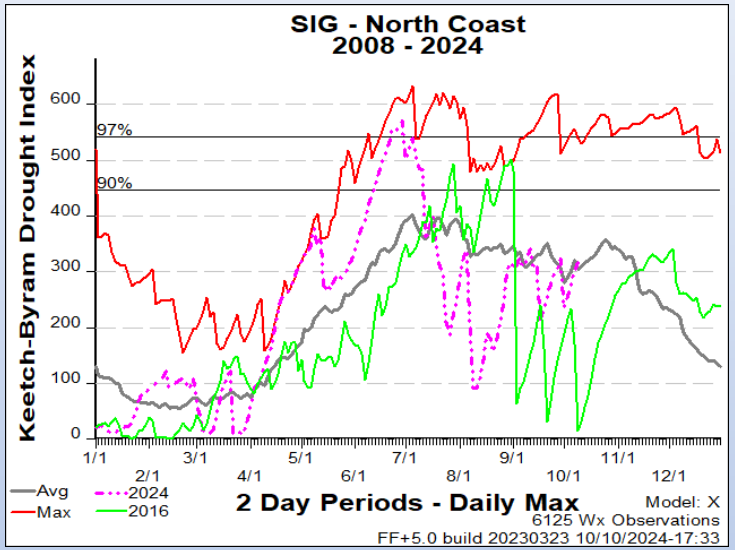
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

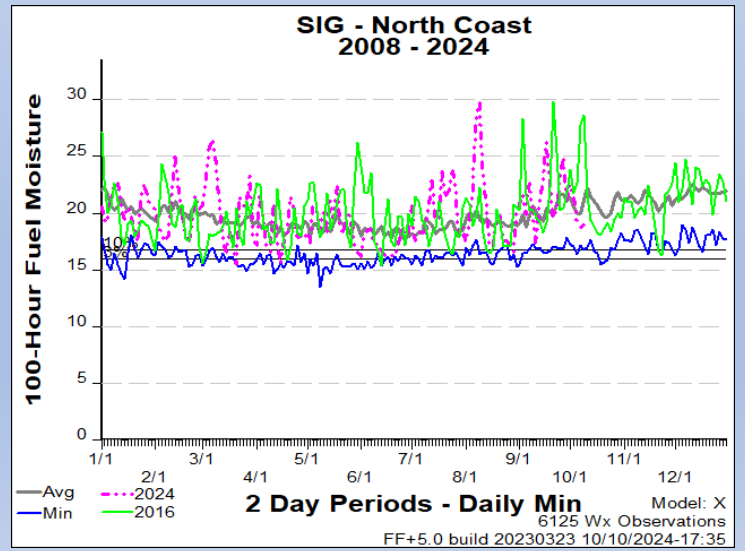
FDRA – North Coast

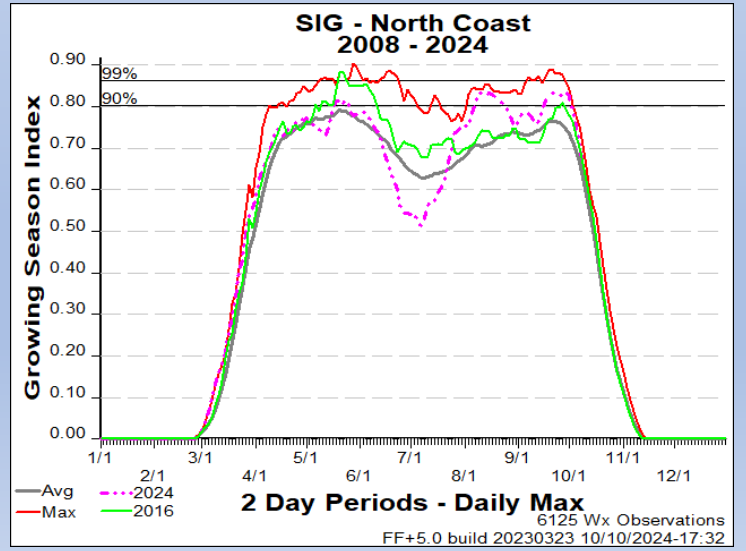


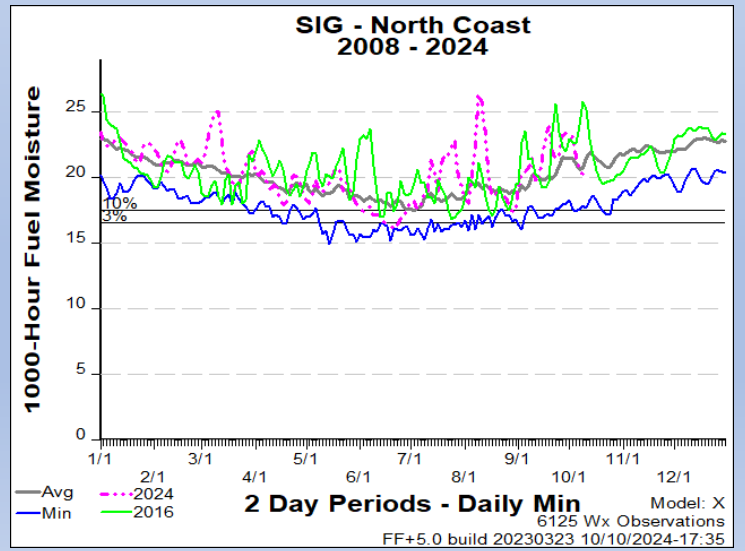












Weekly Outlook

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	71	78	80	78	65	62	68
Avg. Min. Humidity (%)	43	40	40	42	47	47	45
Avg. 20' Wind Speed (mph)	3	4	6	8	5	7	4
Avg. Wind Direction*	WNW	WSW	SW	W	NNW	NW	NW
Avg. Probability of Precip. (%)	0	0	1	15	11	9	5
Days Since a Wetting Rain**	10.0	11.0	12.0	13.0			
Forecast ERC (Fuel Model X)	15.8	14.2	16.7	21.5	20.3	20.3	17.4
Forecast BI (Fuel Model X)	23.2	21.0	33.6	40.7	34.4	35.5	25.3
Forecast IC (Fuel Model X)	2.3	1.9	4.1	5.8	3.6	3.1	2.1
Forecast 100-Hr. FMC	19.0	18.8	18.9	18.8	18.6	18.2	18.0
Forecast 1000-Hr. FMC	23.1	23.0	22.8	22.6	22.4	22.3	22.1
KBDI	320.8						

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

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

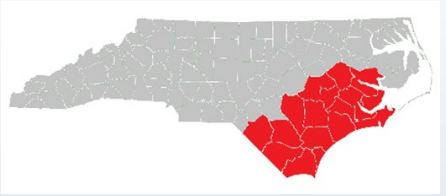
Values in the table above are averages from 4 stations in this FDRA:

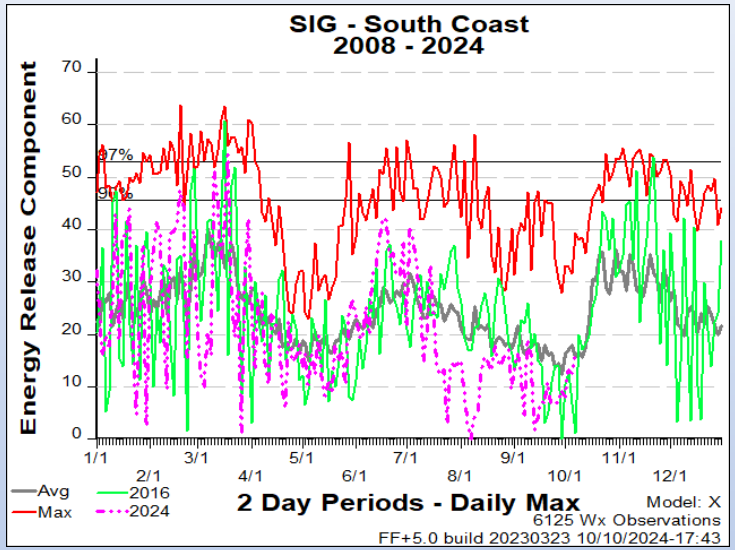
- **Elizabeth City** (311503)
- **Greens Cross** (313001)
- **Pocosin Lakes** (315201)
- **Fairfield** (317901)

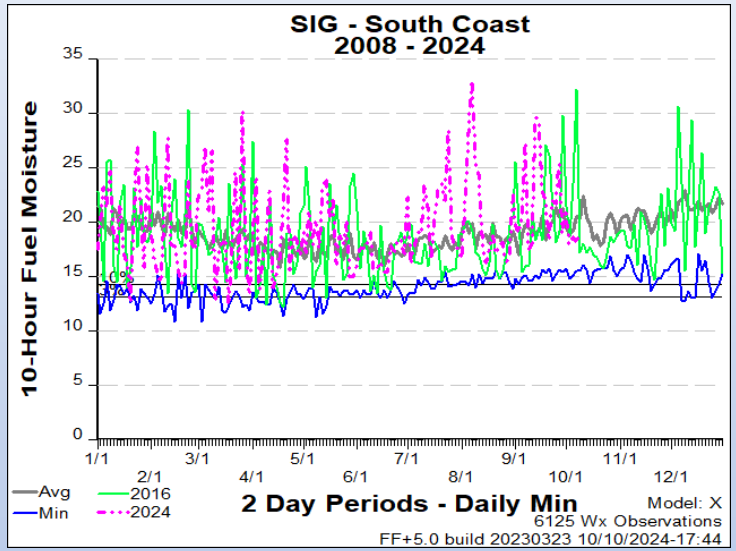
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 45°F	Between 45°F and 55°F	Greater than 55°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 10 mph	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

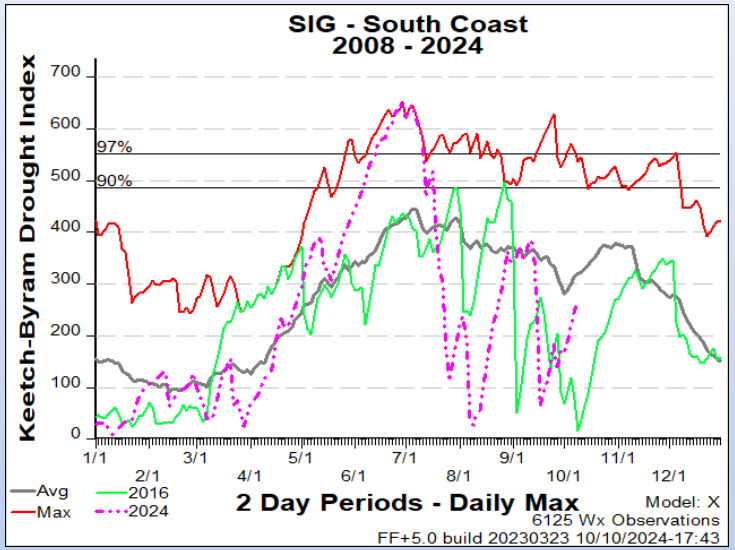
Other factors to consider when determining fire danger: **sky conditions, precipitation amount, number of days since rain,** and **season**

