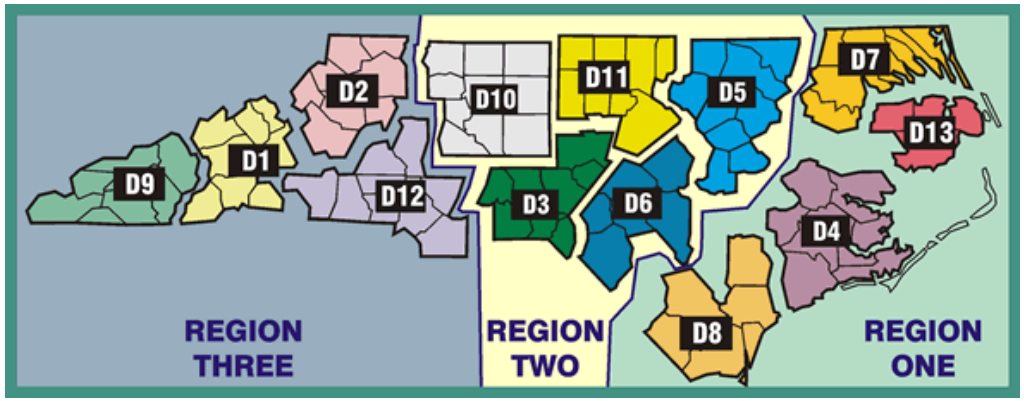


Weekly Fire Danger Assessment NCFS - Region THREE

For Time Period:

Friday (4/21/23) to Thursday (4/27/23)

Created by: Jamie Dunbar

Fire Environment Staff Forester

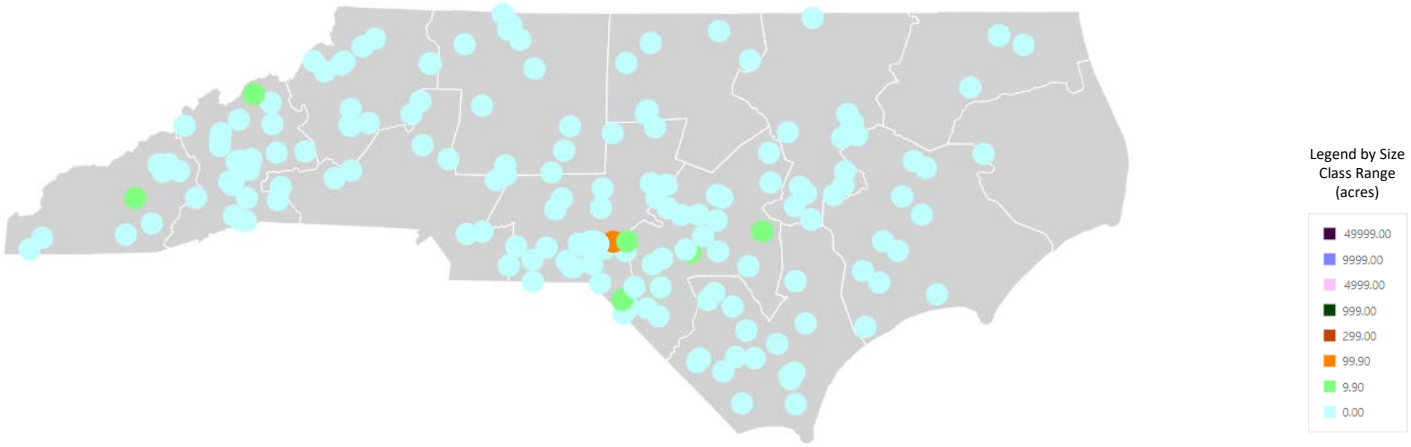
NC Forest Service

Past 7-Days
Signal 14 Activity

NCFS - Region 3		
Previous 7-Day Fire Activity (Does Not Include Federal Ownerships)		
Data Source:	Signal 14 Regional Activity Summary Report (Signal 14 is a snapshot in time)	
Date Range:	4/13 - 4/19, 2023	
Type	Number	Acres
Wildfires:	Unavailable at time of Report Preparation	
Prescribed Fires (State & Private Lands):		

---

fiResponse Incident Location Map (for general context)
Date Range: 4/13 – 4/19, 2023
Report: Business Intelligence Module, Response Trends Map



Current and Forecasted Fire Danger Conditions by FDRA

R3

Regional Comments for this Week – R3

- Normal Fire Season Activity noted this week
- Dead fuel moistures have decreased considerably since last wetting rain event
- Green-up progressing

From Today's SACC Daily Outlook Discussion

- For Saturday – A strong cold front will bring numerous thunderstorms to the Appalachians and portions of the east Saturday, but the East Coast will remain in the warm, dry and windy pre-frontal environment most of the day.
- Post-frontal drying will be rapid for areas in the Southeast and Appalachians, with gusty winds likely, as well; any areas that do not observe wetting rain would be at higher risk.
- The front will bring another round of significant drying (10-hr fuels) to the eastern geographic area by early next week, but this round will be shorter in duration than what occurred this week.
- 100-hour fuels will be critically dry throughout much of the Southeast today, with the driest conditions across the Appalachians into the Mid-Mississippi Valley.
- Most of the East Coast will also see at least one round of wetting rain, with local 1-2" totals over the next week across the Appalachians, Carolinas and VA

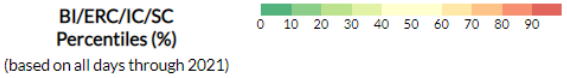
Updated 4/20/23 PM

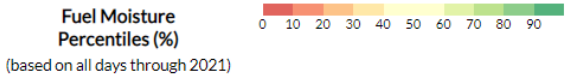
Today's (4/20/23) WIMS Observations and NFDRS Estimates
Averaged by FDRA SIG Group

- 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
  these percentiles are based on analysis of "All Days" for entire calendar year range through 2021 for these stations

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	2023-04-20	117.93 92.7%	59.80 98.3%	25.00 99.8%	50.30 85.6%	78.67	7.29 0.4%	11.33 1.4%	15.83 6.7%	23.06 87.0%	110.17	103.67	78.0°F	21.3%	SW 6.0 mph	0.00 in.	0.0
Central Mountains	3	2023-04-20	72.57 75.5%	37.73 81.0%	12.73 93.8%	27.20 70.5%	85.67	9.50 14.2%	16.08 31.2%	16.33 8.1%	22.10 83.1%	164.53	141.67	80.0°F	24.0%	S 4.7 mph	0.00 in.	0.0
Northern Highlands	2	2023-04-20	98.25 83.3%	41.15 84.3%	18.15 97.4%	48.85 82.9%	55.50	8.93 5.0%	14.26 15.6%	16.07 10.4%	21.55 80.1%	157.15	145.00	75.0°F	29.0%	ESE 7.5 mph	0.00 in.	0.0
Blue Ridge Escarpment	3	2023-04-20	108.57 84.9%	58.33 94.3%	23.33 98.0%	43.17 77.0%	117.00	7.33 2.5%	11.35 5.2%	13.49 0.9%	17.08 9.3%	136.07	122.67	84.0°F	22.0%	SW 5.7 mph	0.00 in.	0.0
Western Piedmont	3	2023-04-20	87.37 75.4%	48.67 81.9%	14.43 88.8%	31.93 72.6%	107.00	9.33 16.3%	16.80 58.2%	16.91 33.5%	22.18 87.4%	91.43	91.33	85.3°F	28.3%	SW 6.0 mph	0.00 in.	0.0
Sandhills	3	2023-04-20	58.33 95.0%	53.60 79.6%	19.63 92.1%	14.70 98.5%	125.67	7.73 9.6%	12.27 9.1%	14.95 6.8%	21.65 86.8%	118.27	115.33	86.7°F	25.7%	W 6.3 mph	0.00 in.	0.0
Eastern Piedmont	4	2023-04-20	81.90 48.4%	41.93 52.9%	13.90 82.6%	31.45 46.6%	91.00	9.63 24.4%	14.87 33.2%	15.90 11.4%	21.74 89.0%	130.58	123.50	83.3°F	33.0%	W 6.8 mph	0.00 in.	0.0
Southern Coastal	7	2023-04-20	52.63 44.3%	39.67 62.1%	11.66 85.0%	12.83 33.0%	188.57	8.19 4.1%	16.44 38.7%	17.36 14.3%	22.54 88.7%	227.86	172.86	88.0°F	25.9%	SW 3.3 mph	0.00 in.	0.0
Northern Coastal	4	2023-04-20	58.53 42.8%	44.05 69.1%	11.05 78.1%	14.53 30.2%	263.00	8.88 11.2%	16.43 46.2%	16.83 21.9%	21.97 81.5%	129.43	138.75	88.8°F	26.5%	WSW 4.8 mph	0.00 in.	0.0





Important notes for next slide group:

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

- These are extracts from FF+ using weekly 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

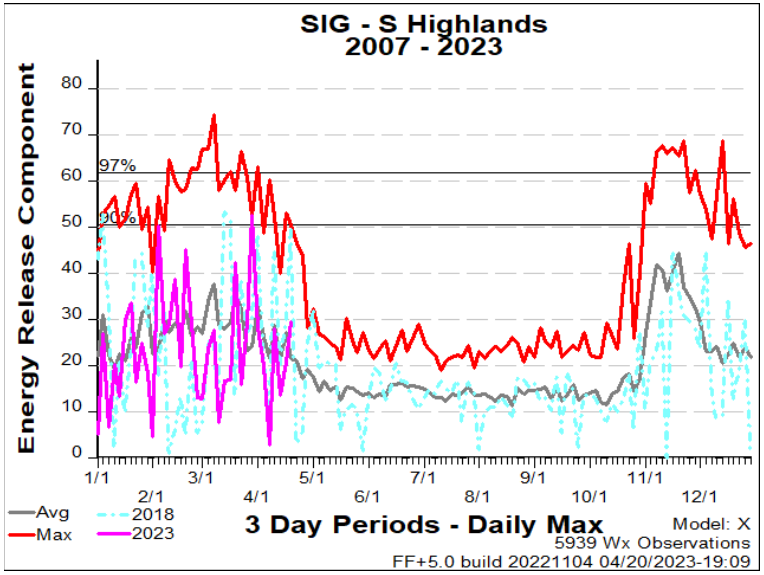
Dead fuel moisture forecast values are grouped into three categories based on historical percentiles, assessed using the FF+ All Days filter through 2021:

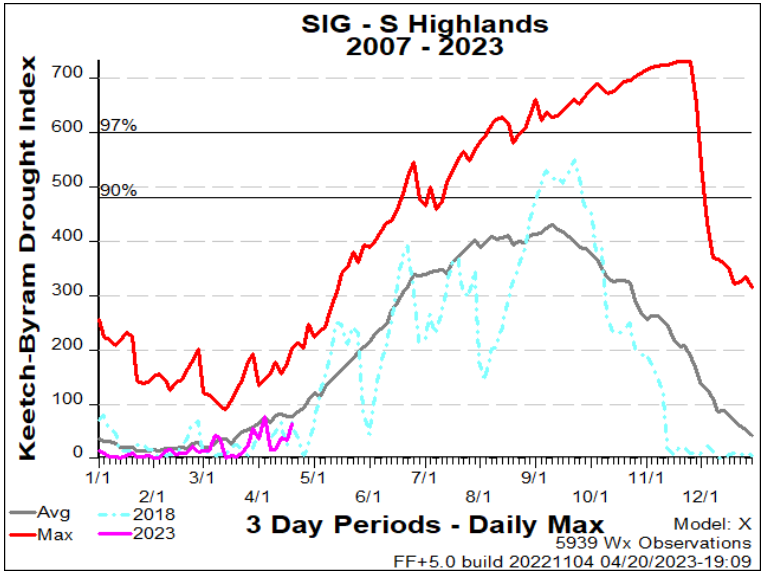
- Low to Moderate (26th to 100th percentile); shown in blue-green
- High (11th to 25th percentile); shown in yellow
- Very High to Extreme (0 to 10th percentile); shown in red and labeled as Critical

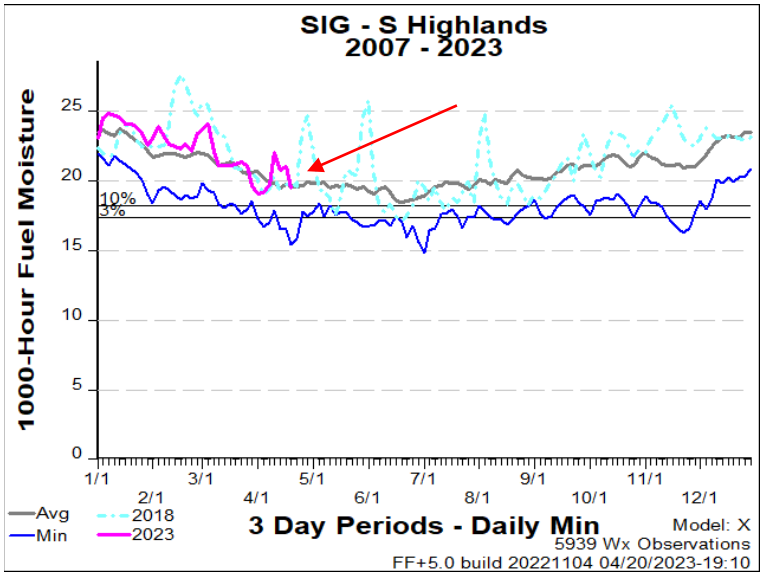
Other Notes:

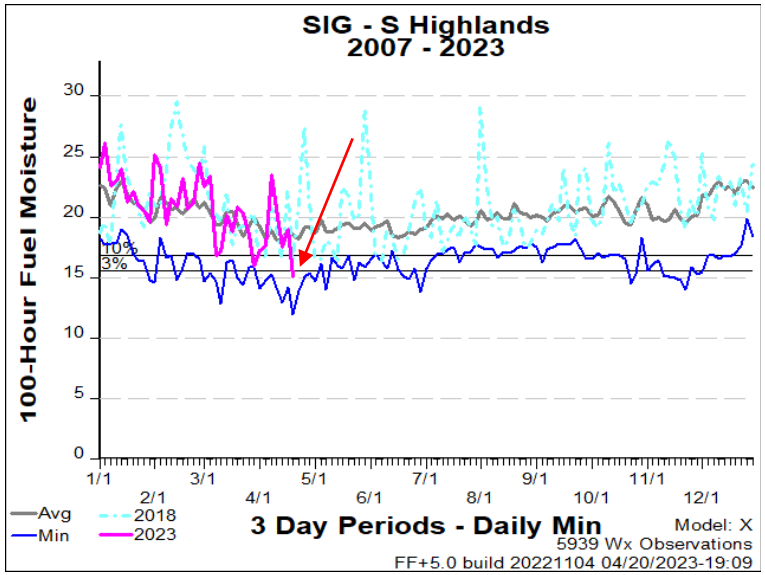
- Read the key and notes for each FDRA, included on the outlook matrix page.
- Forecasts are variable and can change significantly over a forecast cycle and across the landscape.
- This is another tool for gaining better situational awareness, and should be used for general planning purposes only.
-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

Region Specific – Southern Highlands









Weekly Outlook

Southern Highlands FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

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

DAY	FRI 21-Apr	SAT 22-Apr	SUN 23-Apr	MON 24-Apr	TUE 25-Apr	WED 26-Apr	THU 27-Apr
Avg. Max. Temp. (°F)	71	61	59	60	60	57	61
Avg. Min. Humidity (%)	32	35	30	25	36	58	52
Avg. 20' Wind Speed (mph)	9	12	10	8	6	9	10
Avg. Wind Direction*	S	W	NW	W	E	ESE	ESE
Avg. Probability of Precip. (%)	82	63	1	7	47	59	51
Days Since a Wetting Rain**	7.0	0.0	1.0				
Forecast ERC (Fuel Model X)	45.8	29.3	37.4	42.9	43.5	28.4	19.5
Forecast BI (Fuel Model X)	131.7	102.7	122.8	104.3	102.2	91.9	68.2
Forecast IC (Fuel Model X)	18.9	10.3	13.1	12.1	12.0	7.7	4.7
Forecast 100-Hr. FMC	15.3	16.7	17.5	17.3	16.6	16.4	16.7
Forecast 1000-Hr. FMC	22.8	22.4	22.2	22.1	21.9	21.7	21.4
KBDI	78.7						

Data Source:

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

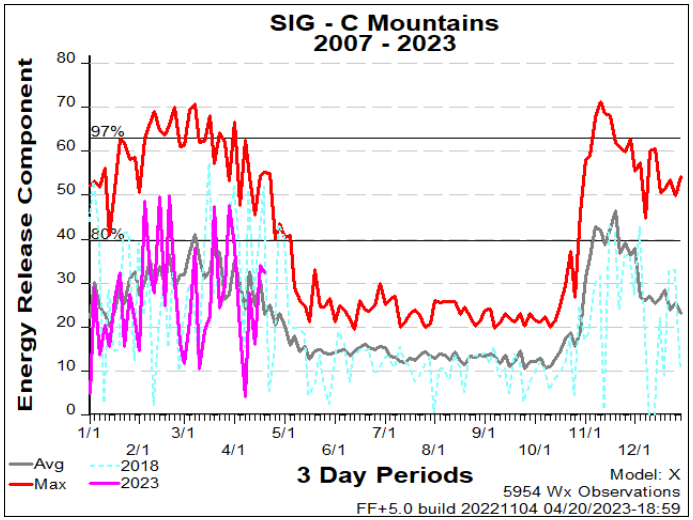
Values in the table above are averages from 3 stations in this FDRA:

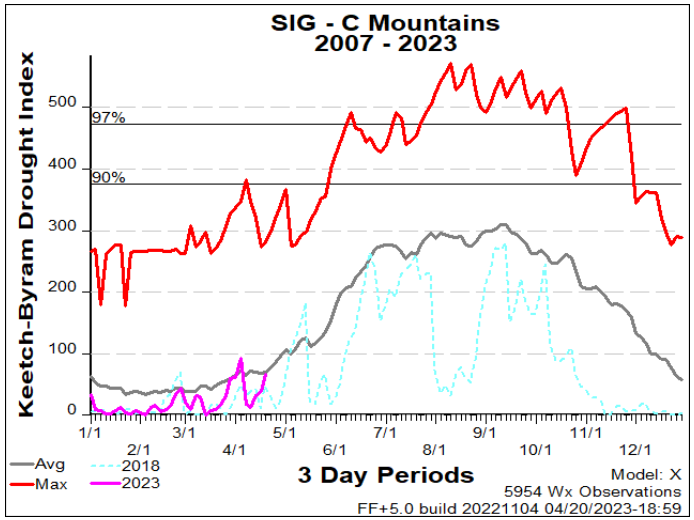
- **Tusquitee** (315602)
- **Locust Gap** (315802)
- **Highlands** (315803)

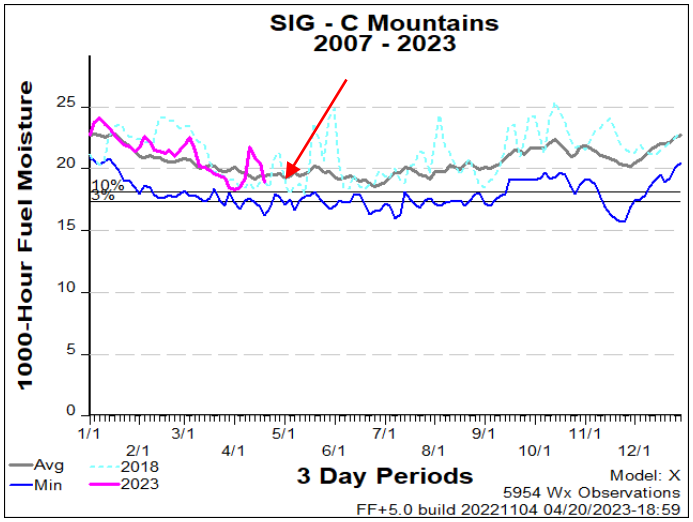
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 55°F	Greater than 55°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph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

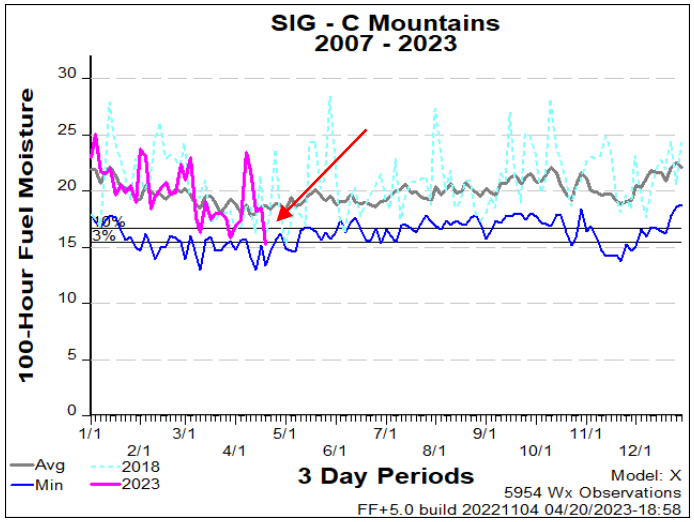
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

Region Specific – Central Mountains









Weekly Outlook

Central Mountains FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

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

DAY	FRI 21-Apr	SAT 22-Apr	SUN 23-Apr	MON 24-Apr	TUE 25-Apr	WED 26-Apr	THU 27-Apr
Avg. Max. Temp. (°F)	74	63	61	62	63	55	61
Avg. Min. Humidity (%)	29	35	27	24	30	57	48
Avg. 20' Wind Speed (mph)	10	13	11	9	7	8	9
Avg. Wind Direction*	S	WSW	NW	NNW	SE	ESE	ESE
Avg. Probability of Precip. (%)	63	71	2	5	34	55	45
Days Since a Wetting Rain**	7.0	0.0	1.0				
Forecast ERC (Fuel Model X)	38.0	18.8	29.5	34.7	36.1	22.2	17.0
Forecast BI (Fuel Model X)	107.0	56.8	85.0	85.3	85.2	57.4	46.7
Forecast IC (Fuel Model X)	17.5	5.8	9.9	10.6	10.6	5.2	3.4
Forecast 100-Hr. FMC	15.9	16.1	16.9	16.8	16.2	16.2	16.3
Forecast 1000-Hr. FMC	22.0	21.7	21.6	21.4	21.3	21.1	21.0
KBDI	85.7						

Data Source:

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

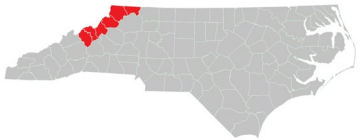
Values in the table above are averages from 3 stations in this FDRA:

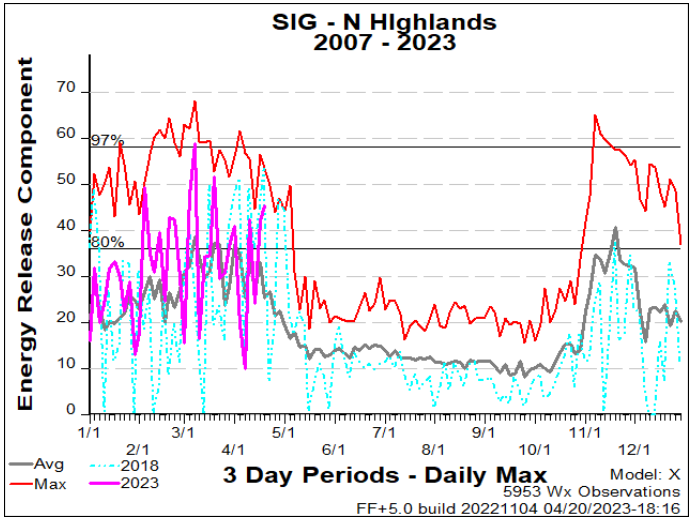
- **7 Mile Ridge** (313302)
- **Davidson River** (316001)
- **Mtn Horticultural Crops Res Stn** (316141)

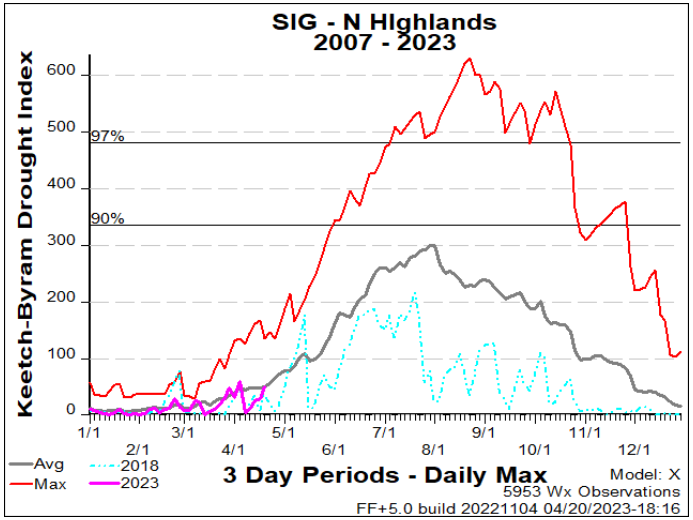
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 60°F	Greater than 60°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 5 mph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

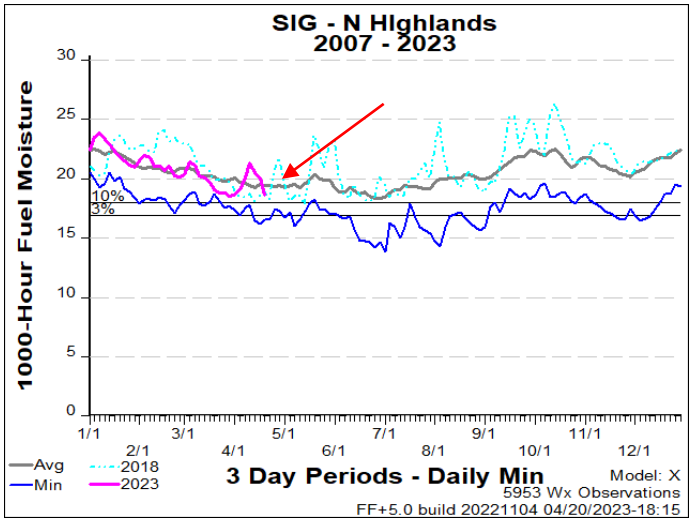
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

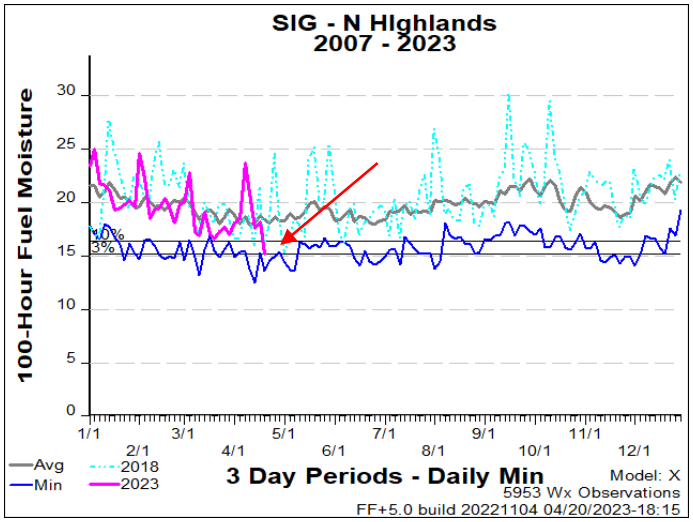
Region Specific – Northern Highlands











Weekly Outlook

Northern Highlands FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

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

DAY	FRI 21-Apr	SAT 22-Apr	SUN 23-Apr	MON 24-Apr	TUE 25-Apr	WED 26-Apr	THU 27-Apr
Avg. Max. Temp. (°F)	70	57	53	55	58	50	54
Avg. Min. Humidity (%)	34	46	33	26	31	57	53
Avg. 20' Wind Speed (mph)	11	15	15	11	8	8	10
Avg. Wind Direction*	SSW	WSW	WNW	NW	W	ENE	E
Avg. Probability of Precip. (%)	69	90	3	2	25	45	55
Days Since a Wetting Rain**	3.0	0.0	1.0				
Forecast ERC (Fuel Model X)	39.6	18.3	28.7	33.1	36.6	28.7	19.2
Forecast BI (Fuel Model X)	101.1	51.6	88.3	80.3	85.6	69.4	47.1
Forecast IC (Fuel Model X)	17.1	5.3	10.1	9.4	10.8	6.7	3.2
Forecast 100-Hr. FMC	15.3	16.4	17.6	17.7	17.0	16.4	16.4
Forecast 1000-Hr. FMC	21.3	21.0	20.8	20.7	20.6	20.5	20.3
KBDI	55.5						

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

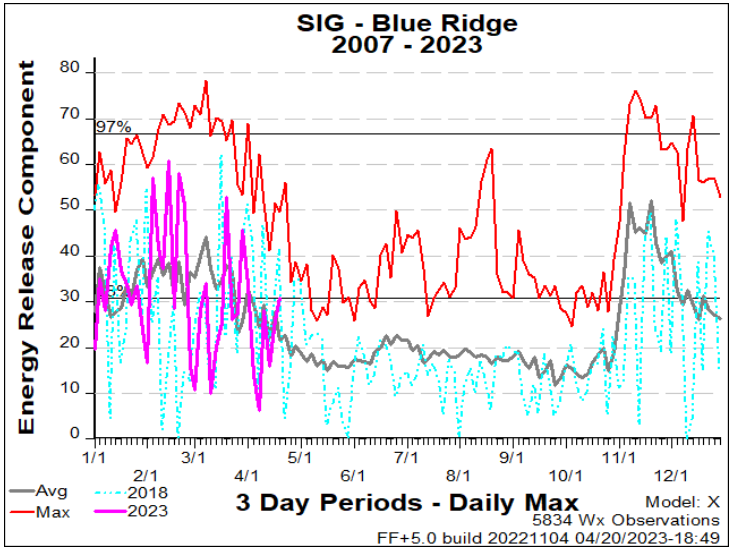
Values in the table above are averages from 3 stations in this FDRA:

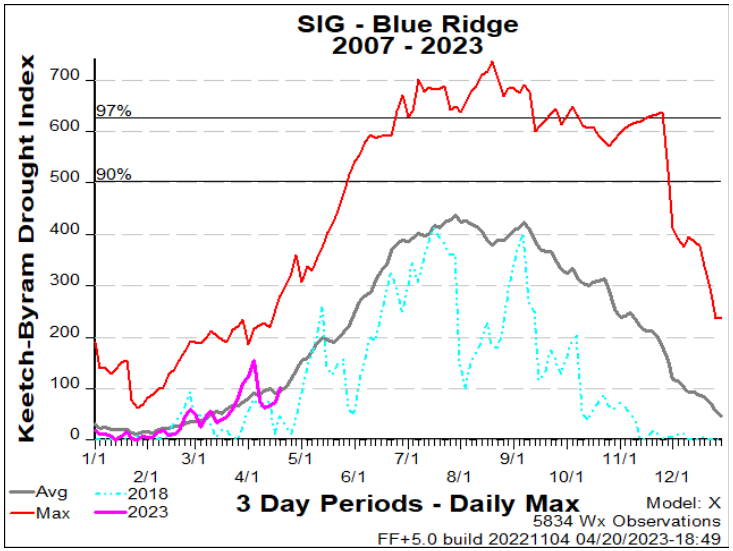
- **Laurel Springs** (310101)
- **Upper Mountain Research Stn** (310141)
- **Busick** (313402)

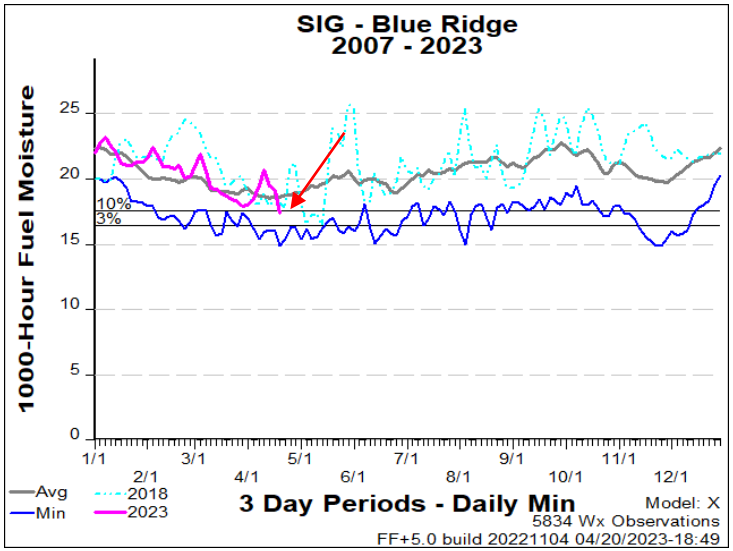
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 50°F	Between 50°F and 58°F	Greater than 58°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph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

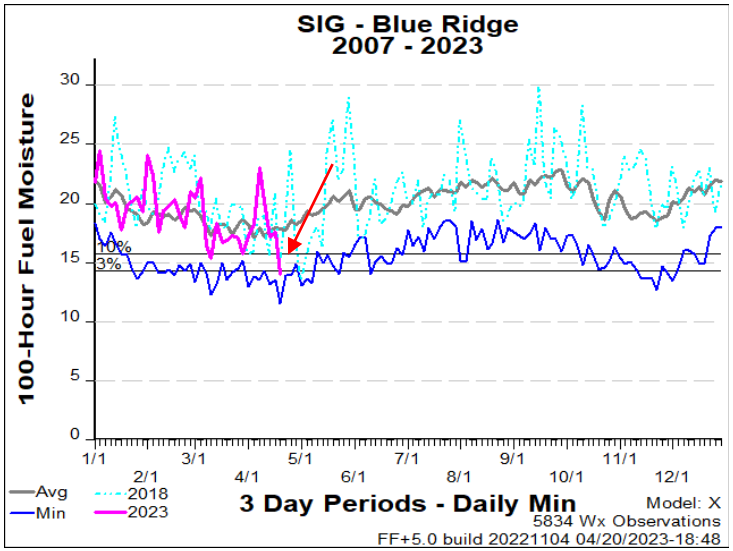
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

Region Specific – Blue Ridge Escarpment









Weekly Outlook

Blue Ridge Escarpment FDRA - General Fire Danger Forecast

For planning purposes only; forecast is subject to change

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

DAY	FRI 21-Apr	SAT 22-Apr	SUN 23-Apr	MON 24-Apr	TUE 25-Apr	WED 26-Apr	THU 27-Apr
Avg. Max. Temp. (°F)	77	64	62	63	63	54	59
Avg. Min. Humidity (%)	32	40	28	25	31	57	52
Avg. 20' Wind Speed (mph)	8	12	12	9	7	7	9
Avg. Wind Direction*	SSW	WSW	WNW	NW	SSW	ENE	ENE
Avg. Probability of Precip. (%)	61	81	2	3	30	49	50
Days Since a Wetting Rain**	7.0	0.0	1.0				
Forecast ERC (Fuel Model X)	48.2	31.8	40.8	44.9	47.4	37.5	26.9
Forecast BI (Fuel Model X)	122.4	91.4	119.5	99.4	101.3	89.4	69.5
Forecast IC (Fuel Model X)	19.1	8.9	14.5	12.6	13.3	8.6	4.9
Forecast 100-Hr. FMC	13.1	19.0	18.7	17.2	16.0	15.4	15.7
Forecast 1000-Hr. FMC	16.4	16.5	16.5	16.6	16.5	16.5	16.4
KBDI	117.0						

Data Source:

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

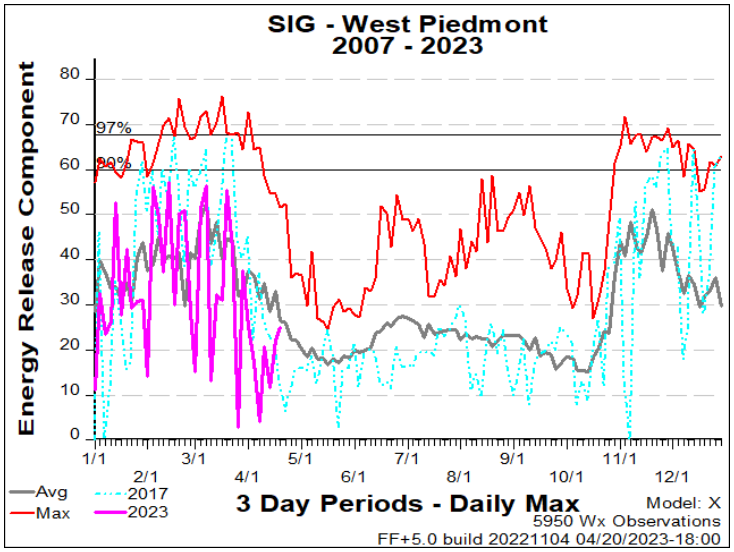
Values in the table above are averages from 3 stations in this FDRA:

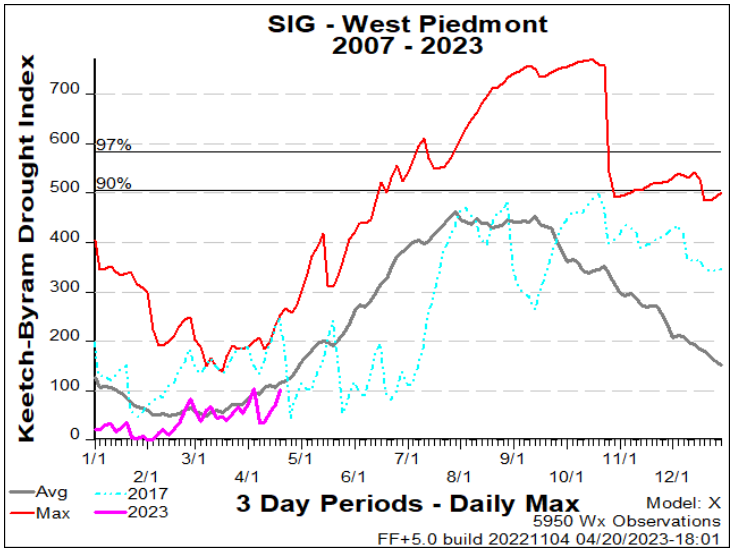
- **Rendezvous Mtn.** (312001)
- **North Cove Pinnacle (fr1)** (314301)
- **Rutherford County** (316302)

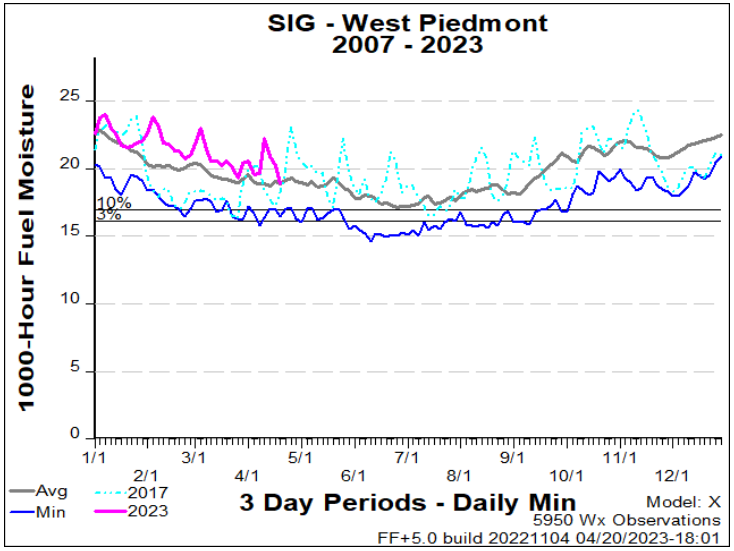
KEY	Low to Moderate Burning Conditions	Burning Conditions Can be High CAUTION	Burning Conditions Can be Critical WATCH OUT!
Avg. Max. Temp.	Less than 40°F	Between 40°F and 50°F	Greater than 50°F
Avg. Min. Humidity	Greater than 35%	Between 30% and 35%	Less than 30%
Avg. 20' Wind Speed	Less than 2 mph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