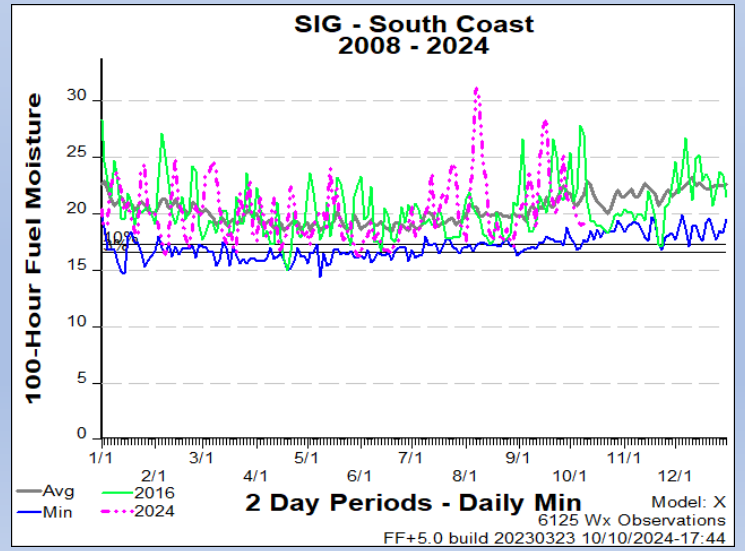
FDRA – South Coast

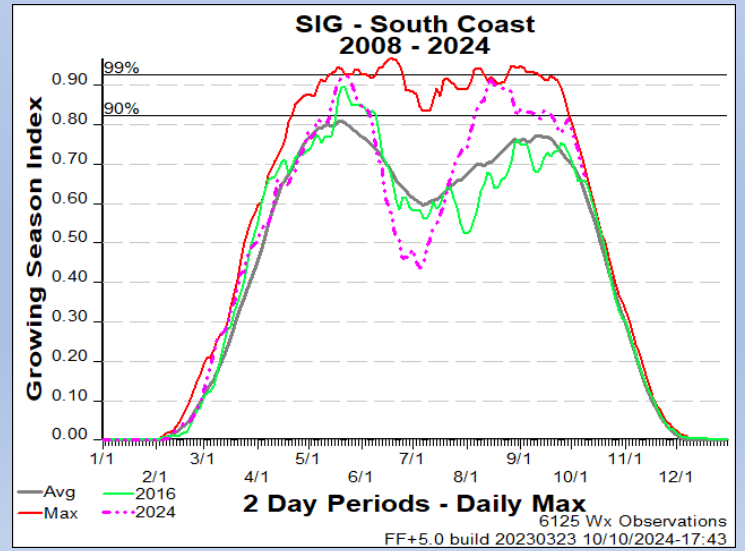


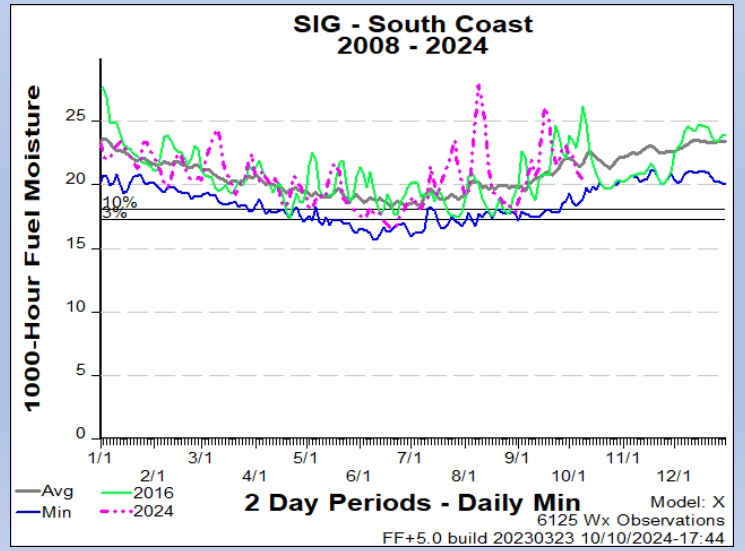












Weekly Outlook

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 11-Oct	SAT 12-Oct	SUN 13-Oct	MON 14-Oct	TUE 15-Oct	WED 16-Oct	THU 17-Oct
Avg. Max. Temp. (°F)	72	77	81	81	67	63	68
Avg. Min. Humidity (%)	40	38	40	46	45	45	44
Avg. 20' Wind Speed (mph)	2	3	4	7	5	5	3
Avg. Wind Direction*	SSW	WSW	SW	W	SW	NNW	NW
Avg. Probability of Precip. (%)	0	0	0	15	8	8	3
Days Since a Wetting Rain**	12.0	13.0	14.0	15.0			
Forecast ERC (Fuel Model X)	15.1	14.1	16.0	17.8	18.7	17.9	15.8
Forecast BI (Fuel Model X)	20.0	18.3	24.7	26.6	25.1	26.2	19.9
Forecast IC (Fuel Model X)	2.4	2.3	3.8	4.3	3.4	3.1	2.2
Forecast 100-Hr. FMC	18.7	18.7	18.3	18.1	17.6	17.0	16.7
Forecast 1000-Hr. FMC	22.9	22.8	22.6	22.4	22.1	22.0	21.8
KBDI	270.6						

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

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)

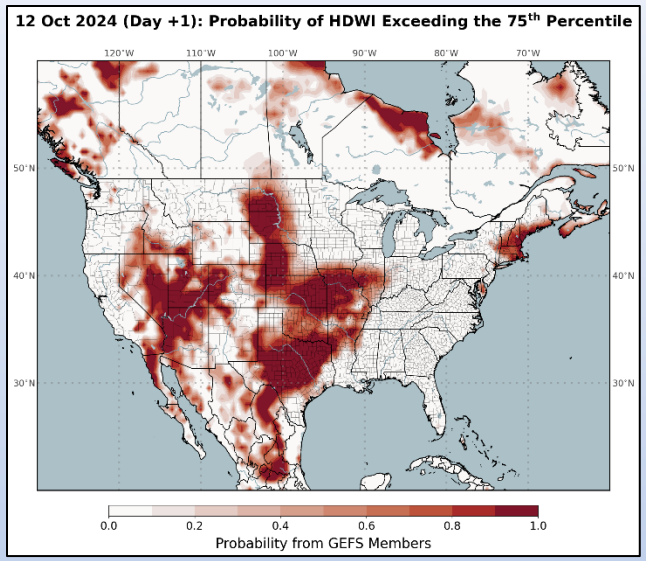
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 65°F	Greater than 65°F
Avg. Min. Humidity	Greater than 40%	Between 35% and 40%	Less than 35%
Avg. 20' Wind Speed	Less than 5 mph	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**

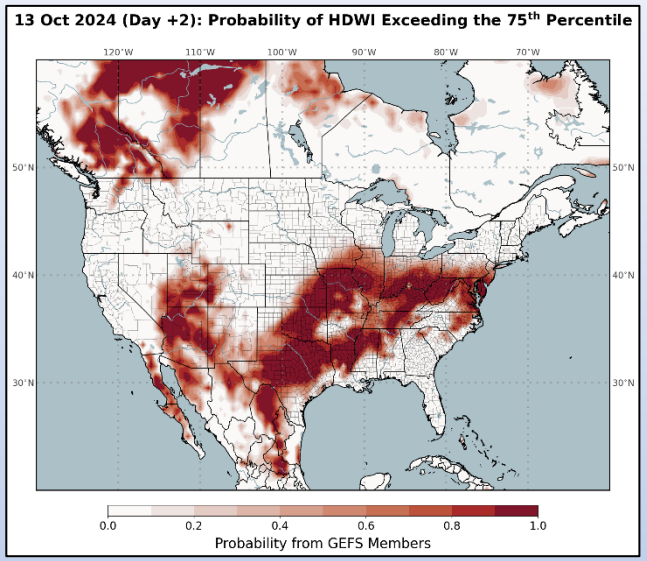
Statewide Slides

Hot-Dry-Windy Index (HDW)

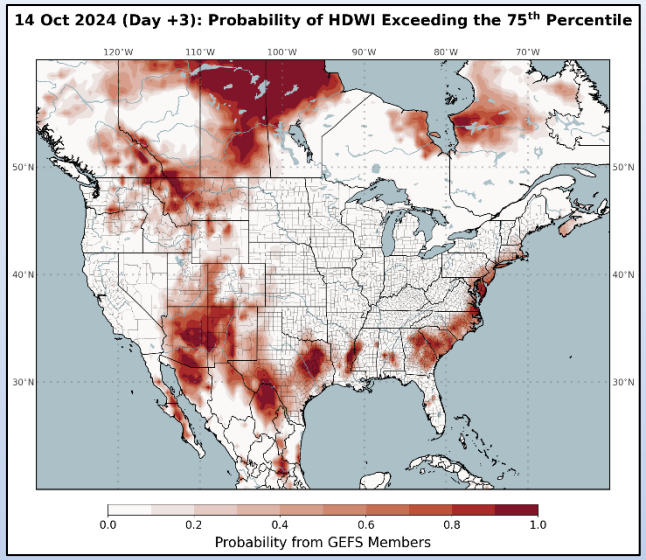
Saturday > 75th Percentile



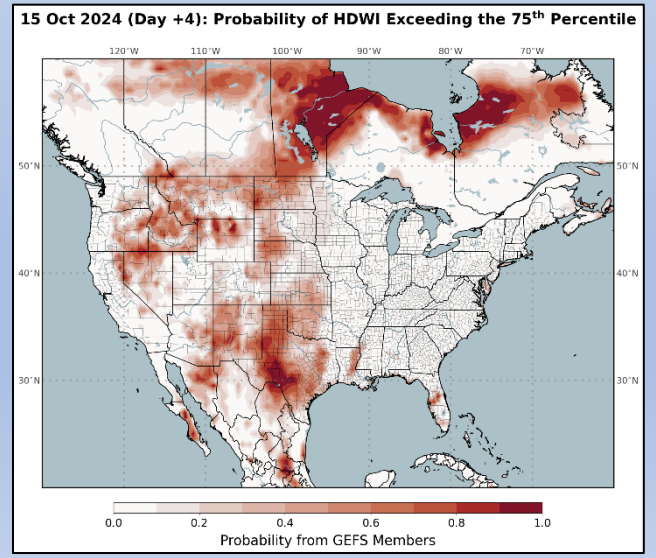
Sunday > 75th Percentile



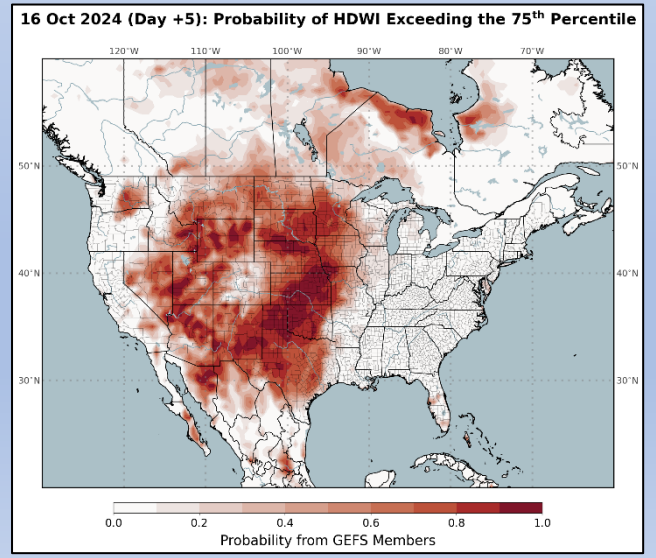
Monday > 75th Percentile



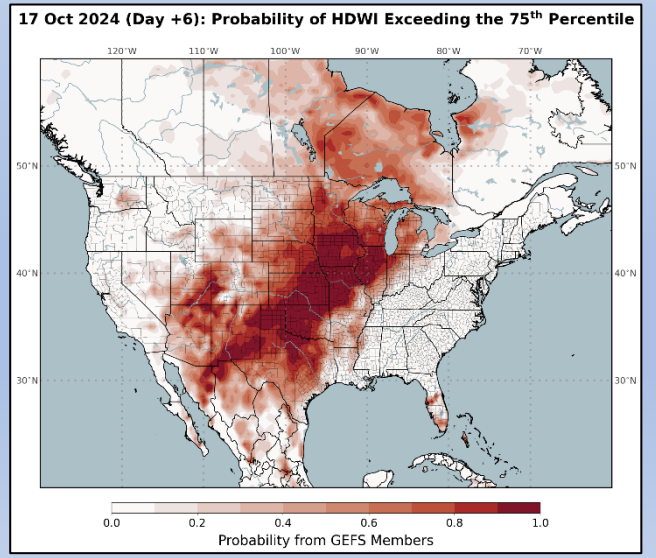
Tuesday > 75th Percentile



Wednesday > 75th Percentile



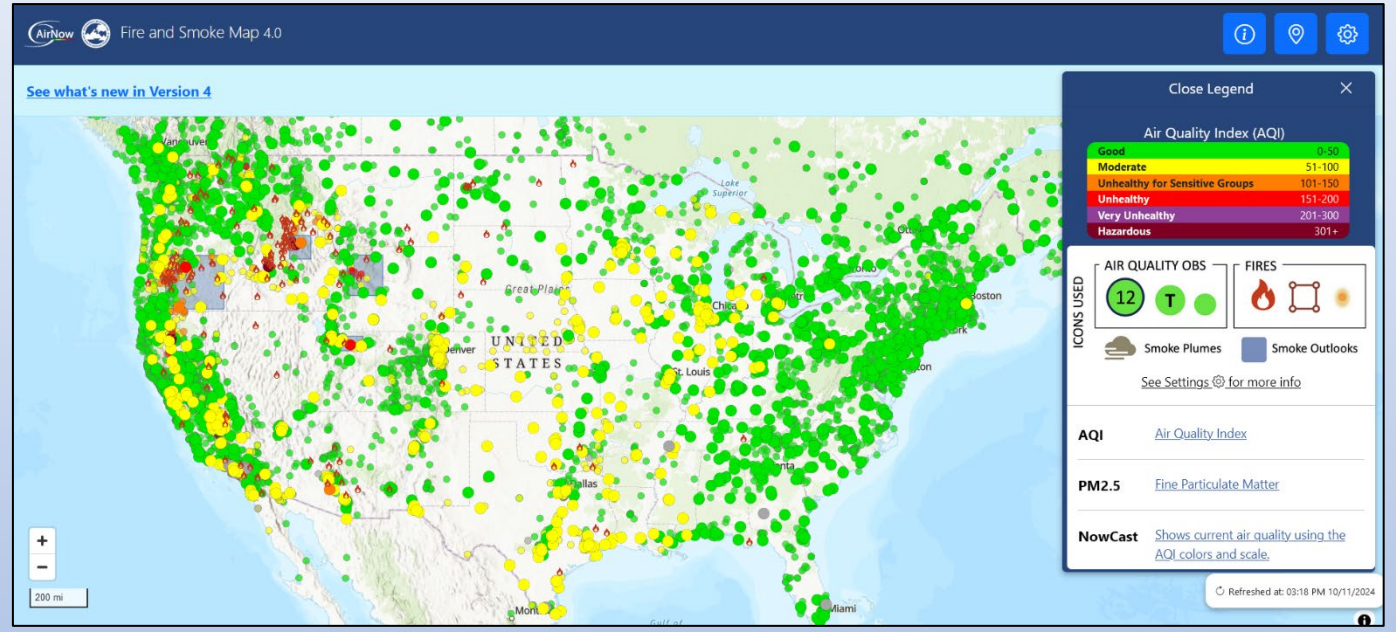
Thursday > 75th Percentile



- 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**

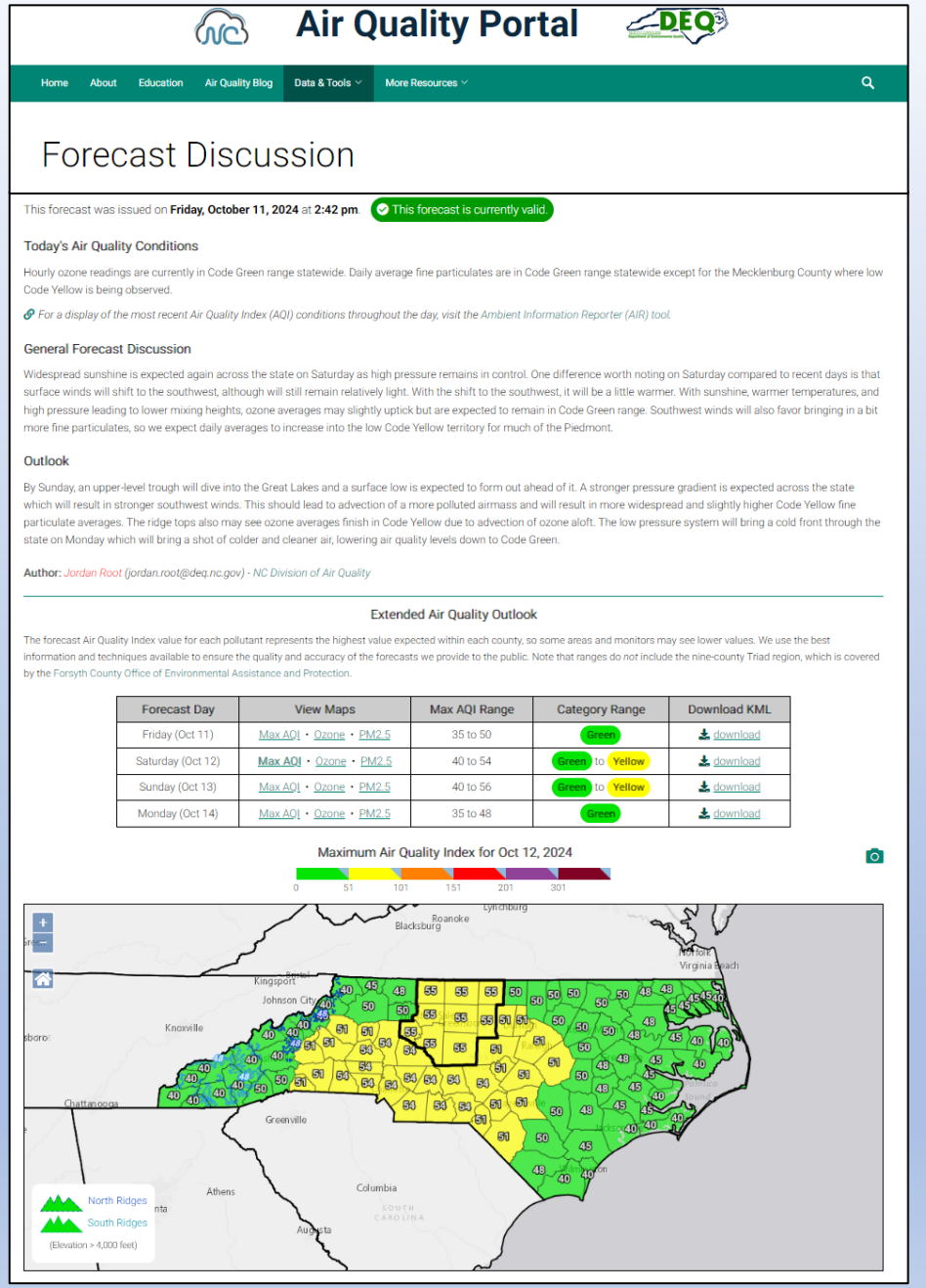
https://www.hdwindex.org/probs.html

Air Quality Notes



https://fire.airnow.gov/#

**The recently passed (10/10/24) Disaster Recovery Act of 2024 notes temporary changes related to storm debris open burning/air quality rules in certain impacted counties - https://www.ncleg.gov/Sessions/2023/Bills/House/PDF/H149v4.pdf*



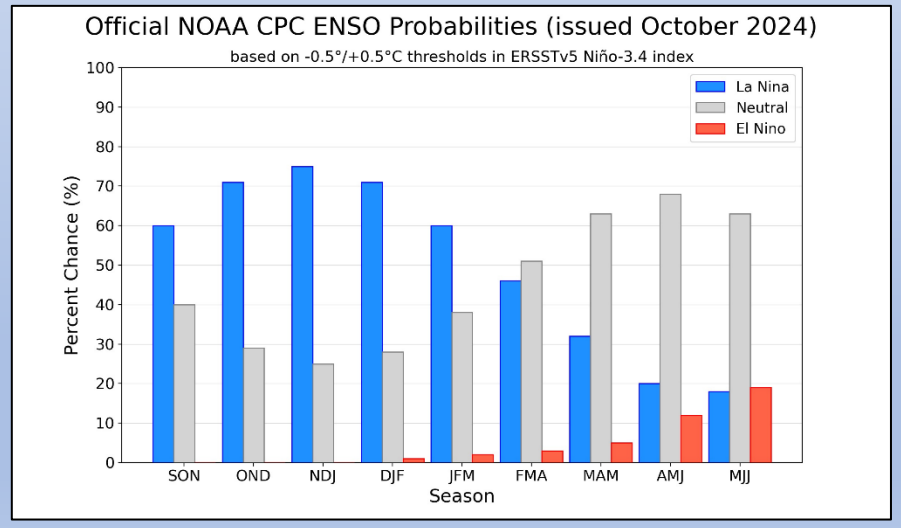
https://airquality.climate.ncsu.edu/discussion/?view=latest

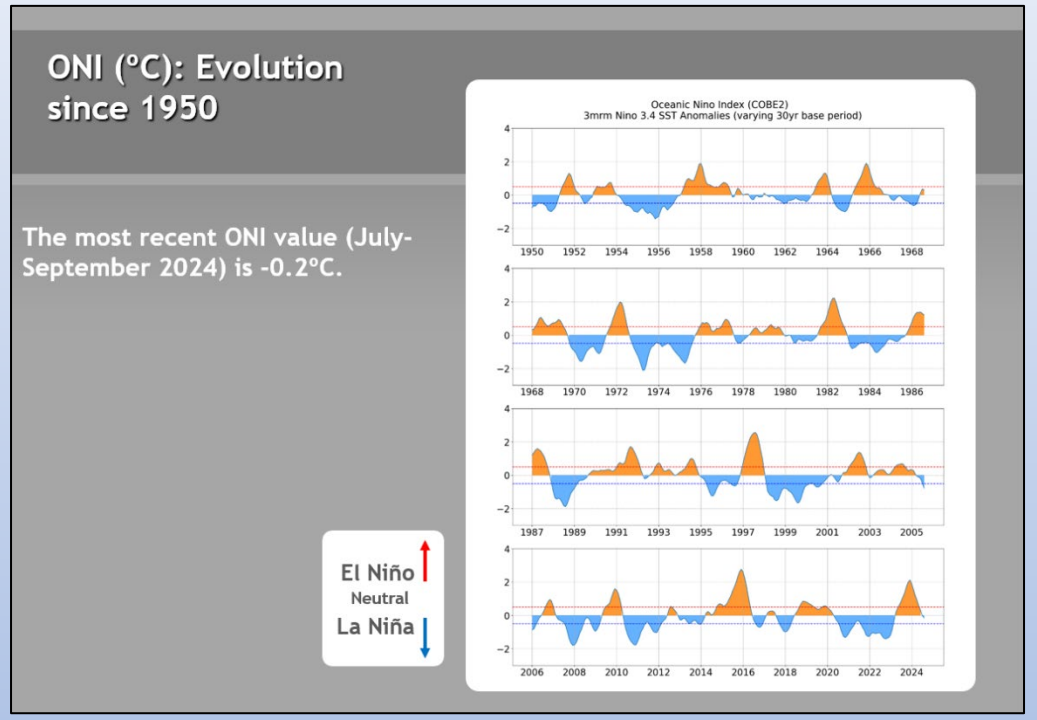
ENSO Notes from the CPC (10/10/24 Update)

ENSO Alert System Status: La Niña Watch

La Niña is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025.

ENSO, or El Nino 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 Nina, NC has drier than normal conditions and can have more fire occurrence. However, La Nina also can lead to more tropical activity. El Nino, 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 Nina, the departure from average SST must be at least -0.5° C (line shown in green) for 3 consecutive months. For El Nino, the departure must be at least 0.5° C above average for 3 consecutive months.





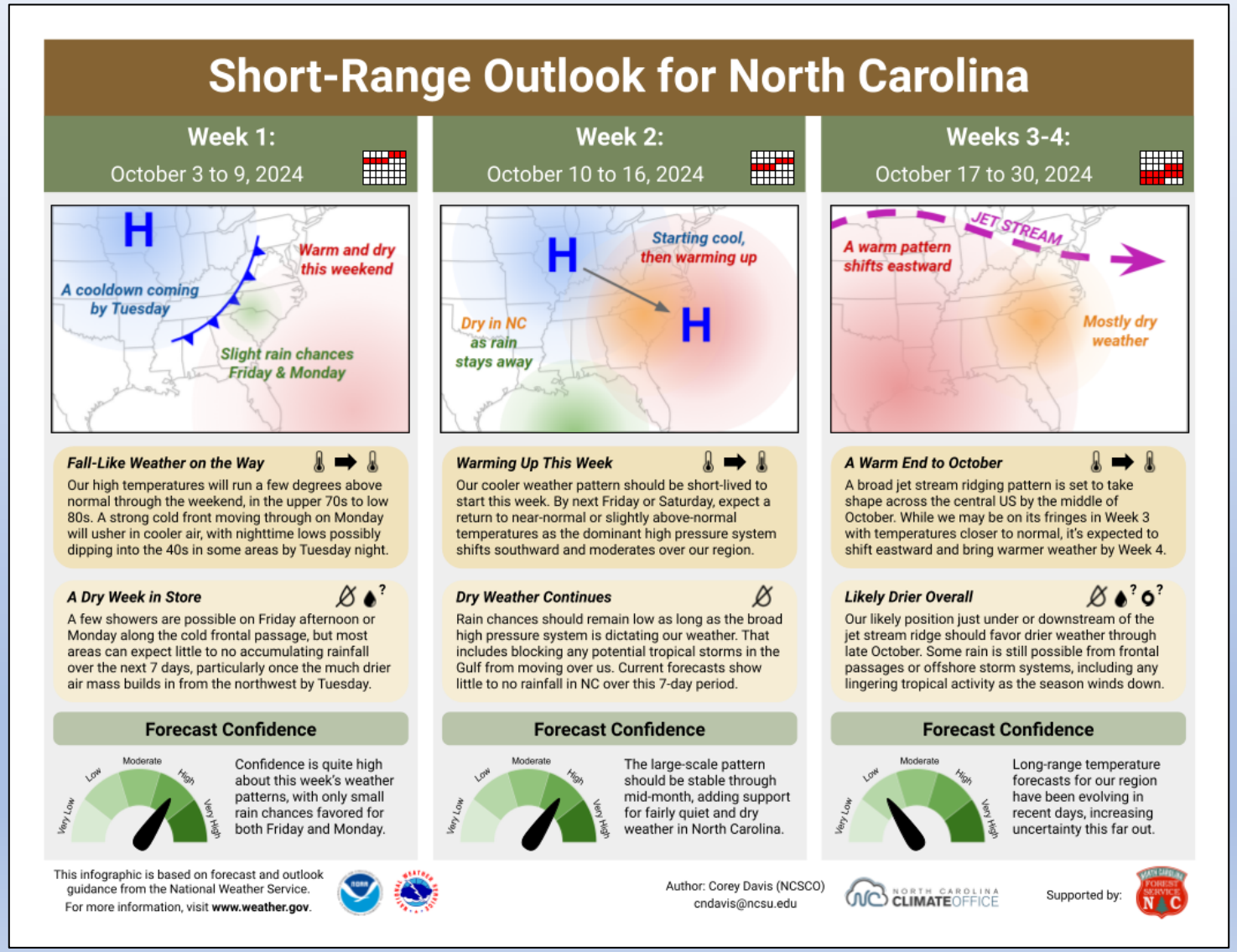
From the most recent CPC Diagnostic Discussion (ENSO Diagnostics Discussion):

[The IRI plume predicts a weak and a short duration La Niña, as indicated by the Niño-3.4 index values less than -0.5°C [Fig. 6]. The latest North American Multi-Model Ensemble (NMME) forecasts were warmer this month, but still predict a weak La Niña. As a result of the warmer predictions and the recent weakening of equatorial trade winds, the team still favors a weak event, but has lowered the chances of La Niña. A weaker La Niña implies that it 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 is favored to emerge in September-November (60% chance) and is expected to persist through January-March 2025 [Fig. 7].