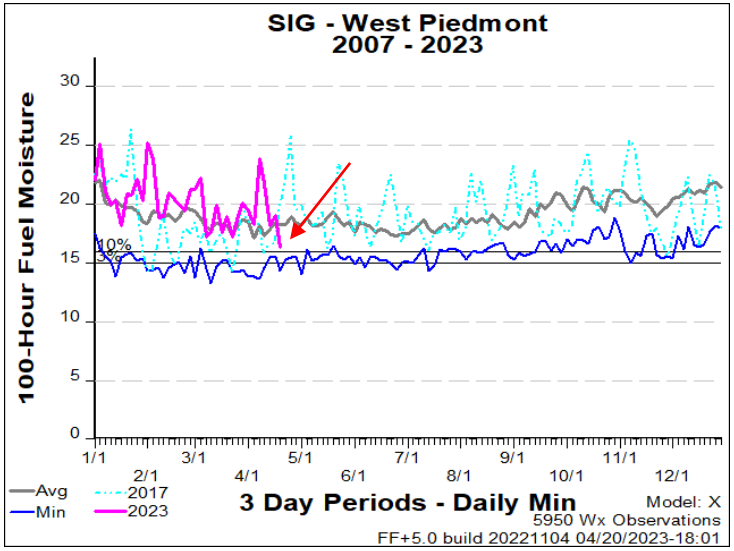
Other factors to consider when determining fire danger: **sky conditions**, **precipitation amount**, **number of days since rain**, and **season**

Region Specific – 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 21-Apr	SAT 22-Apr	SUN 23-Apr	MON 24-Apr	TUE 25-Apr	WED 26-Apr	THU 27-Apr
Avg. Max. Temp. (°F)	85	72	68	67	67	60	63
Avg. Min. Humidity (%)	30	51	31	28	32	57	56
Avg. 20' Wind Speed (mph)	7	11	8	8	7	8	12
Avg. Wind Direction*	SSW	SW	WNW	WNW	SE	ENE	NE
Avg. Probability of Precip. (%)	21	83	2	2	25	48	39
Days Since a Wetting Rain**	9.0	0.0	1.0				
Forecast ERC (Fuel Model X)	50.1	39.4	42.6	51.1	52.7	42.4	29.6
Forecast BI (Fuel Model X)	109.4	119.6	114.3	118.8	114.3	106.9	100.2
Forecast IC (Fuel Model X)	16.5	11.8	12.0	14.3	13.8	9.7	6.5
Forecast 100-Hr. FMC	16.2	16.8	17.7	17.4	16.7	16.3	16.4
Forecast 1000-Hr. FMC	21.9	21.4	21.2	21.0	20.8	20.6	20.4
KBDI	107.0						

Data Source:

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

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

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

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

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

Outlook Summary Table – R3

Summary Table by FDRA using count of colored blocks in a day's forecast.

Forecast Subject to Change

Key: 4+ Red Blocks on a Day = "Critical" Day Potential; Red Color
4+ Yellow or Combo of Yellow/Red = "High" Day Potential; Yellow Color
6+ Blue-Green Blocks = "Low to Mod" Potential Day; Blue-green Color

Date	Day of Week	FDRA Matrix Summary - NCFS Region 3				
		Southern Highlands	Central Mountains	Northern Highlands	Blue Ridge Escarp	Western Piedmont
21-Apr	Fri	Critical	Critical	Critical	Critical	Critical
22-Apr	Sat	High	High	High	Low/Mod	High
23-Apr	Sun	High	Critical	High	Critical	High
24-Apr	Mon	High	High	High	Critical	Critical
25-Apr	Tues	High	High	High	High	Critical
26-Apr	Wed	Low/Mod	Low/Mod	High	Critical	High
27-Apr	Thurs	Low/Mod	Low/Mod	Low/Mod	Critical	High

Weather Outlook Discussion

Greenville-Spartanburg NWS (PM Fire WX Forecast Discussion):

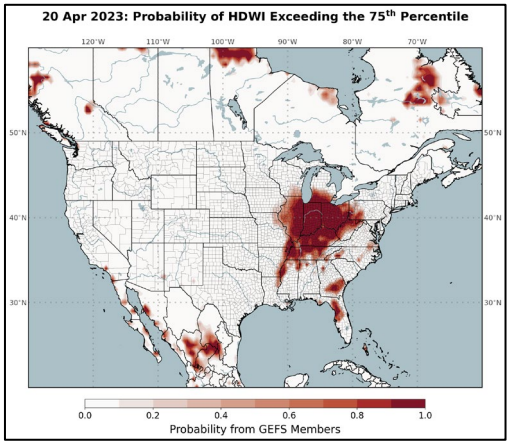
```
National Weather Service Greenville-Spartanburg SC
245 PM EDT Thu Apr 20, 2023

 ...DRY AND BREEZY ON FRIDAY...

.DISCUSSION...
Dry and warm high pressure will persist across the region through
Friday. A cold front is expected to cross the area from the west on
Saturday, bringing showers and possibly a few thunderstorms. Dry and
unseasonably cool high pressure will build in behind the front late
in the weekend through early next week. The next rain-producing
system should arrive from the west by Wednesday.
```

Blacksburg NWS (PM Fire WX Forecast Discussion):

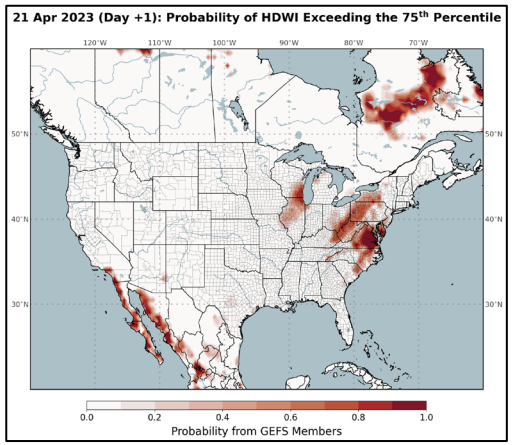
```
National Weather Service Blacksburg VA
238 PM EDT Thu Apr 20, 2023

.DISCUSSION...

...LOW AFTERNOON HUMIDITY THROUGH FRIDAY...

High pressure will be in control of our weather pattern through
Friday. Southwest winds increase slightly Friday, while humidities
drop to 25 to 35 percent. Saturday, a cold front brings a
wetting rainfall, with most receiving a third to three quarters of
an inch. The front exits by Sunday morning. Expect cooler conditions
behind the front, with highs in the 50s and 60s.
```

Hot-Dry-Windy Index (HDW)

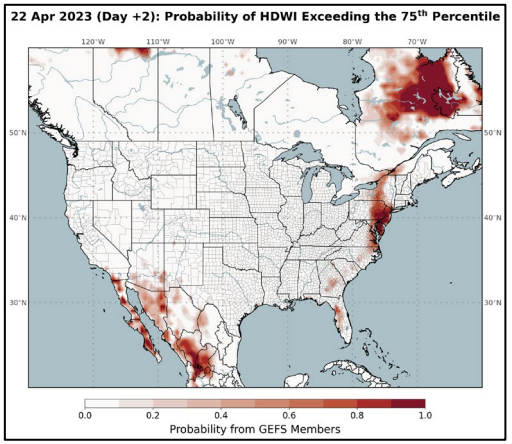
Thursday > 75th Percentile



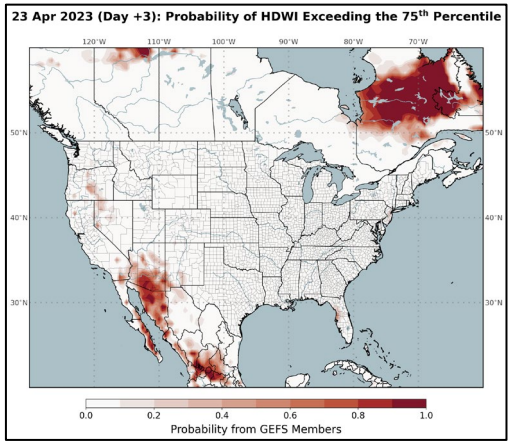
Friday > 75th Percentile



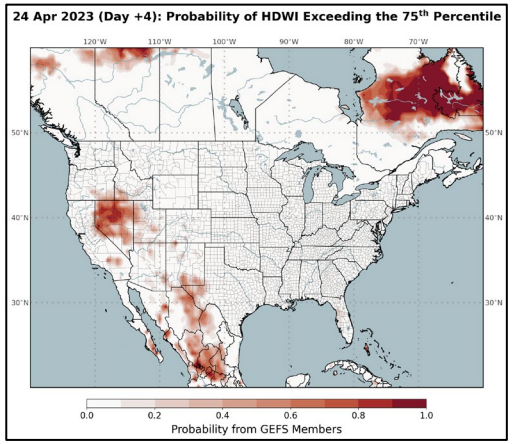
Saturday > 75th Percentile



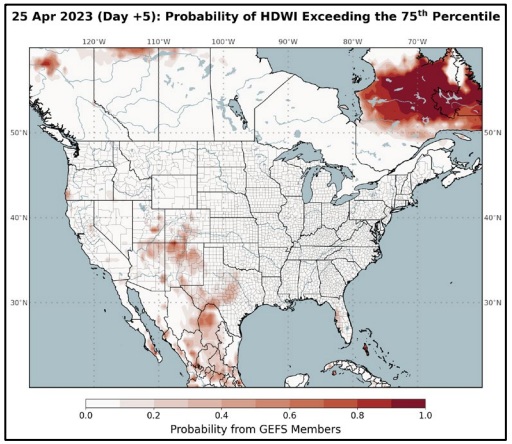
Sunday > 75th Percentile



Monday > 75th Percentile



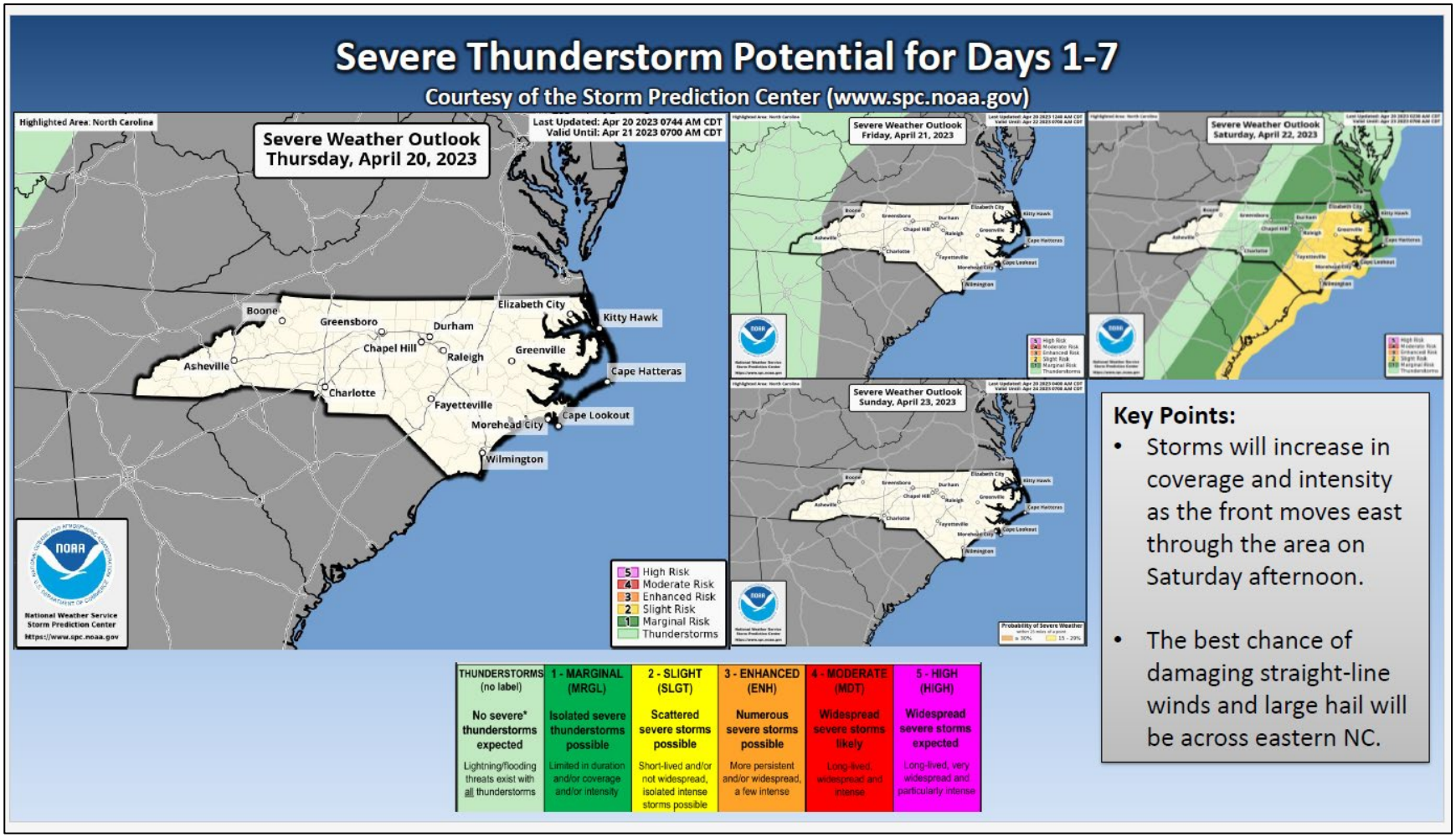
Tuesday > 75th Percentile



- Another visualization tool to pick up on broader weather, but with *limitations
- Only uses Max VPD (atmospheric moisture & temp) & Max Wind Speed to generate outputs
- Coarse Resolution - 0.5 Degree Grid
- No Account of Local Fuel Conditions and Topo

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

Severe Thunderstorm Potential for Days 1-7



Source: Page 9 of http://www.weather.gov/media/rah/briefing/NWSRaleighLatestBriefing.pdf

NC DAQ Air Quality Forecast - *Next Three Days*

The North Carolina Division of Air Quality issues forecasts for fine particulate matter year-round and ozone from March through October. Forecasts and discussions are updated each afternoon for the next three days, and are sometimes updated in the morning to reflect the latest ambient conditions.