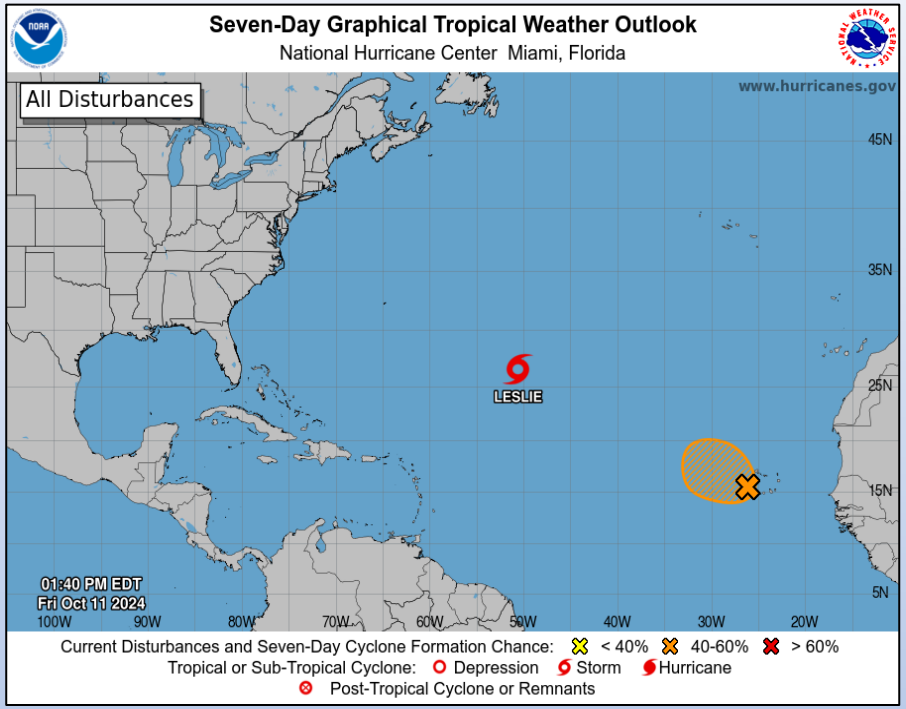
Slide Source: *https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt*

State Climate Office: Short-Range Monthly Outlook for NC

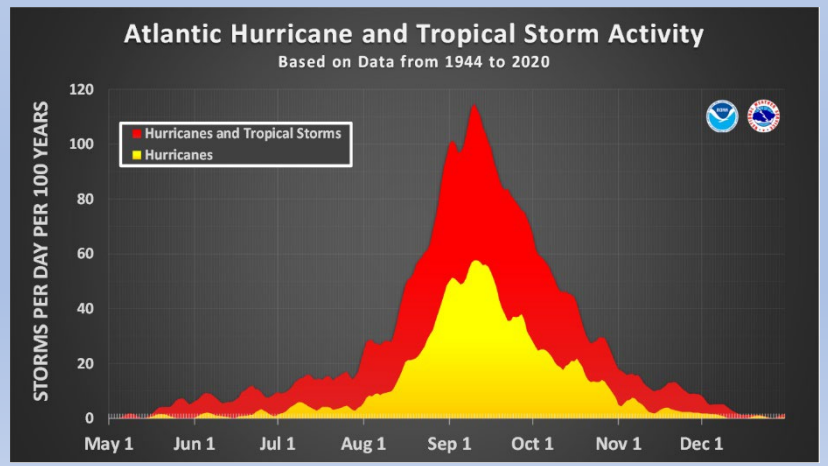
Released 10/1/24 & Location: https://climate.ncsu.edu/fire/outlooks/



7-Day Tropical Weather Outlook

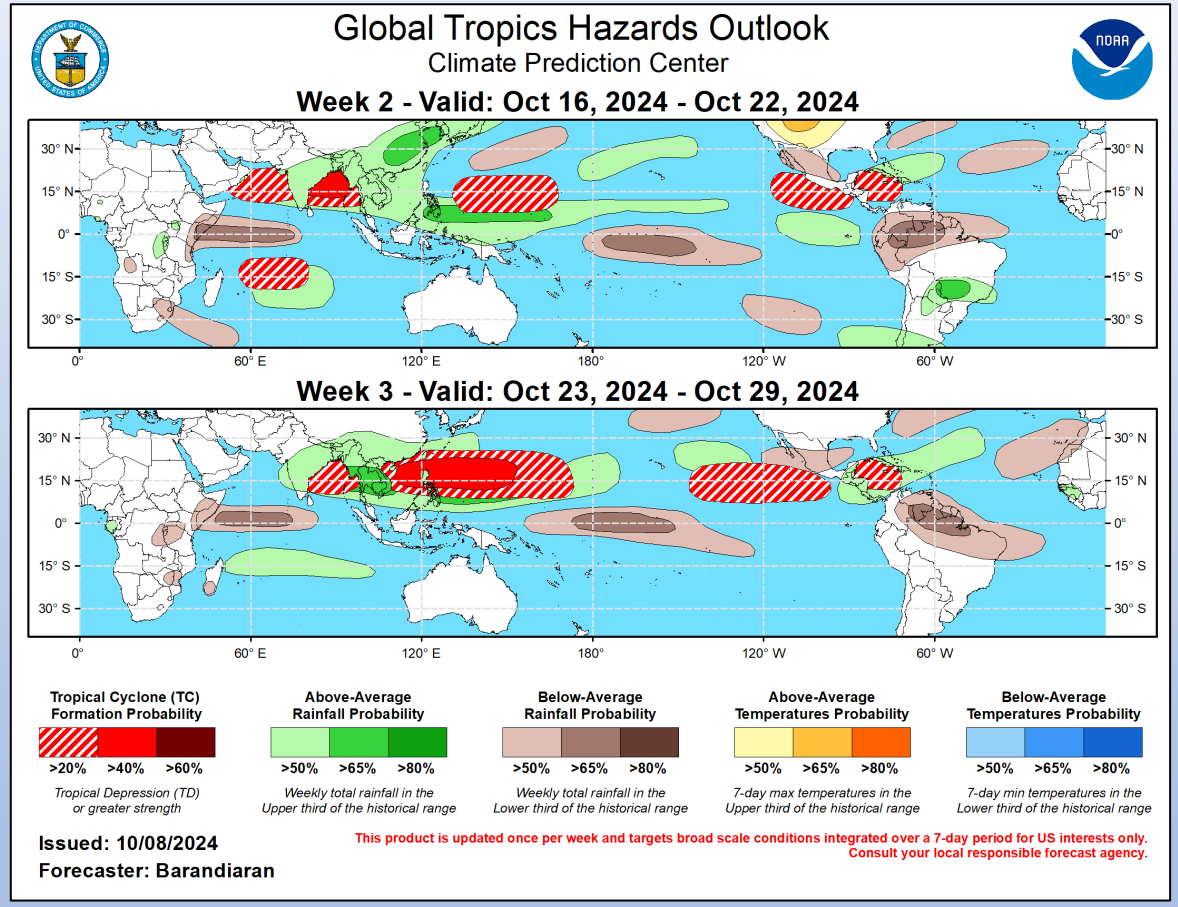


https://www.nhc.noaa.gov/gtwo.php?basin=atlc&fdays=7



https://www.nhc.noaa.gov/climo/

Week 2 & 3: Tropics Hazards Outlook

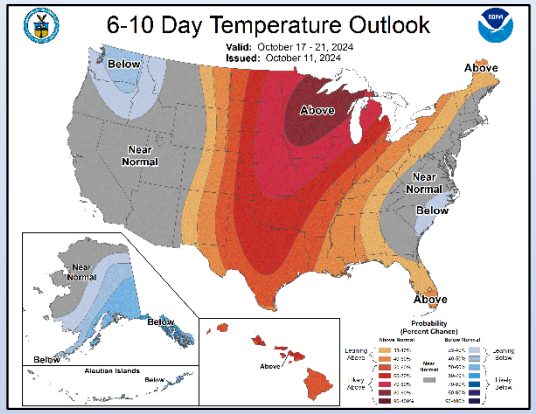


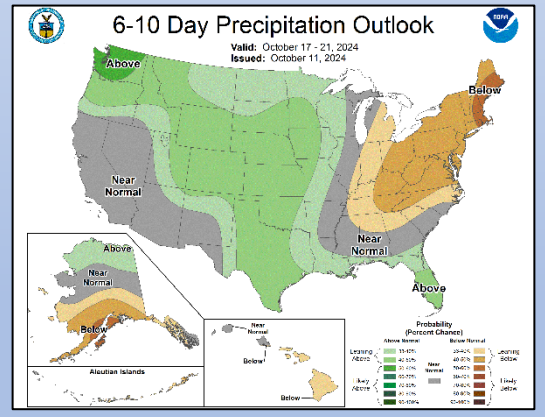
https://www.cpc.ncep.noaa.gov/products/precip/CWlink/ghaz/index.php

CPC Temp & Precip Outlook

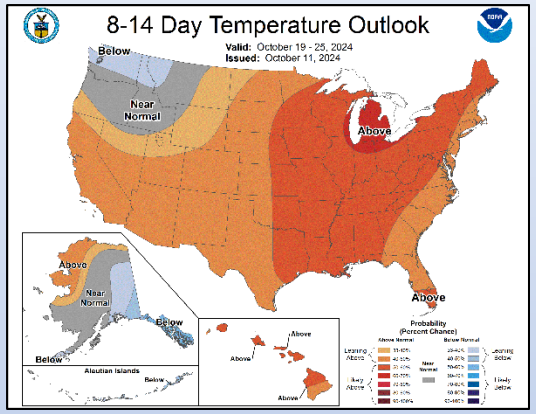
6-10 Day, 8-14 Day, Weeks 3-4, 3-Month Seasonal

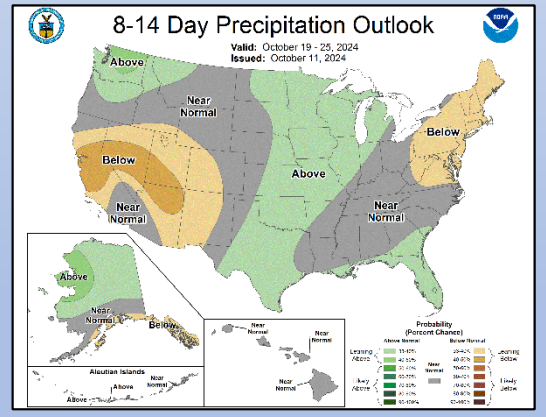
Updated 10/11/24



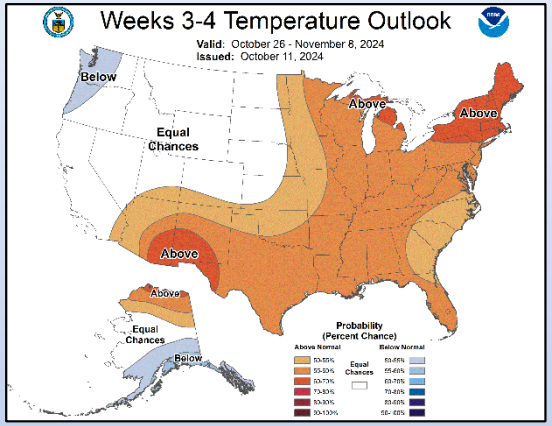


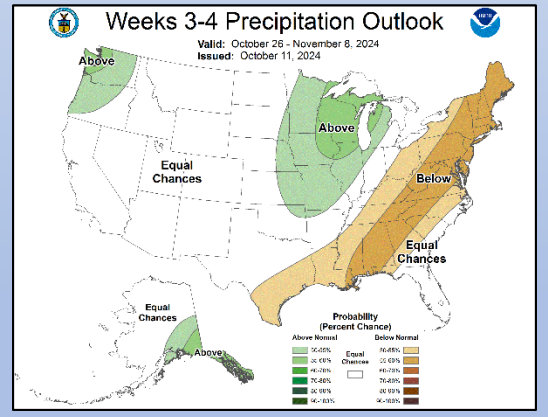
Updated 10/11/24



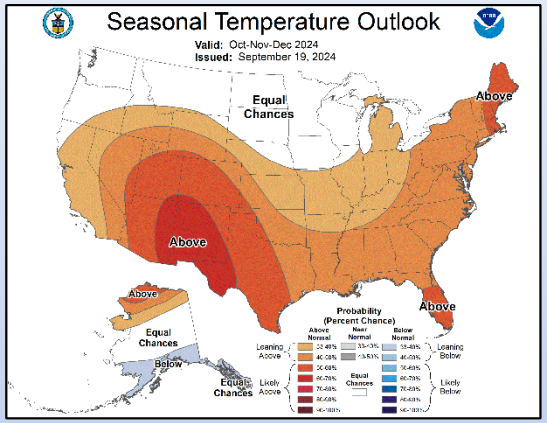


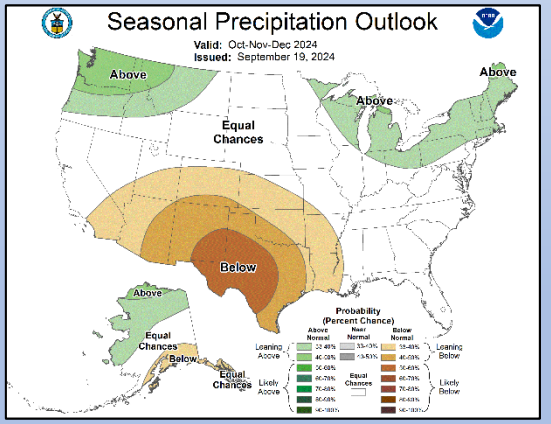
Updated 10/11/24





Updated 9/19/24 – [Discussion Link]





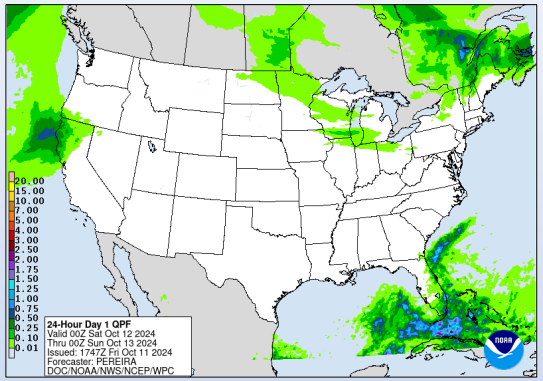
Source: https://www.cpc.ncep.noaa.gov/

Note that October/November are generally the driest months of the year on average for NC, so that impacts what "normal" means for the time period.