View: ◉ The latest forecast discussion ○ The afternoon forecast discussion from Apr 19, 2023 Display

This forecast was issued on **Thursday, April 20, 2023** at **3:15 pm**. This forecast is currently valid.

Today's Air Quality Conditions

Hourly ozone levels across much of the state are approaching or have reached the low Code Orange range this afternoon. Current daily average particle pollution levels are in the low to mid Code Yellow range across much of the state.

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

General Forecast Discussion

Tomorrow, the center of the H5 ridge that has plagued the air quality the past several days will begin to shift east and offshore, pushing the surface ridge along with it. As alluded to in previous discussions, tomorrow will be a transition day. As such, it appears that the most significant concentrations of smoke-- another major exacerbating factor in the widespread elevated ozone and particle pollution concentrations-- should begin to disperse some, but not entirely. Additionally, winds begin to become more onshore (southeasterly) during the late afternoon which may assist in cleaning out the air shed some along the immediately southeastern coastal areas, but for areas for inland including CLT, this won't be of much consequence tomorrow. For the mountain ridge tops, overnight trajectories point to an air mass coming directly from the Atlanta corridor, which will likely carry significantly elevated ozone to this region and it is very likely the high elevations experience ozone levels in the low Code Orange range once again tonight, and we will be issuing a Code Orange AQA for this region. For lower elevations, considering all of the factors, it appears upper Code Yellow ozone concentrations may still occur in and downwind of the Charlotte and Raleigh areas and still mid to upperish Code Yellow elsewhere west of I-95, with slightly lower values east. Particle pollution levels will also likely remain elevated into the low to mid Code Yellow range once again.

Outlook

On Saturday on into Sunday, a cold front should sweep across the region behind the departing upper level trough and lower air quality levels back into the Code Green range across the state.

Author: *McLamb- NC Division of Air Quality*

Extended Air Quality Outlook

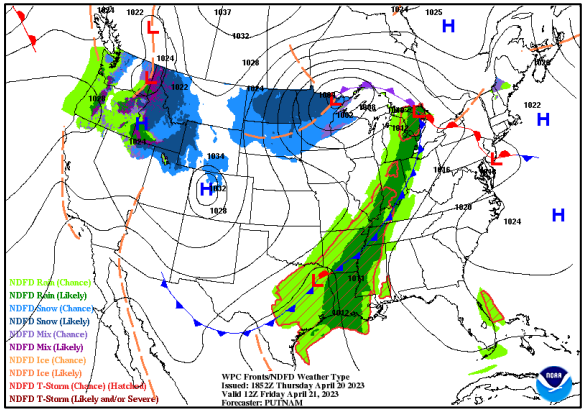
The forecast Air Quality Index value for each pollutant represents the highest value expected within each county, so some areas and monitors may see lower values. We use the best information and techniques available to ensure the quality and accuracy of the forecasts we provide to the public. Note that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

Forecast Day	AQI Range	Category Range
Thursday (Apr 20)	90 to 101	Yellow to Orange
Friday (Apr 21)	67 to 108	Yellow to Orange
Saturday (Apr 22)	40	Green
Sunday (Apr 23)	40	Green

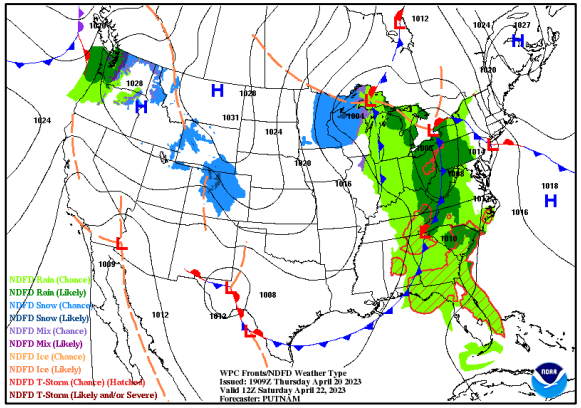
From: ***https://airquality.climate.ncsu.edu/discussion/?view=latest***
DAQ Air Quality Portal: ***https://airquality.climate.ncsu.edu/***

WPC Forecasted Surface Fronts & Sea-Level Pressures

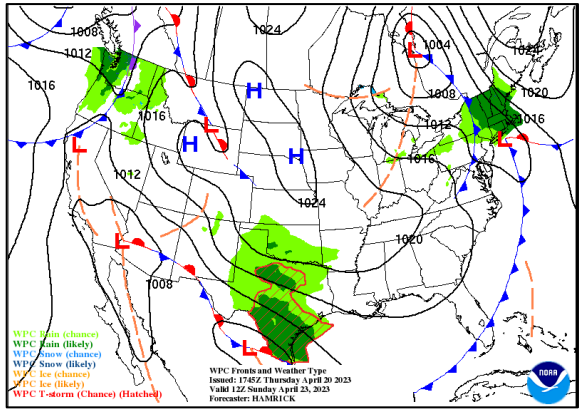
Friday - 800 am



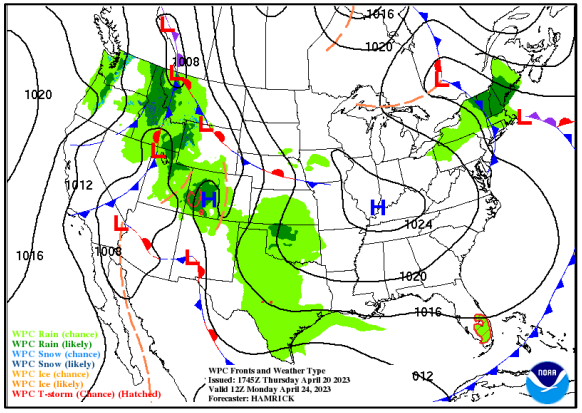
Saturday – 800 am



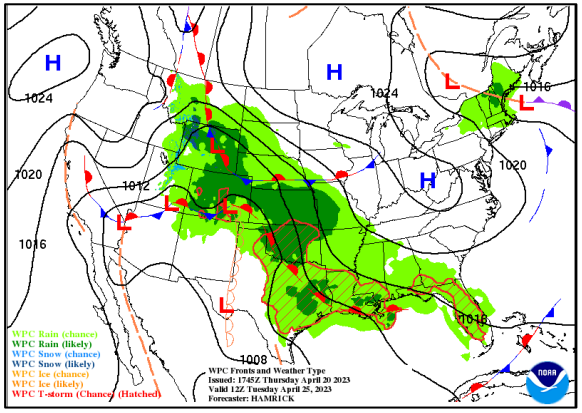
Sunday - 800 am



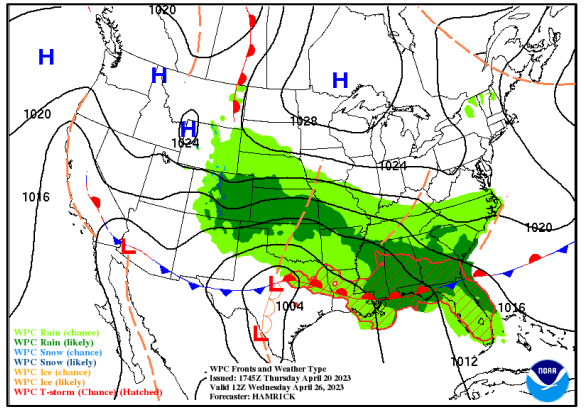
Monday - 800 am



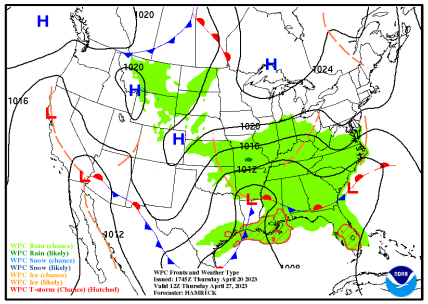
Tuesday - 800 am



Wednesday - 800 am



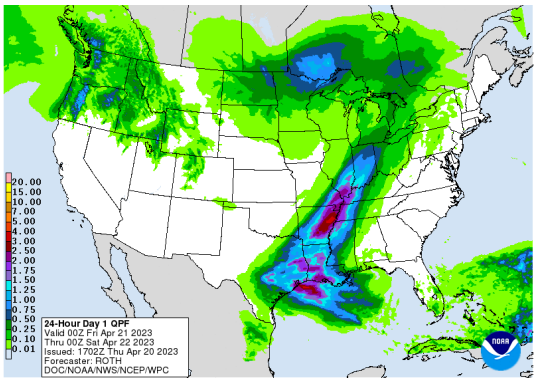
Thursday - 800 am



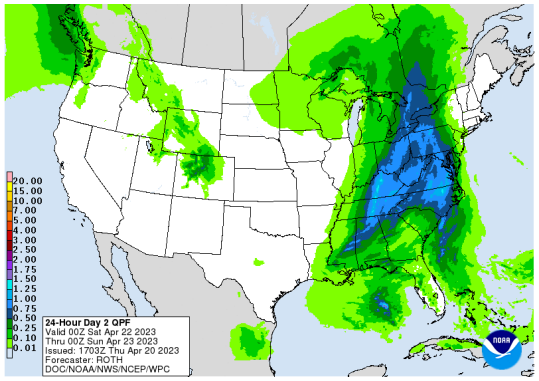
Location: https://www.wpc.ncep.noaa.gov/#