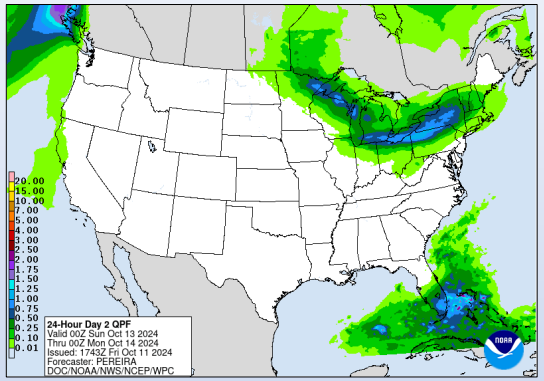
Quantitative Precipitation Forecast, 7-Day

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

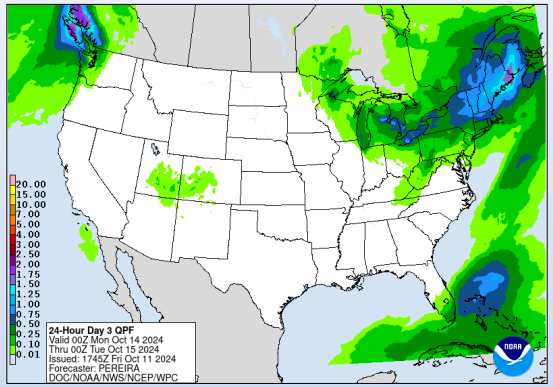
Day - 1



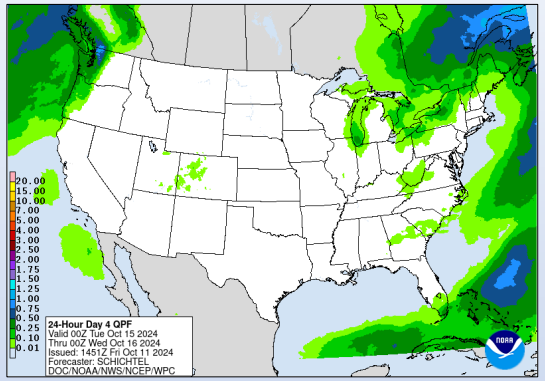
Day - 2



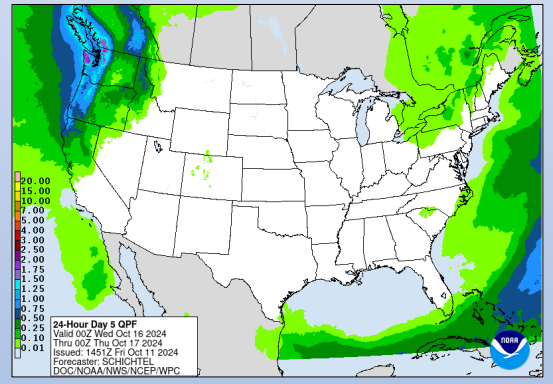
Day - 3



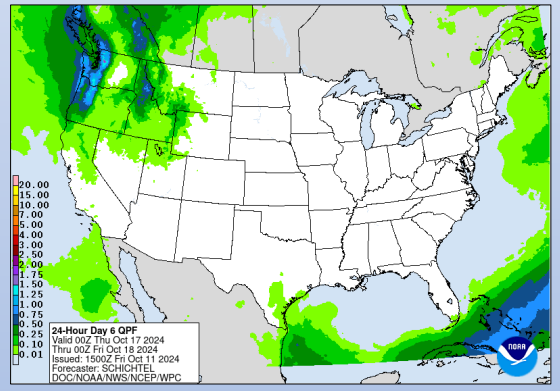
Day - 4



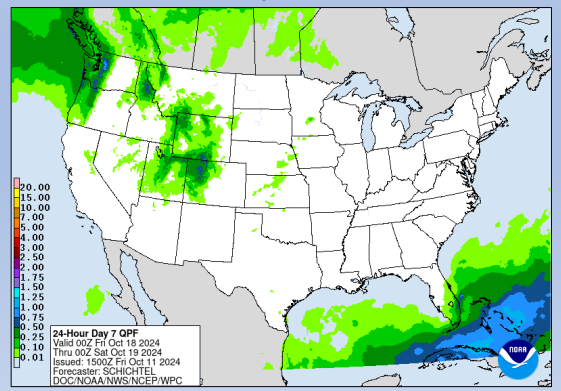
Day - 5



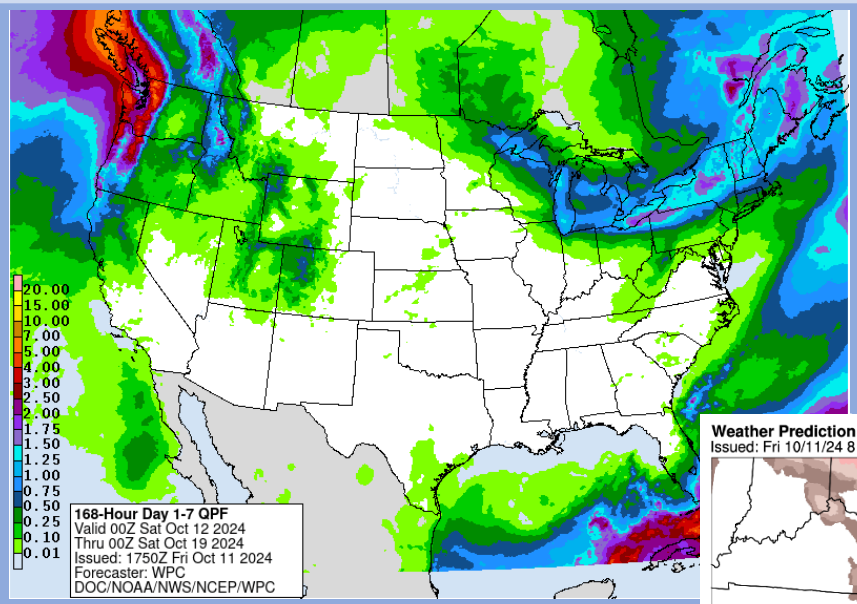
Day - 6

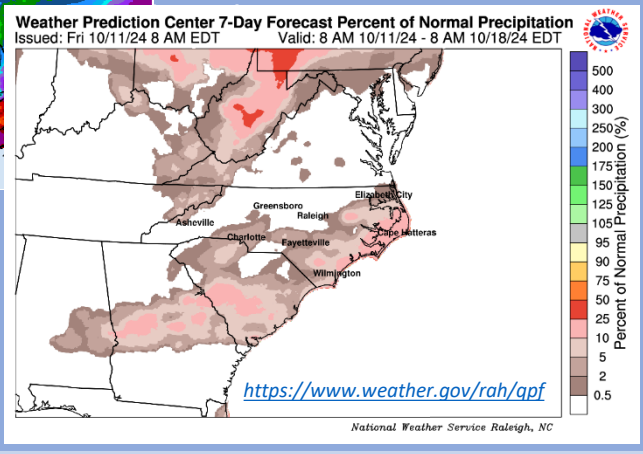


Day - 7

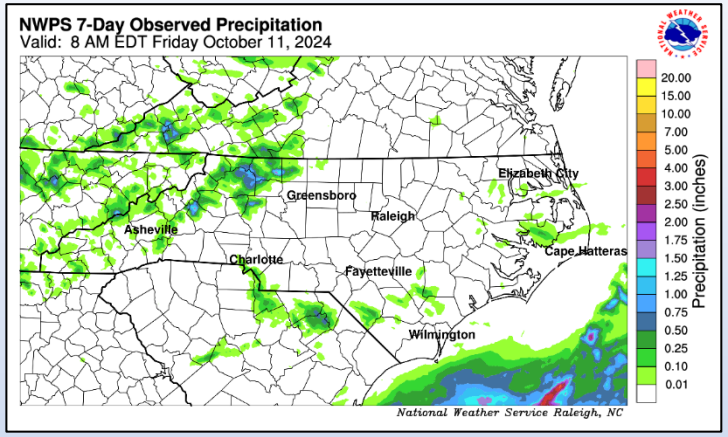


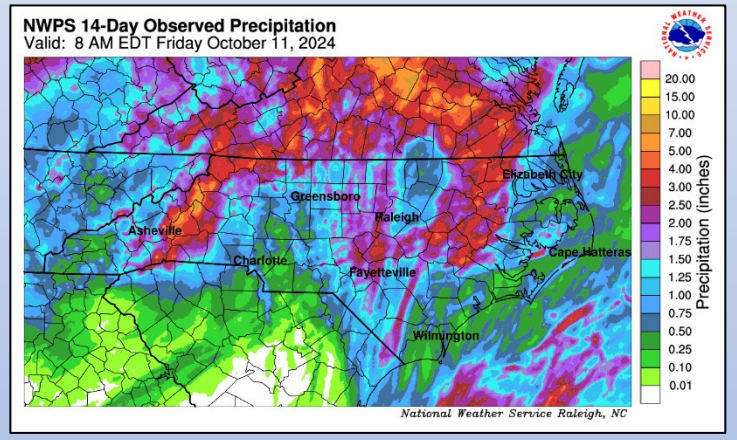
Important to note these values are subject to **significant change as weather system modeled tracks adjust farther out in time.*