Quantitative Precipitation Forecast, 7-Day

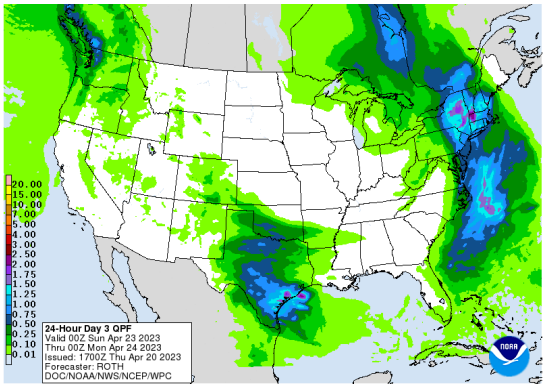
Day - 1



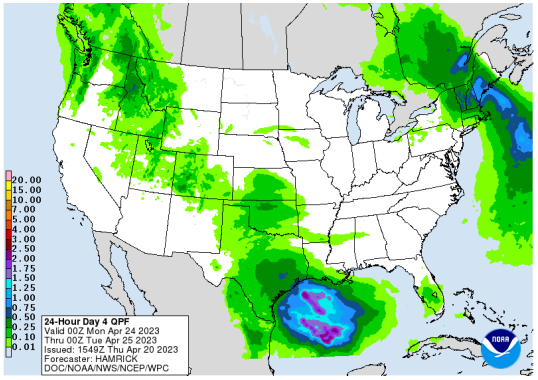
Day - 2



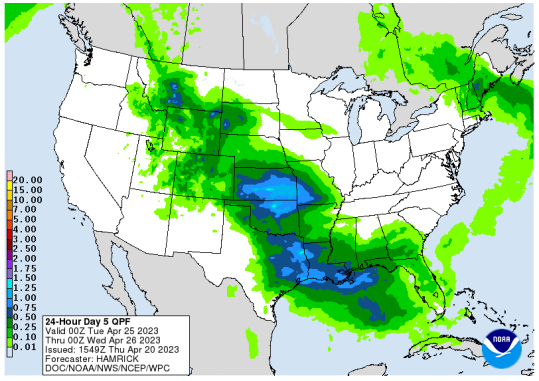
Day - 3



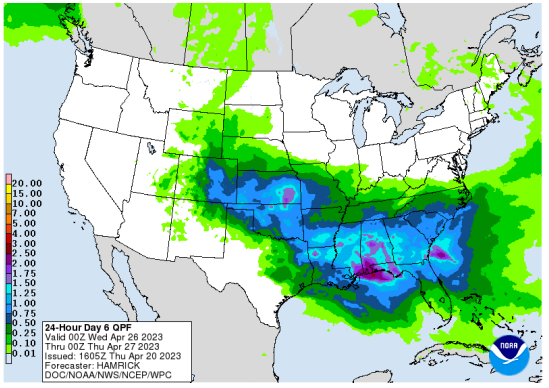
Day - 4



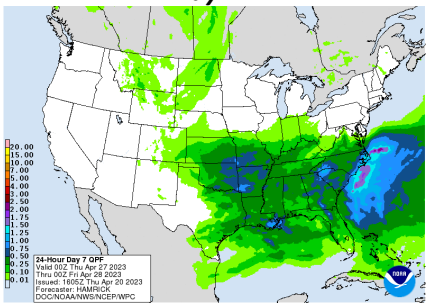
Day - 5



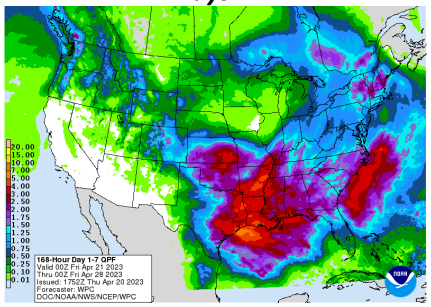
Day - 6



Day - 7



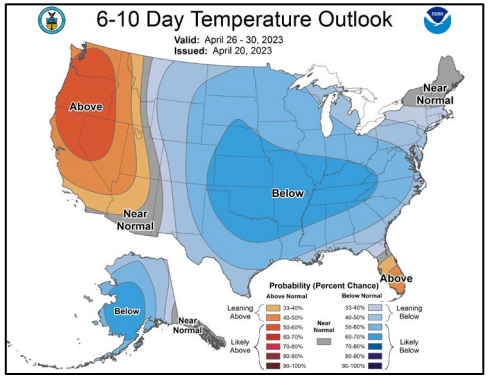
Days 1 - 7

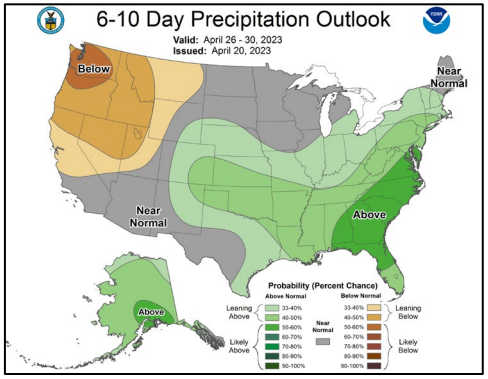


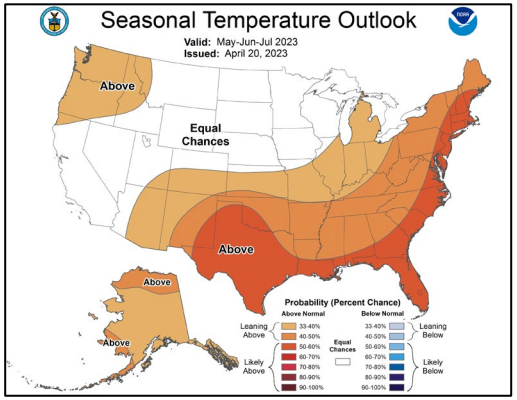
Location: https://www.wpc.ncep.noaa.gov/#

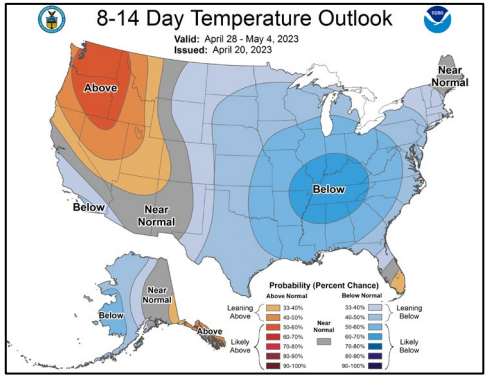
Temp & Precip Outlook

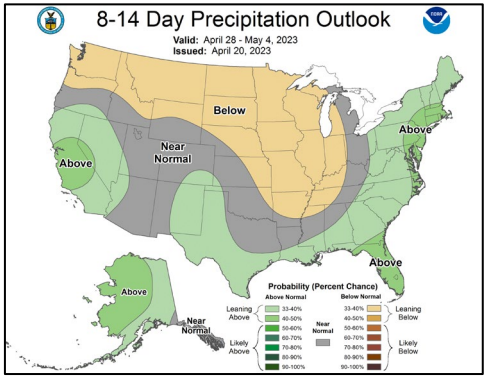
6-10 Day, 8-14 Day & Seasonal (May/June/July)