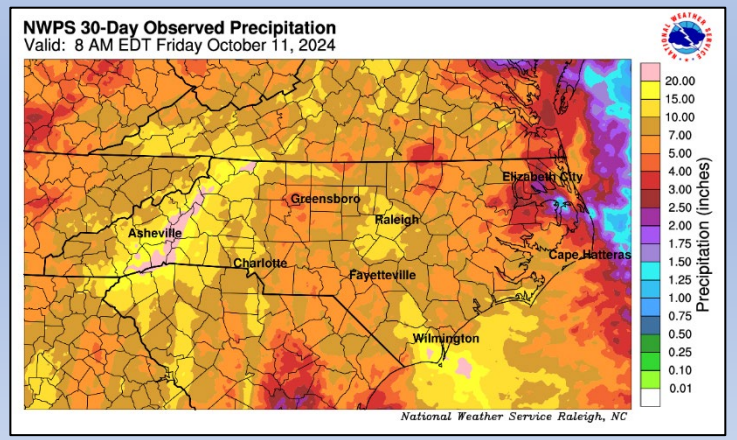


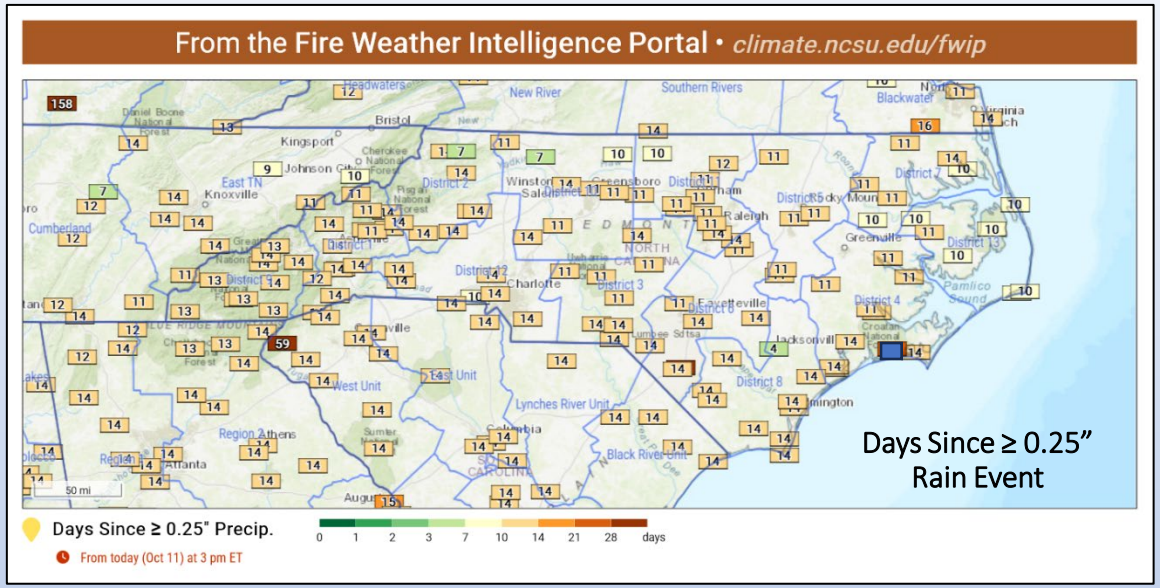


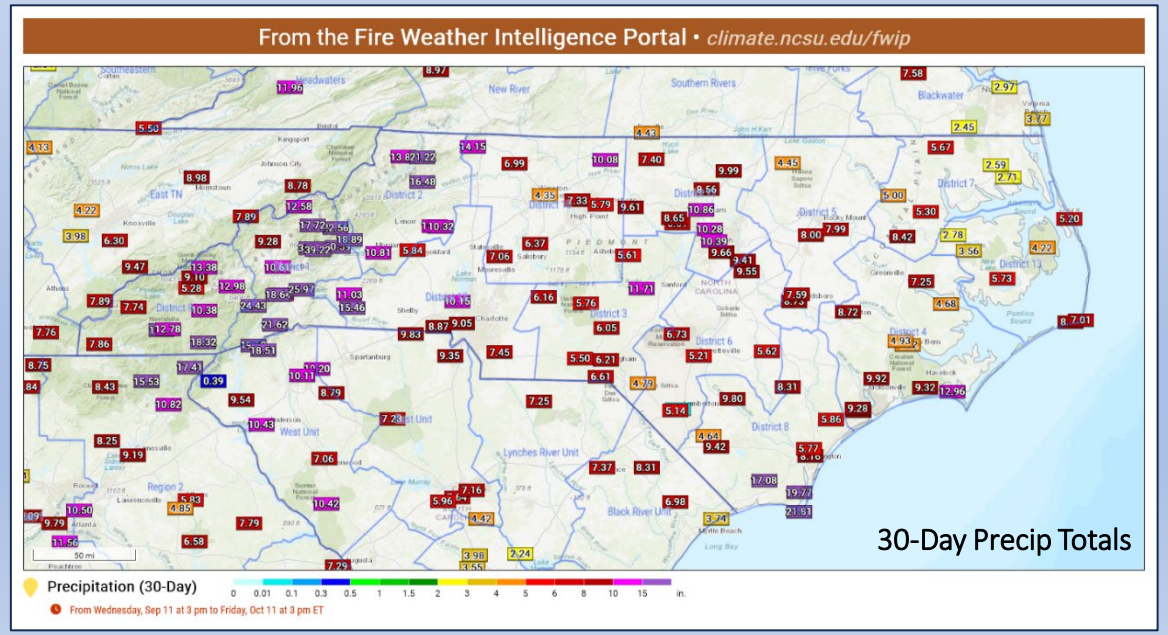
Observed Precipitation





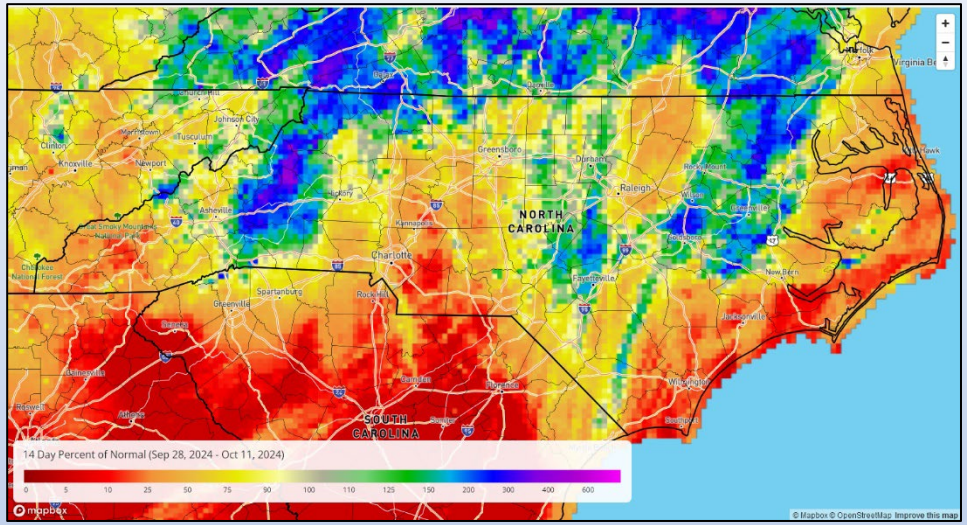




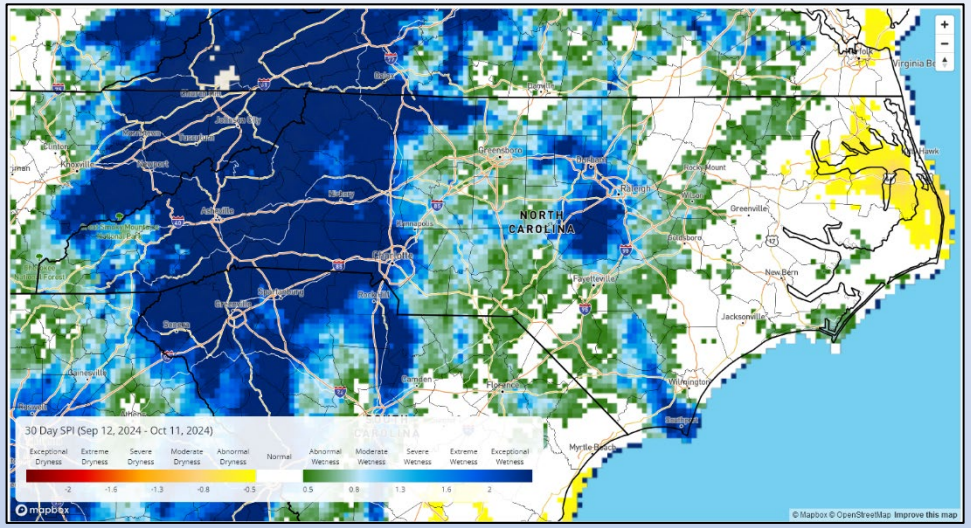


Comparing Observed Precip to 30-Yr Normals, *SRCC* *(Ending Friday, 10/11)*

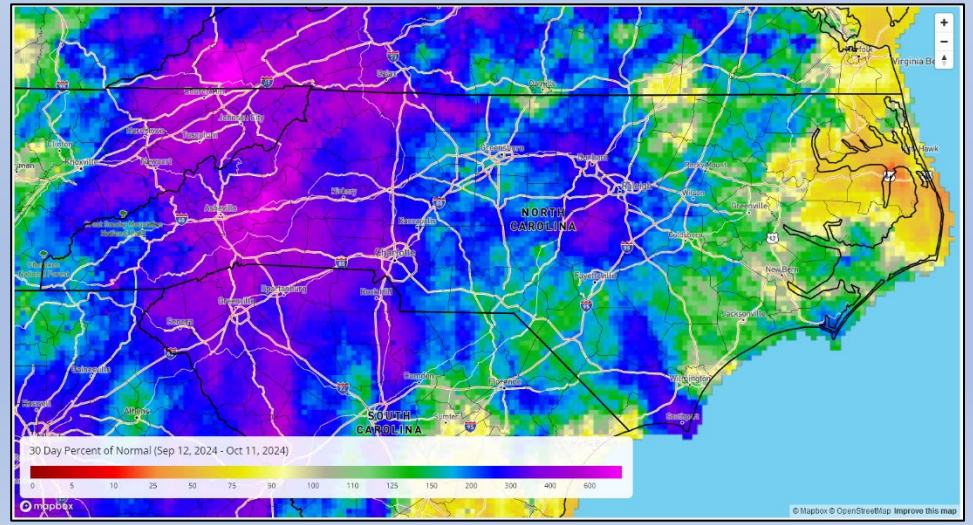
14-Day % of Normal



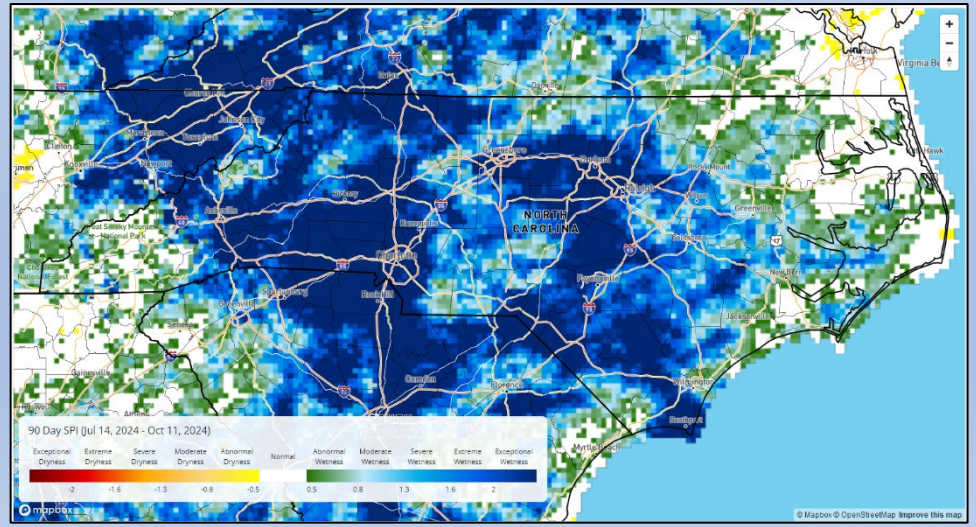
30-Day SPI



30-Day % of Normal

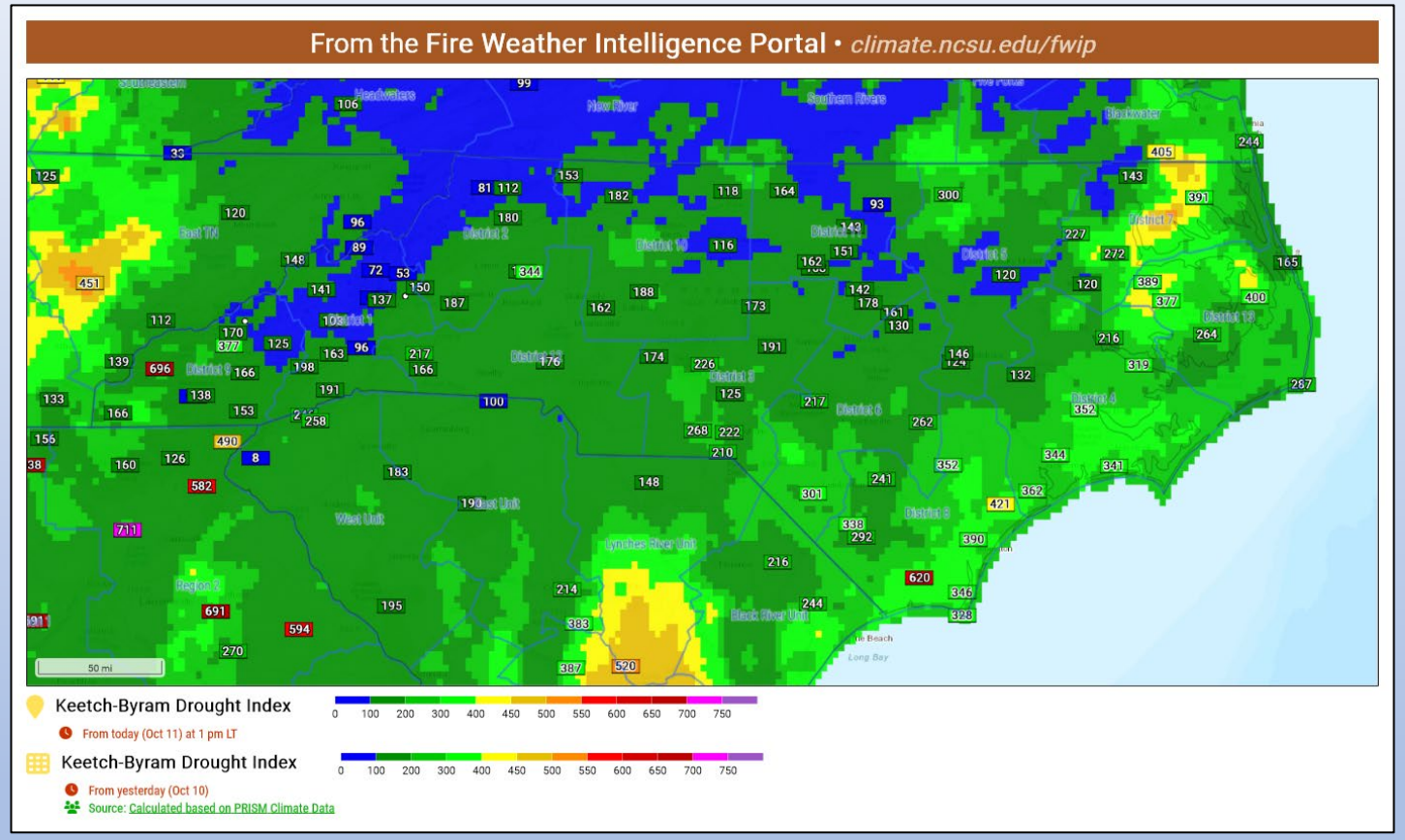


90-Day SPI



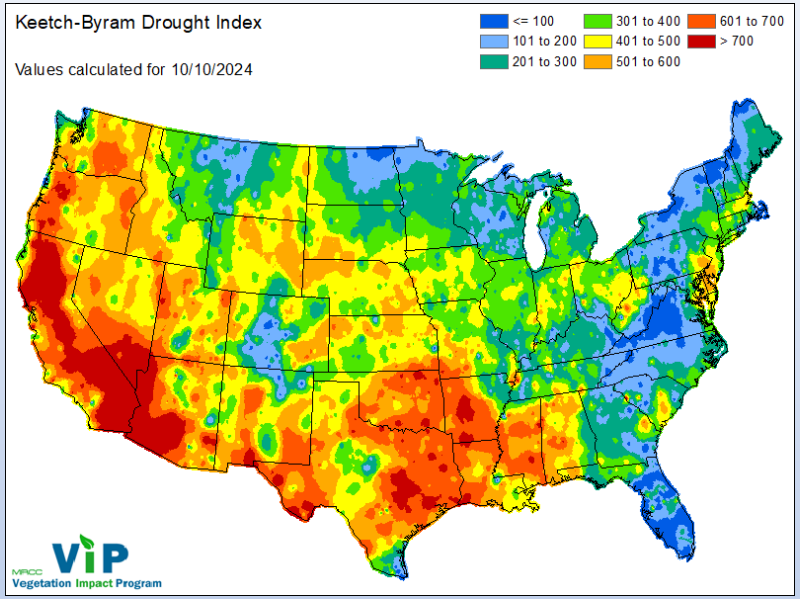
https://srcc.tamu.edu/water_portal/

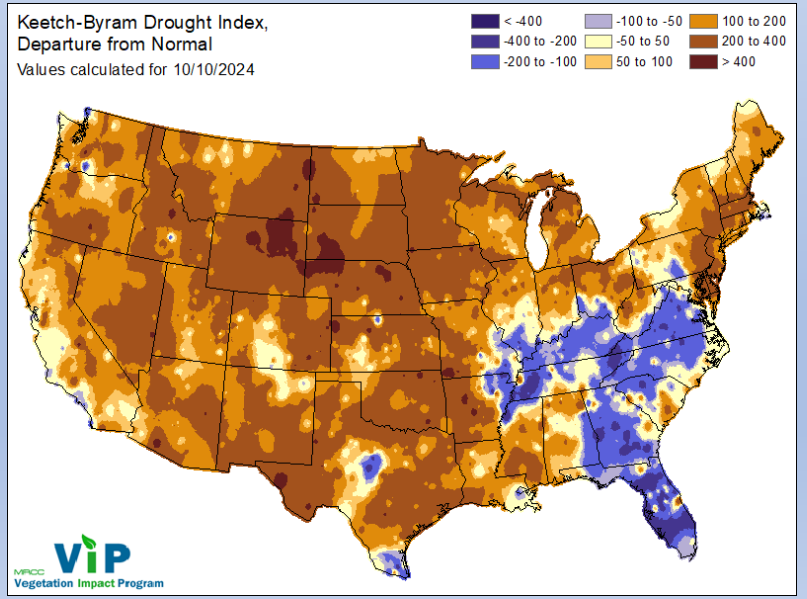
KBDI - Station Points *FWIP (Point calculation from WIMS @ 1300 on 10/11/24)*



**Note that there is an ongoing issue related to WIMS/NFDRS that seems to be causing station point KBDI values to potentially not be calculated/displayed correctly, hence some station point values being much higher than the gridded surface estimates. The situation is being investigated at national level.*

Product below is created by the Midwestern Regional Climate Center. See FAQ.