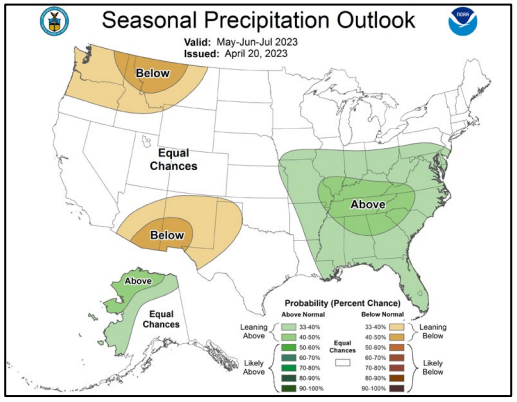








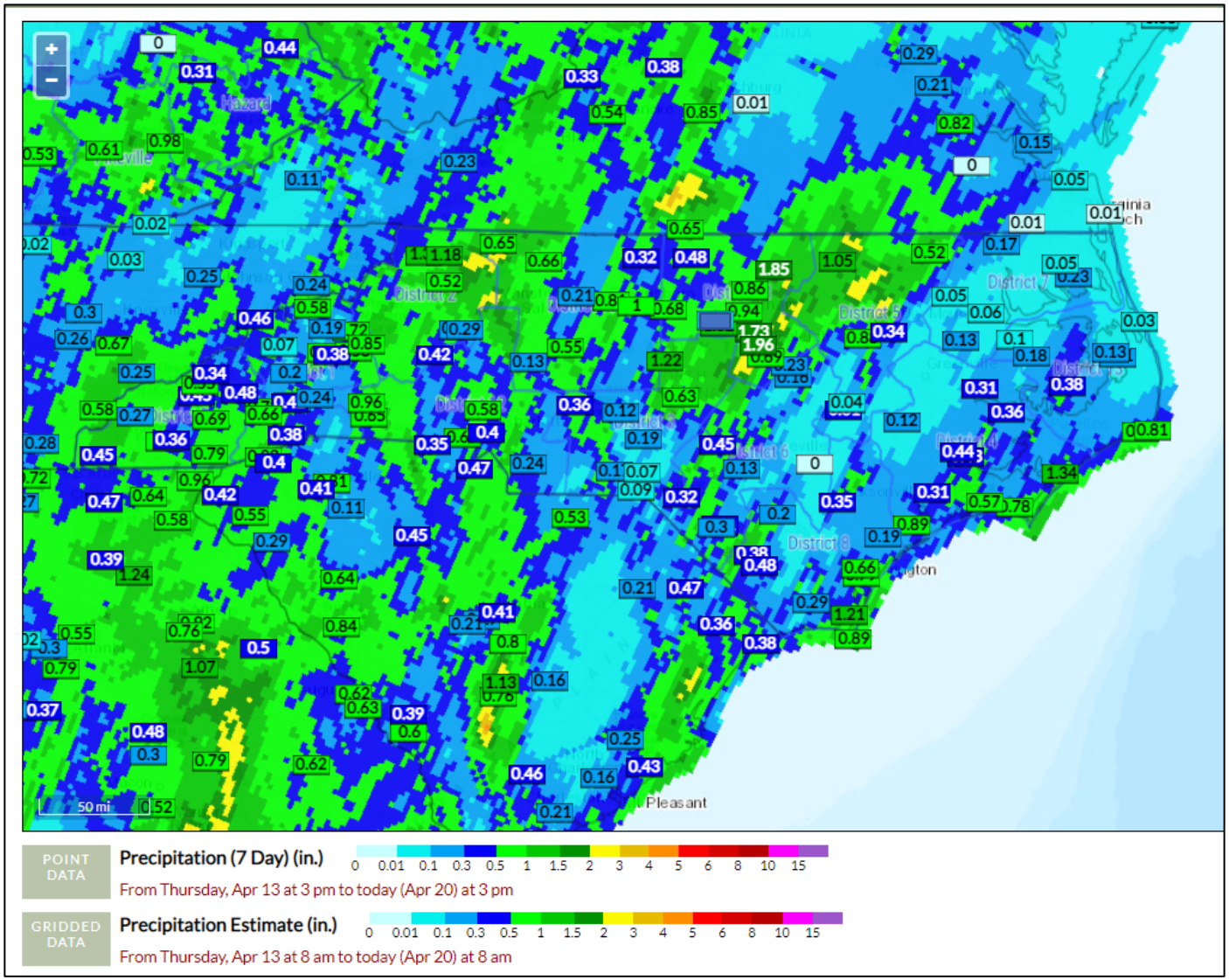




Source: https://www.cpc.ncep.noaa.gov/

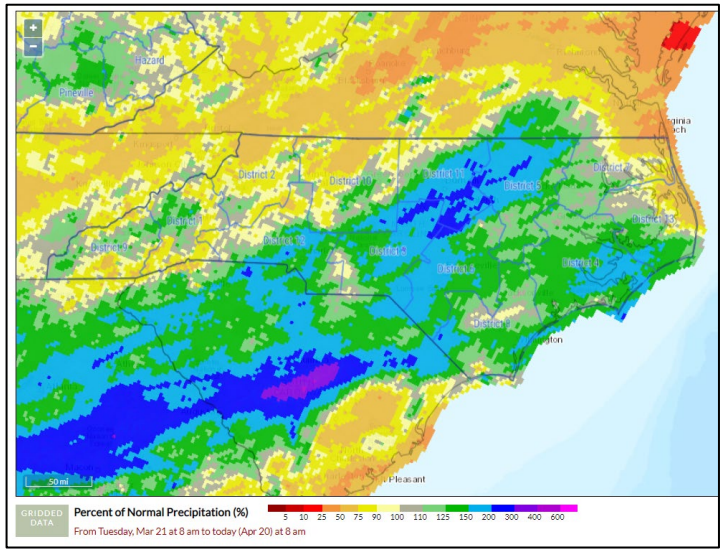
7 Day Precipitation Totals

FWIP *(Point accumulation ending at 1500 on 4/20, Grid ending 0800 4/20)*

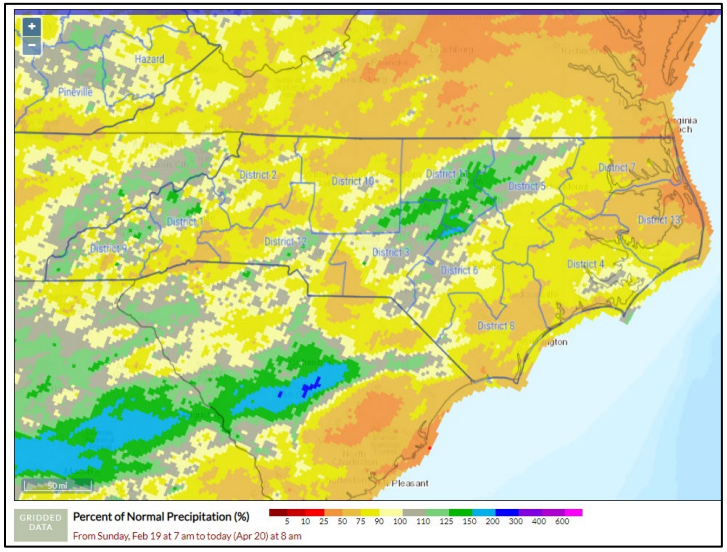


Percent of Normal Precip, *FWIP* *(Ending 0800 4/20)*

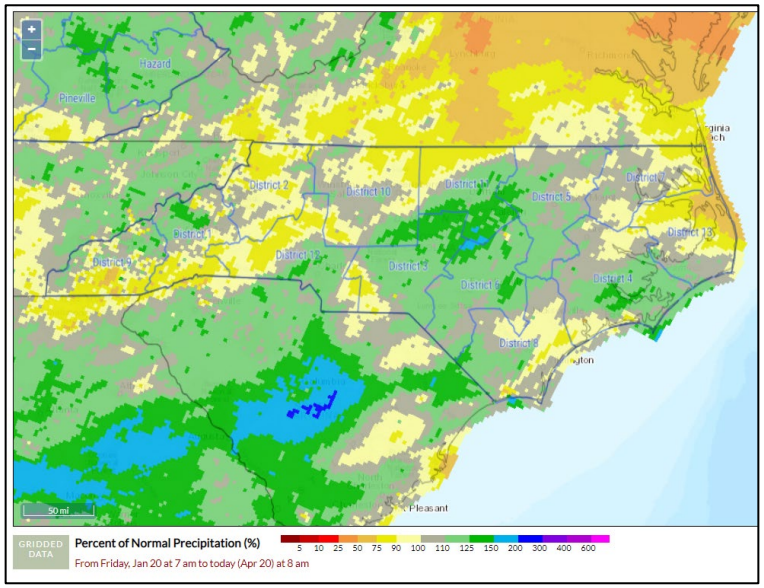
30-Day % of Normal



60-Day % of Normal

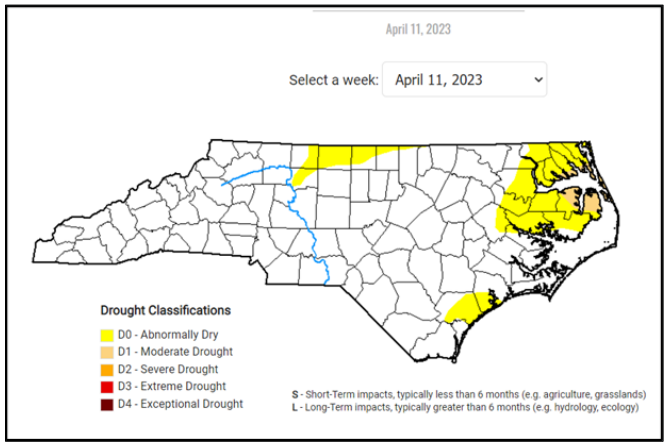


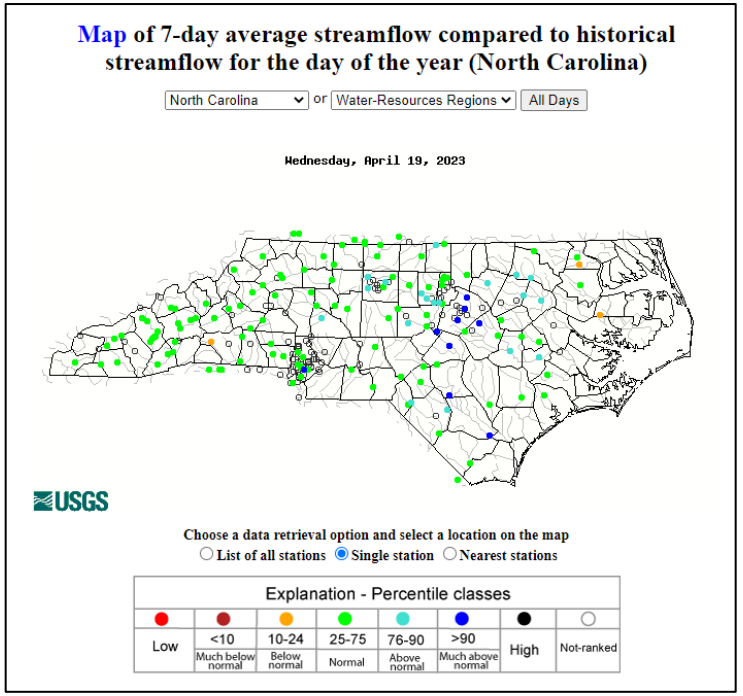
90-Day % of Normal



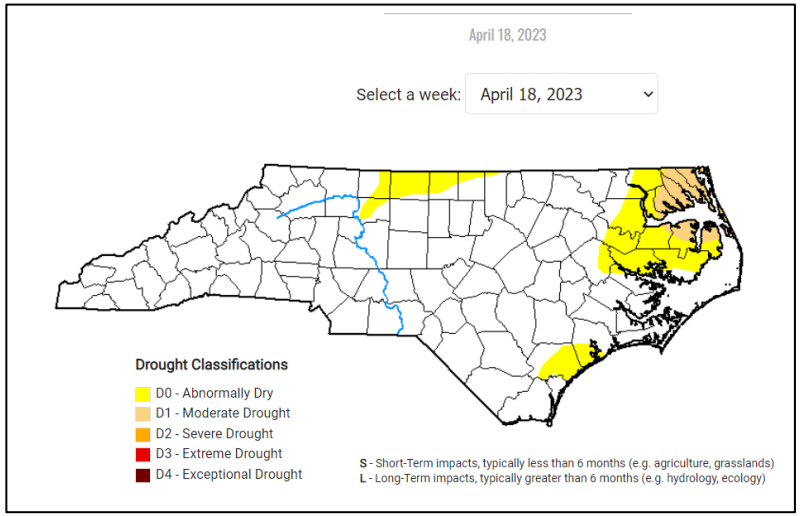
Drought Situation

Previous Week:





Current Week:

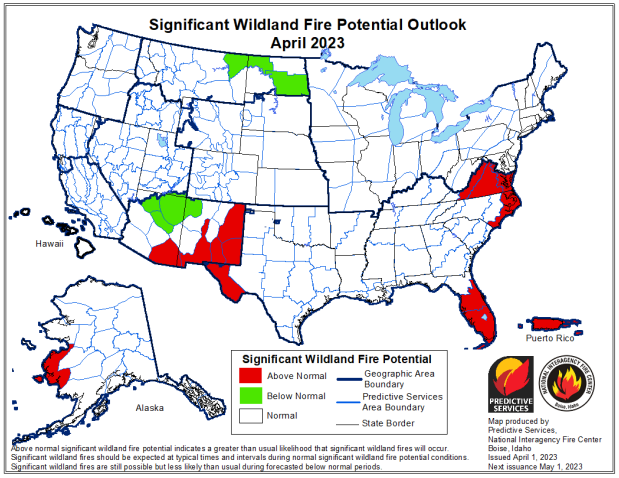


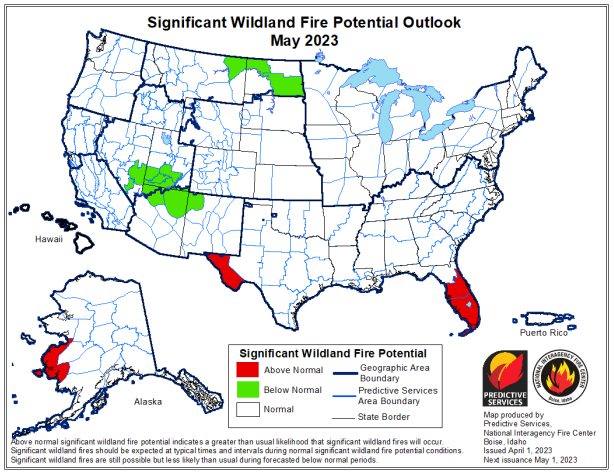
- D-0 Abnormally Dry Conditions Decreased (~11% of State)
- D-1 Moderate Drought in Several Counties. (~3% of State)
- 7-Day Stream flow averages have responded to rain influences; however, many swamp and flatwood sites continue to see water level decreases.

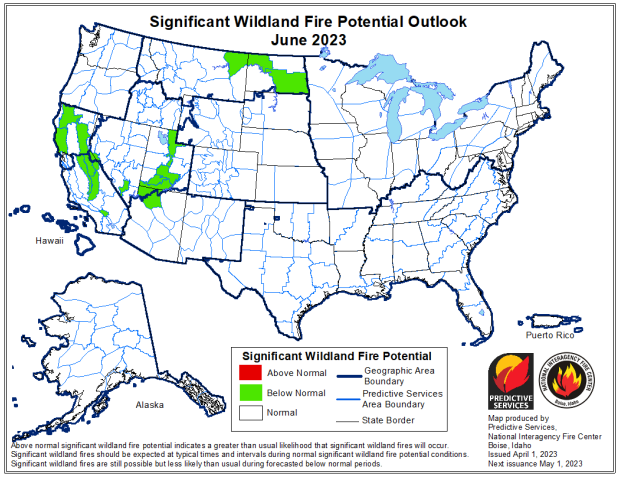
Sources: https://www.ncdrought.org/map-archives , https://waterwatch.usgs.gov/index.php?m=pa07d&r=nc&w=map

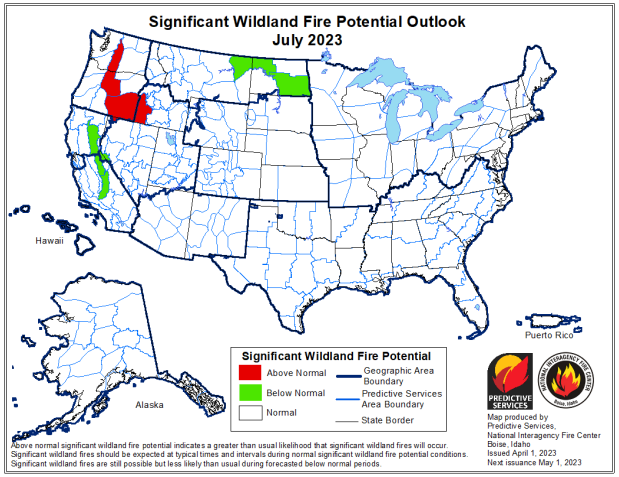
Significant Wildland Fire Potential Outlook:

Updated 4/1/23 – Next Update on 5/1/23







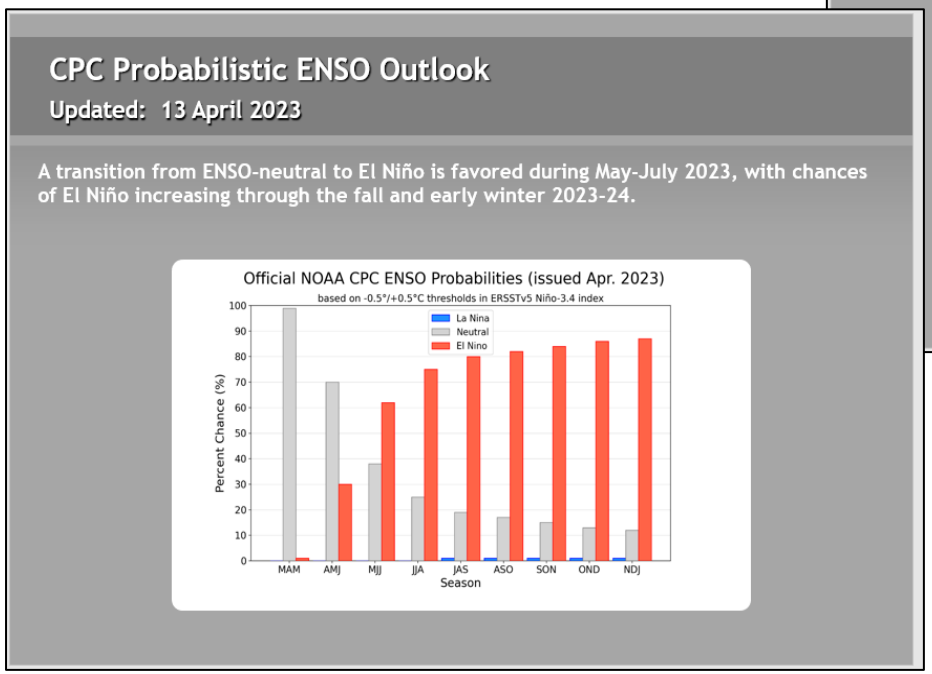


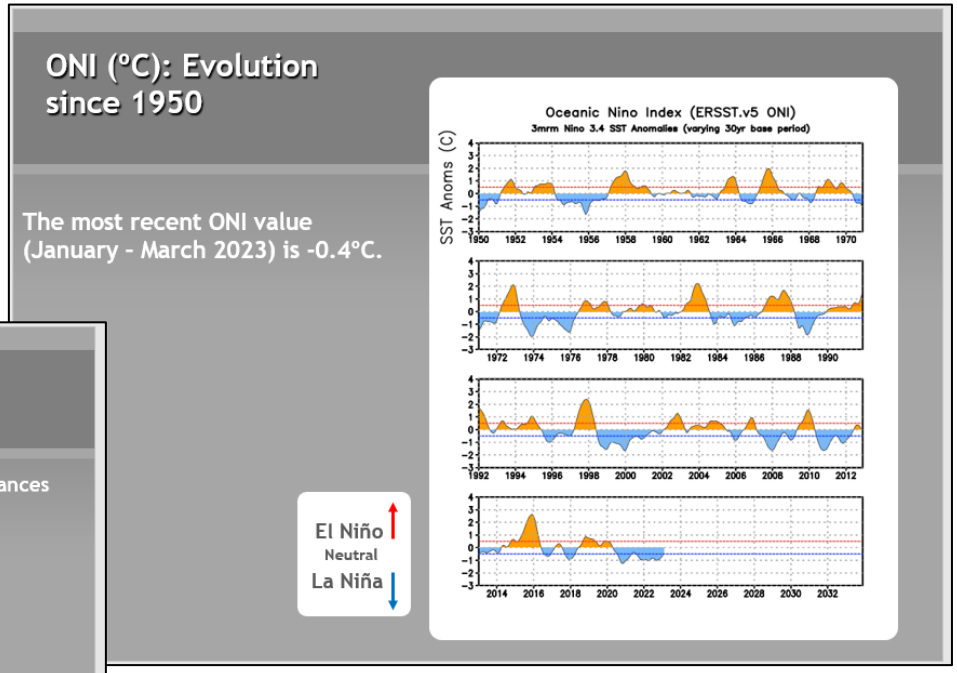
A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have already seen this year.

ENSO Notes from the CPC (4/17/23 Update)

ENSO Alert System Status: **El Niño Watch**

ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring, followed by a 62% chance of El Niño developing during May-July 2023.