Drought Situation

North Carolina Drought Update

Created By: North Carolina Drought Management Advisory Council — www.ncdrought.org | NC CLIMATE OFFICE — climate.ncsu.edu | NC STATE — @NCSCO

For the assessment period ending **Oct. 8, 2024**

From the US Drought Monitor, with input from the NC DMAC

The Main Takeaway

Despite dry weather over the past week, the state remains clear of any drought or abnormal dryness as ample moisture remains from our wet September.

This Week's Summary

A mostly dry first week of October has offered welcome relief from the torrential rains in September, and it's giving time for clean-up and damage assessment to get underway in parts of western NC that were hit hard by Helene. Coastal areas along the Albemarle and Pamlico sounds are slightly drier than normal over the past month, but no signs of dryness have emerged yet.

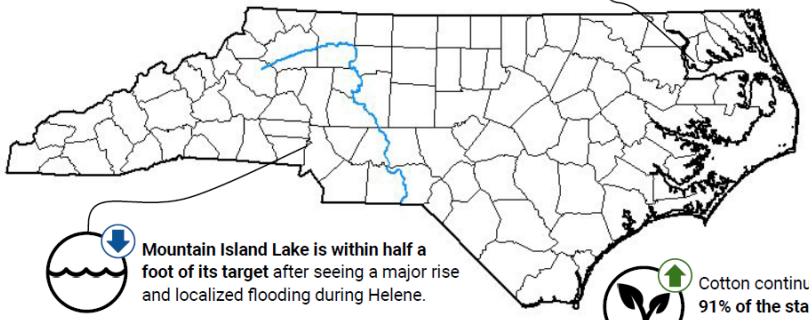
Next Week's Outlook

Dry and sunny weather will continue through the next week. Temperatures will warm into the upper 70s this weekend before falling by Tuesday after a cold front.

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

All rivers in western North Carolina have fallen below their flood stages in the wake of Hurricane Helene two weeks ago.

Edenton is 1.11 inches below its normal rainfall over the past 30 days, but local reports note **creek levels remain well above normal**.



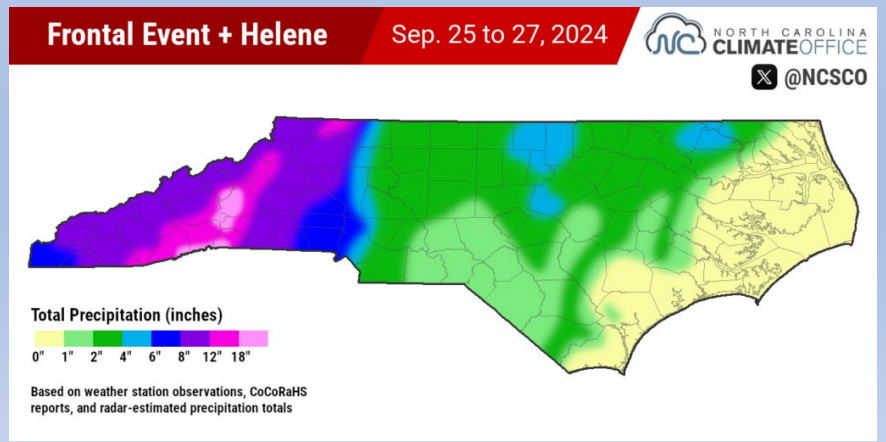
Mountain Island Lake is within half a foot of its target after seeing a major rise and localized flooding during Helene.

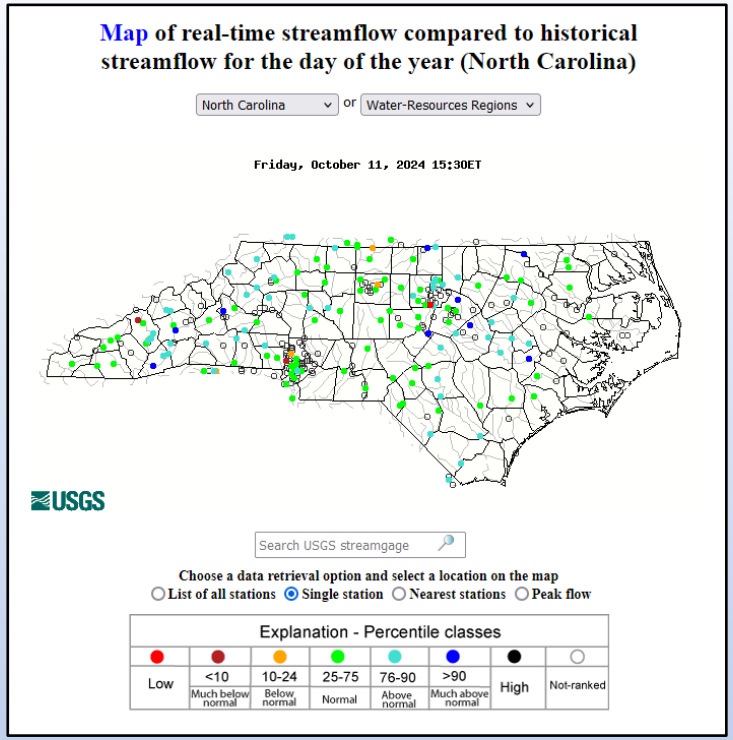
Cotton continues to open bolls, with **91% of the state's crop in fair, good, or excellent condition** per USDA/NASS.

Last Week's Drought Status

Statewide Coverage by Category

Category	Current Coverage	Change Since Last Week
D0: Abnormally Dry	0.00%	0.00%
D1: Moderate Drought	0.00%	0.00%
D2: Severe Drought	0.00%	0.00%
D3: Extreme Drought	0.00%	0.00%
D4: Exceptional Drought	0.00%	0.00%



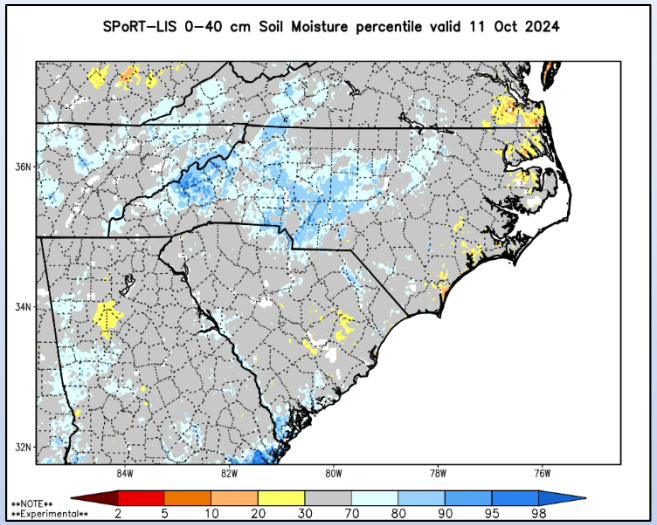


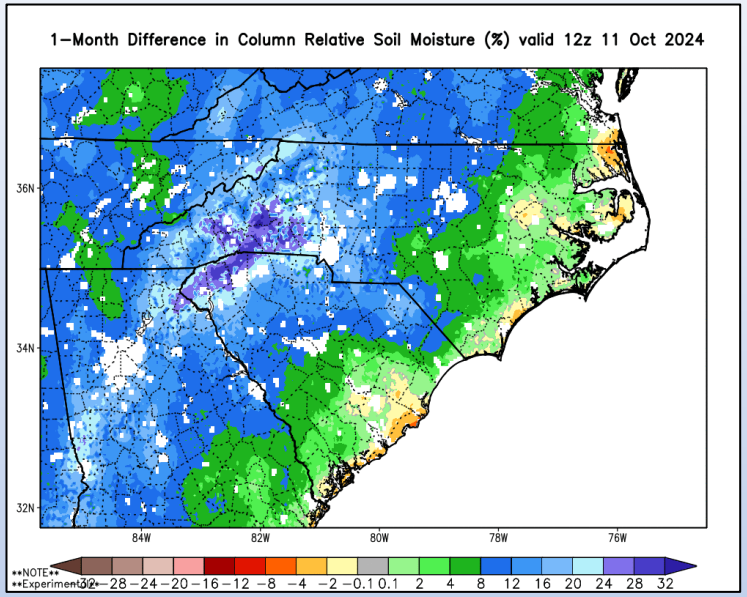
Source: https://waterwatch.usgs.gov/index.php?m=pa07d&r=nc&w=map

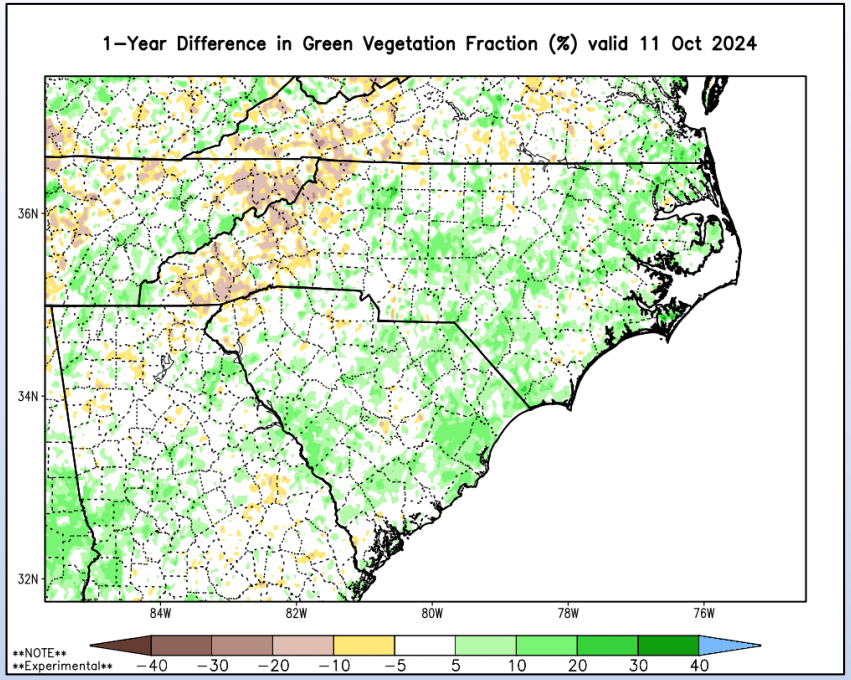
- Rainfall from TS Helene & earlier storm activity in September has cleared categorical drought from NC's USDM map. Gauged streams continue to generally run above to near normal.
- However, mostly rain free conditions have occurred since Helene, as noted on earlier slides.
- USDM Drought status is not a 1:1 indicator of forest fuel condition related to fire danger (especially availability of surface dead fuels in periods of dormant or abnormal conditions).

SPoRT Modeled Relative Soil Dryness

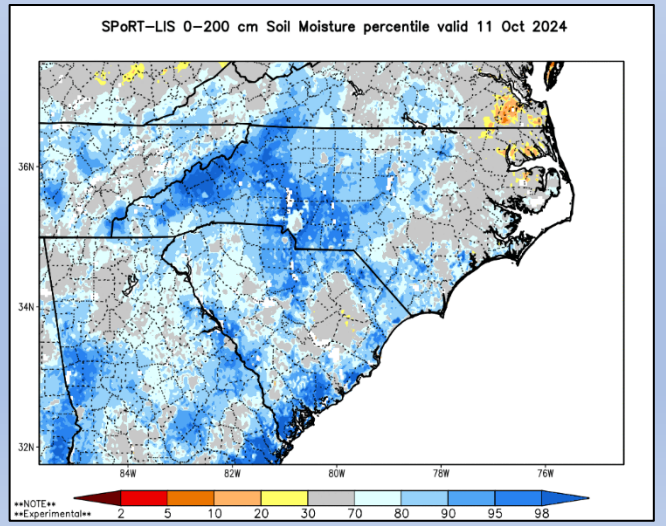
0-40 cm Depth



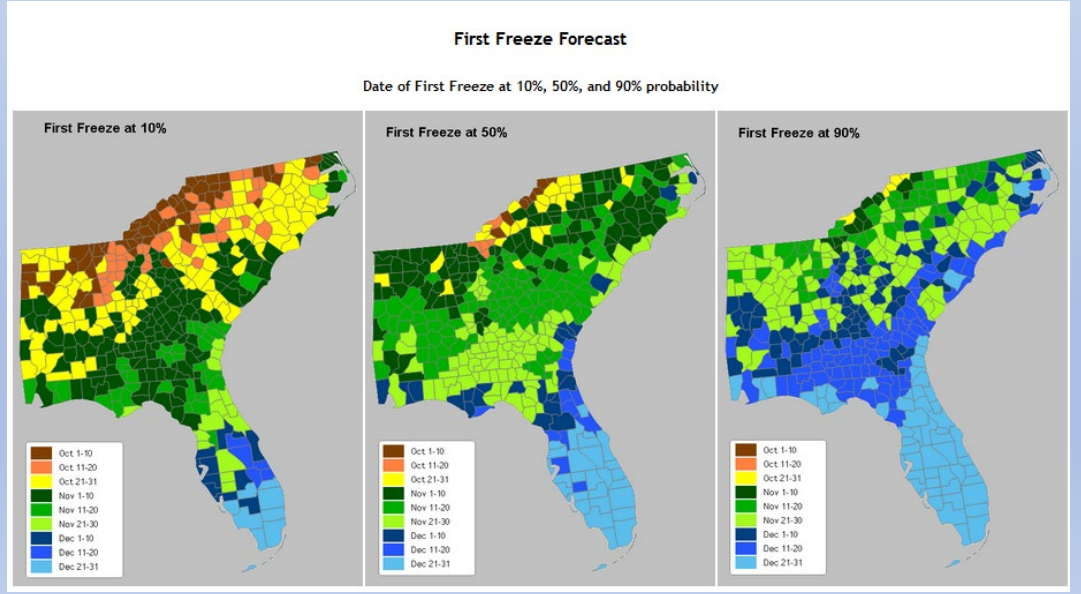




0-200 cm Depth



- See areas of **modeled** improvement & degradation near the surface and for the entire soil profile (left).
- The “1-Month” Difference map shows contrast from West to East (center).
- The Green Vegetation “1-Year Difference” map can provide useful context for various drought & storm impacts to the landscape, as compared to last year at this time (above). Also refer to slide #8.
- The “First Freeze” Probability map provides context for general freeze related dormancy progression.

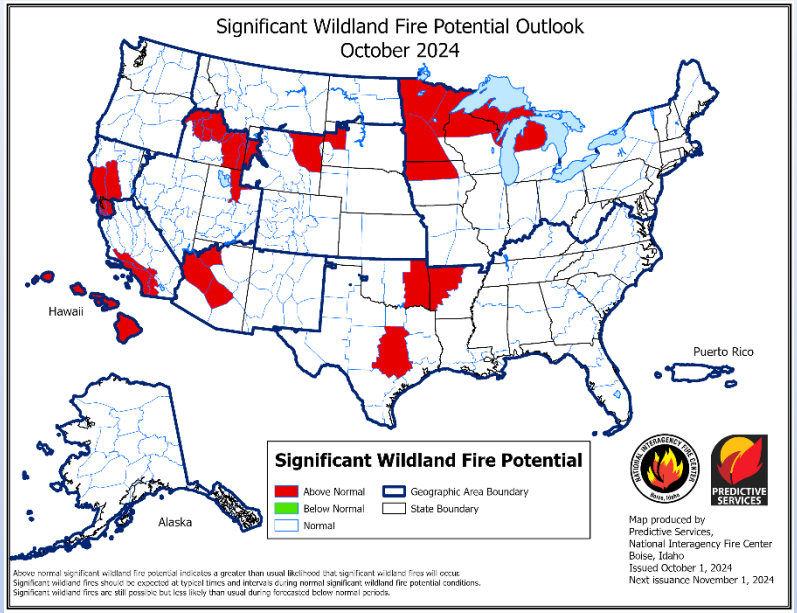


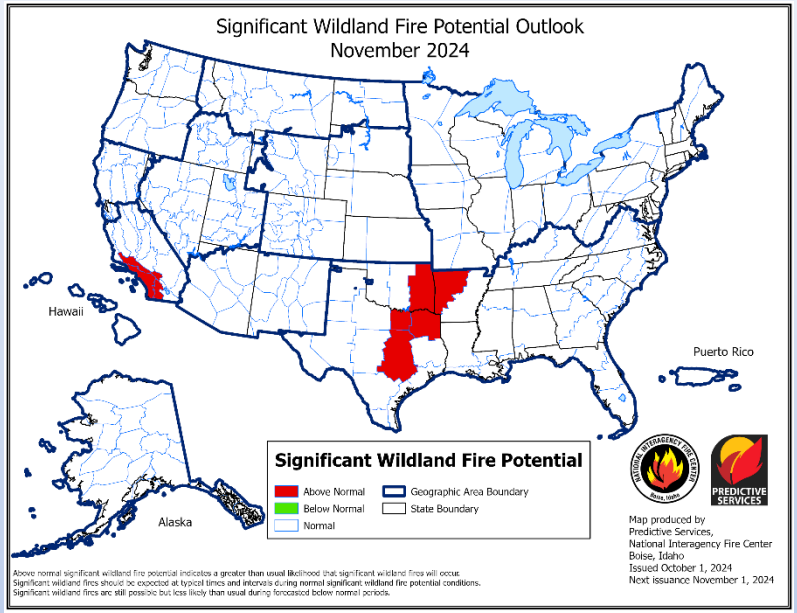
Source: https://weather.msfc.nasa.gov/sport/case_studies/lis_NC.html

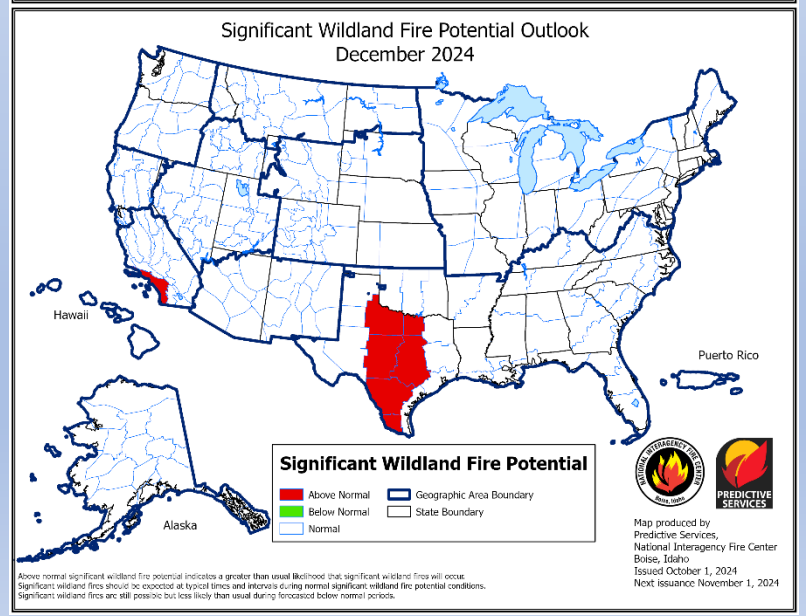
http://agroclimate.org/tools/freeze-risk-probabilities/

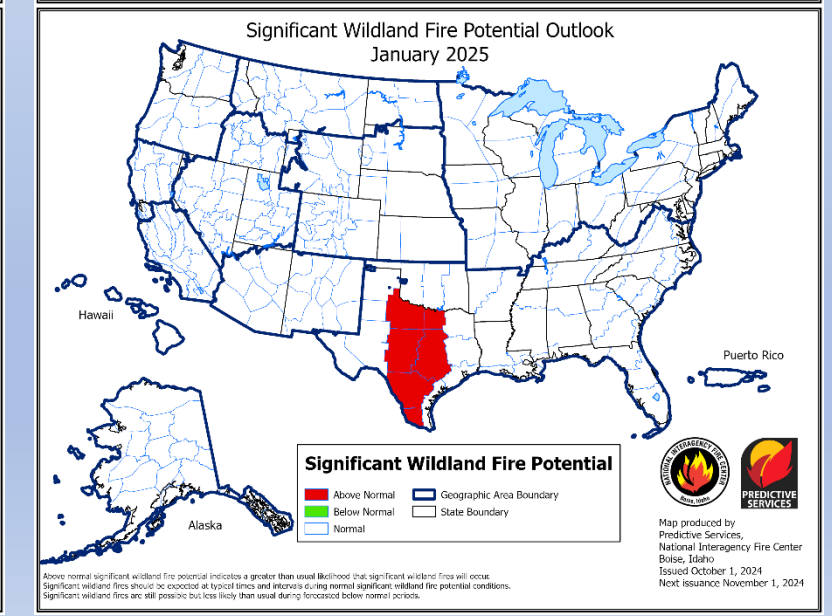
Significant Wildland Fire Potential Outlook:

Updated 10/1/24 – Next Update on 11/1/24









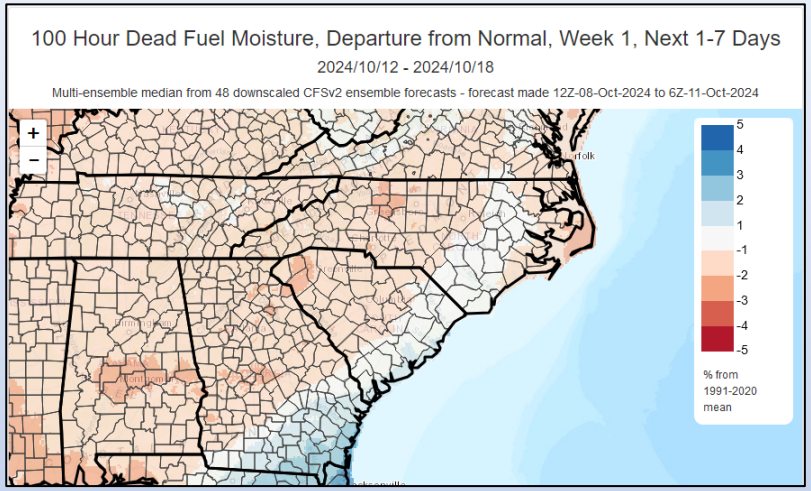
A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have seen this year.

***Forecast uncertainty could easily lead to an expansion of "Above Normal" Fire Potential if abnormally dry conditions expand/worsen in areas of significant storm damage interacting with the lack of adequate wetting rain for surface fuels.**

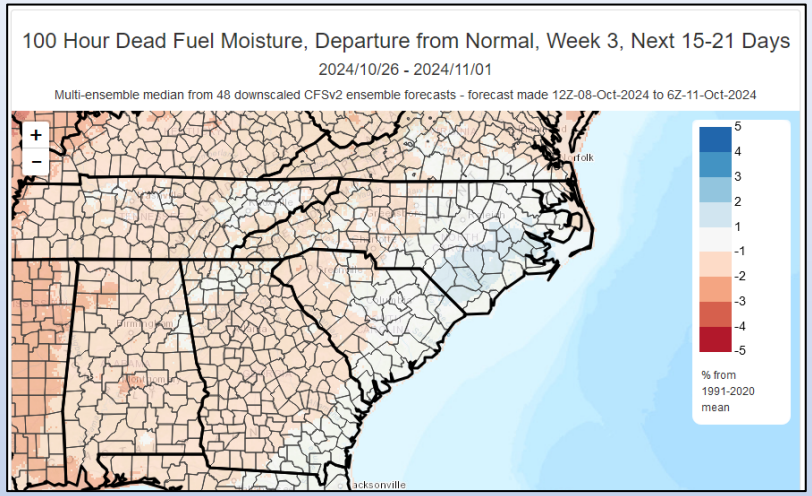
Modeled Departure from Normal by Week: 100-hr Fuels

Output relies on experimental forecast outputs and is subject to change

Week-1



Week-3

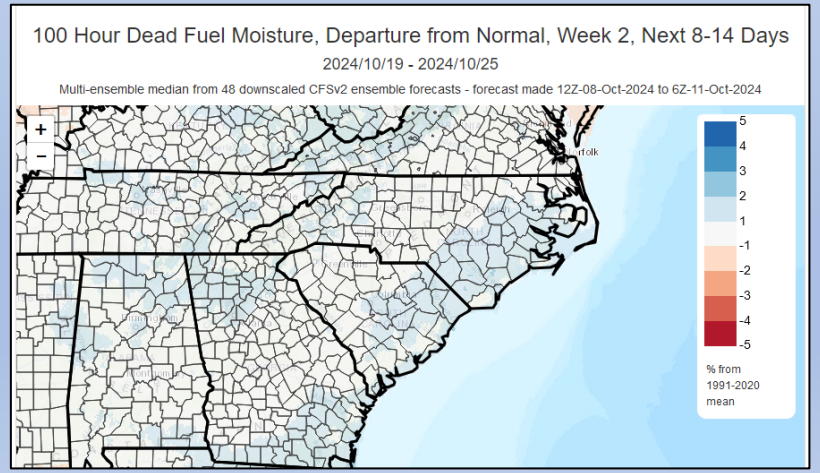


This output can provide insight into general drying trends and potential impacts to overall fire danger, especially prior to full green-up or in drought conditions. Outputs relate to interactions of warmer/colder temps, moist/dry air masses, precip amt/duration and overnight RH recovery trends.

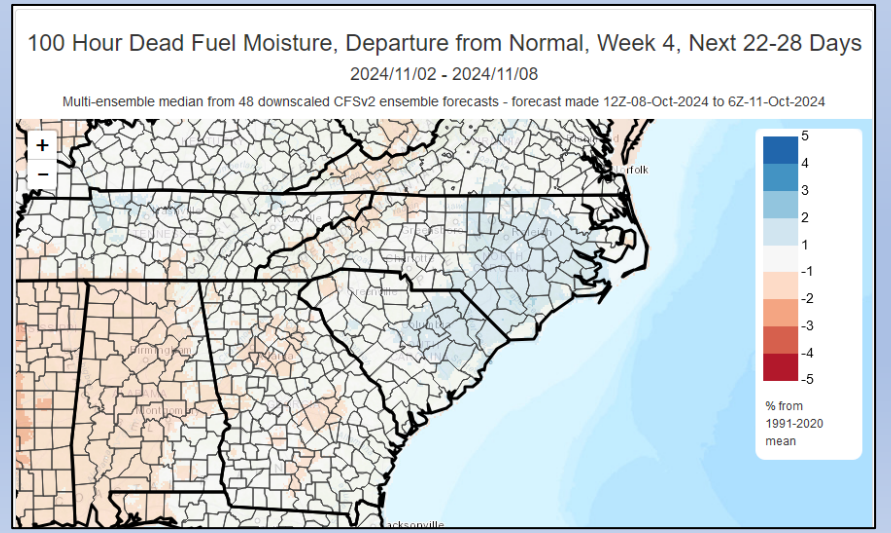
Note that <u>modeled</u> drier than normal conditions continue through Week-1 with a return of more “near normal” conditions for Weeks 2, Weeks 3-4 trending drier than normal west & near normal east.

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

Week-2



Week-4



From: https://climatetoolbox.org/tool/Climate-Mapper , [100-hr Map Link]