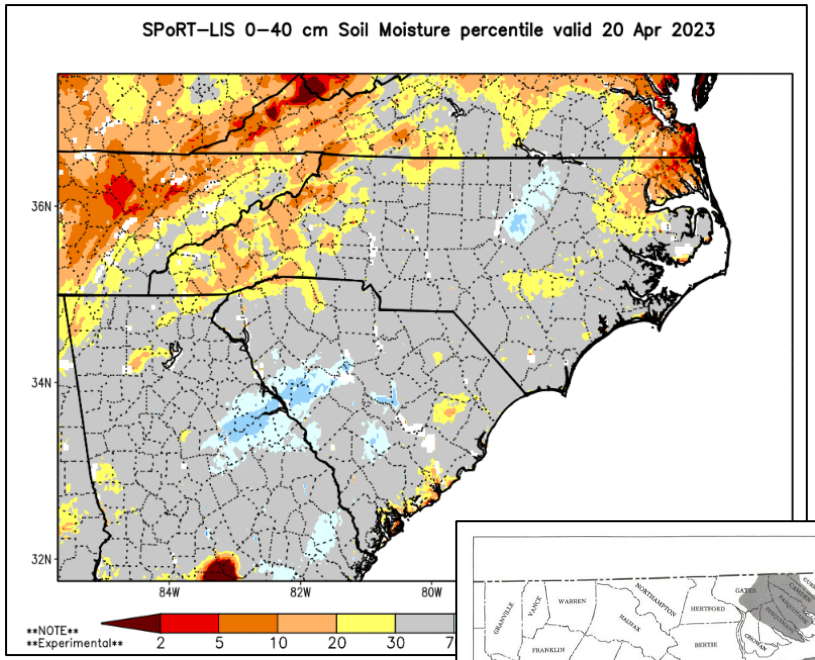


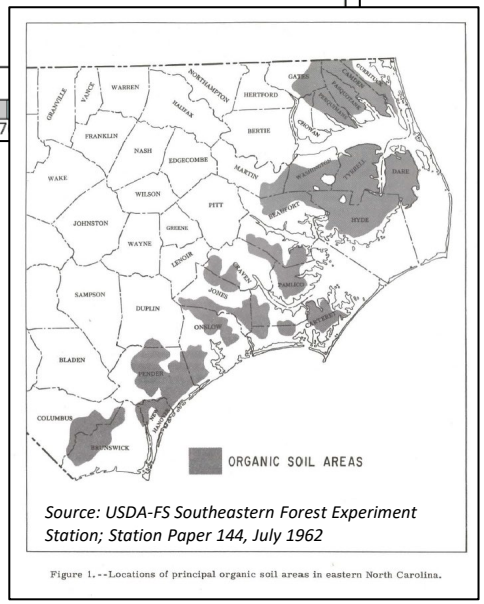
Slide Source: https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

SPoRT Relative Soil Dryness

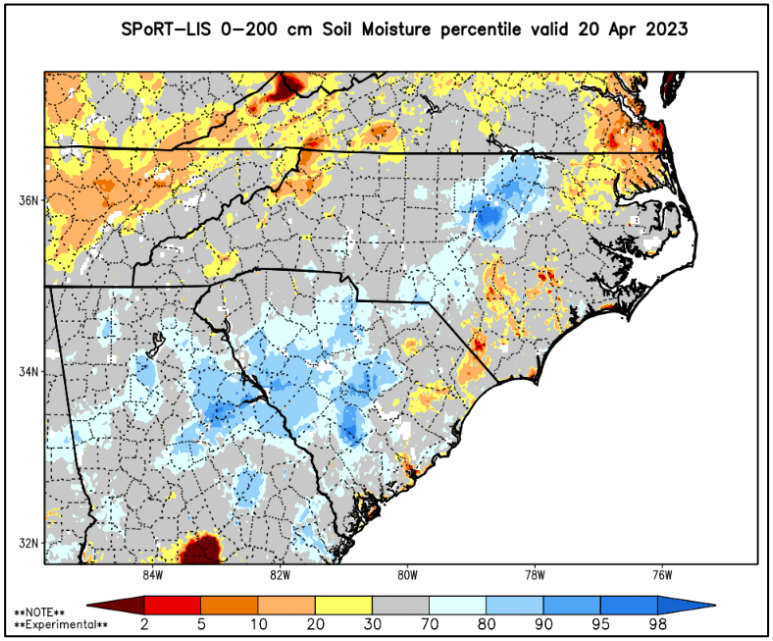
- Note both shallow and deep modeled drying conditions.
- Note alignment of organic soil areas with modeled low soil moisture percentiles.

0-40 cm Depth





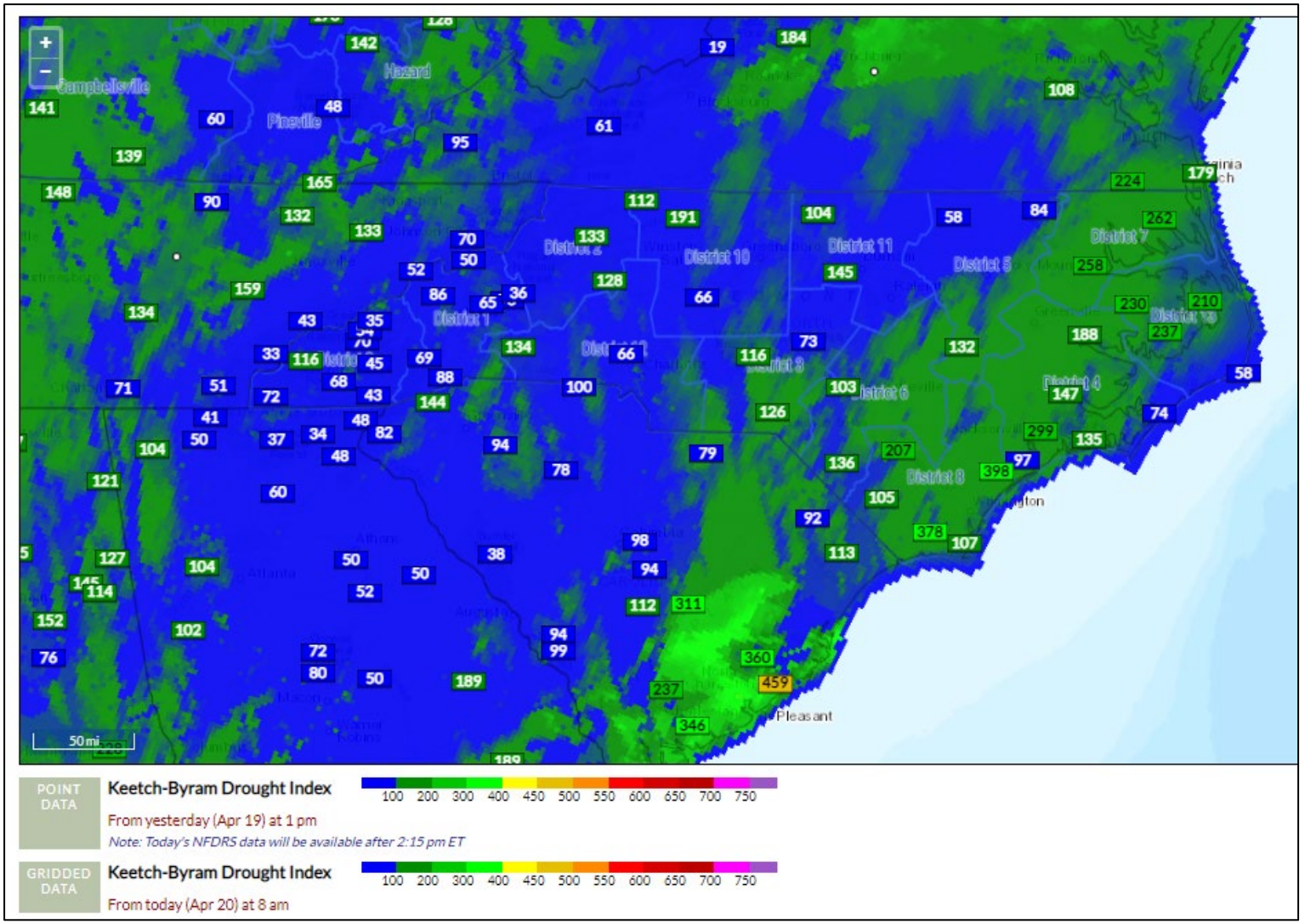
0-200 cm Depth



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

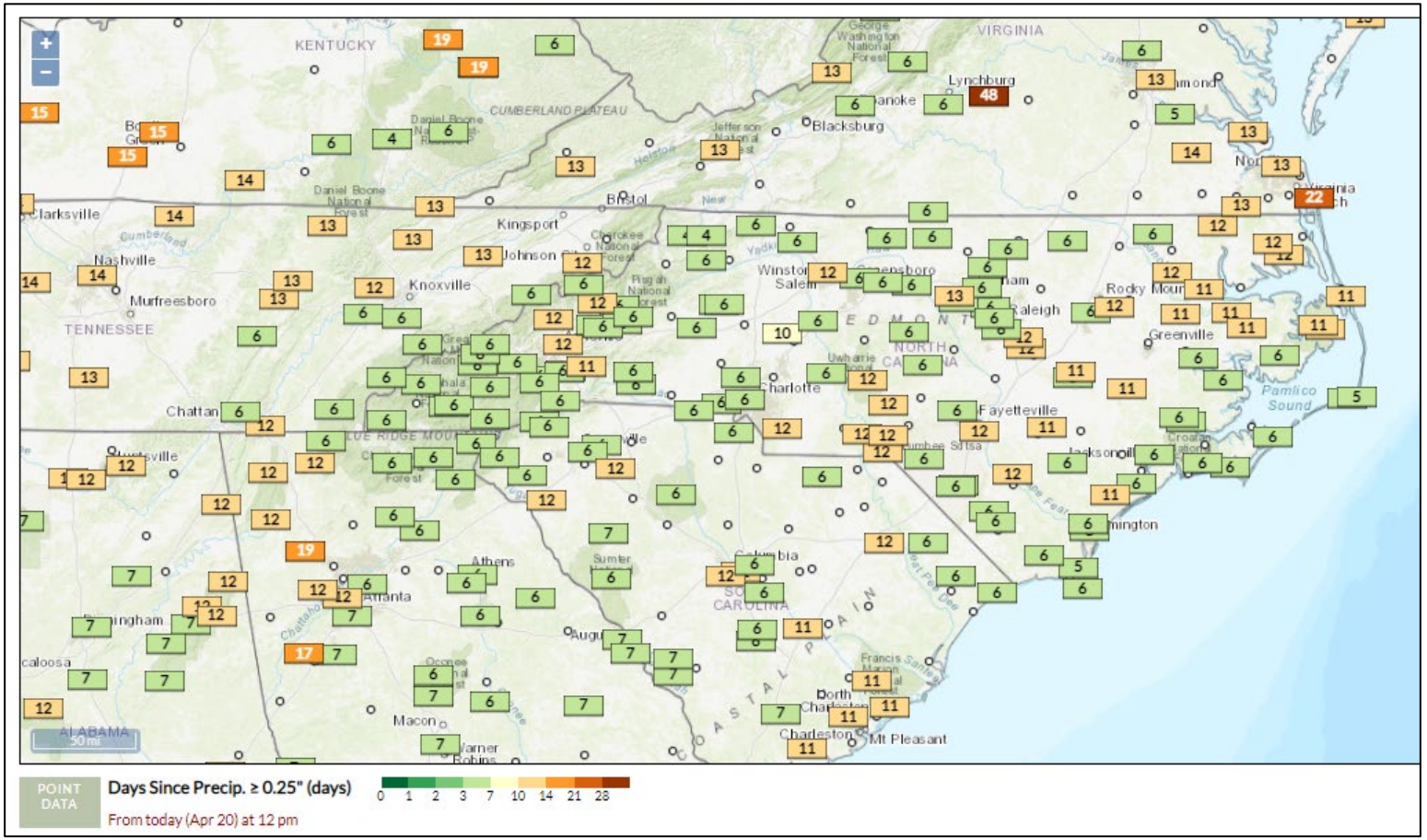
KBDI - Gridded & Station Points

FWIP (Point calculation from 1300 on 4/19, Grid ending 0800 4/20)



Days Since Daily Precip ≥ 0.25”

Note – Latest product run was on 4/20/23 @ 1200. Does not consider rainfall after that point.

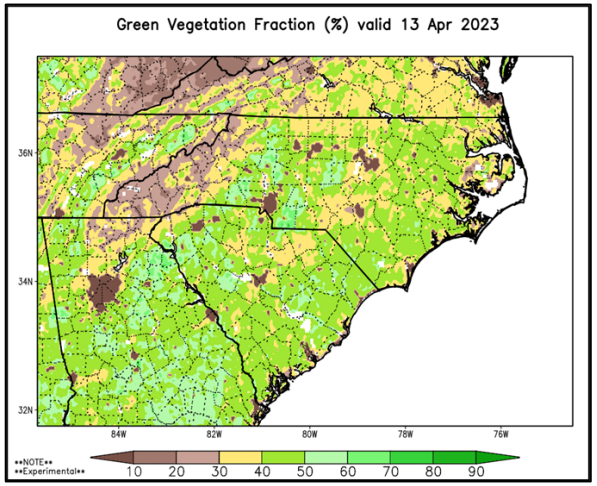


From: Fire Weather Intelligence Portal

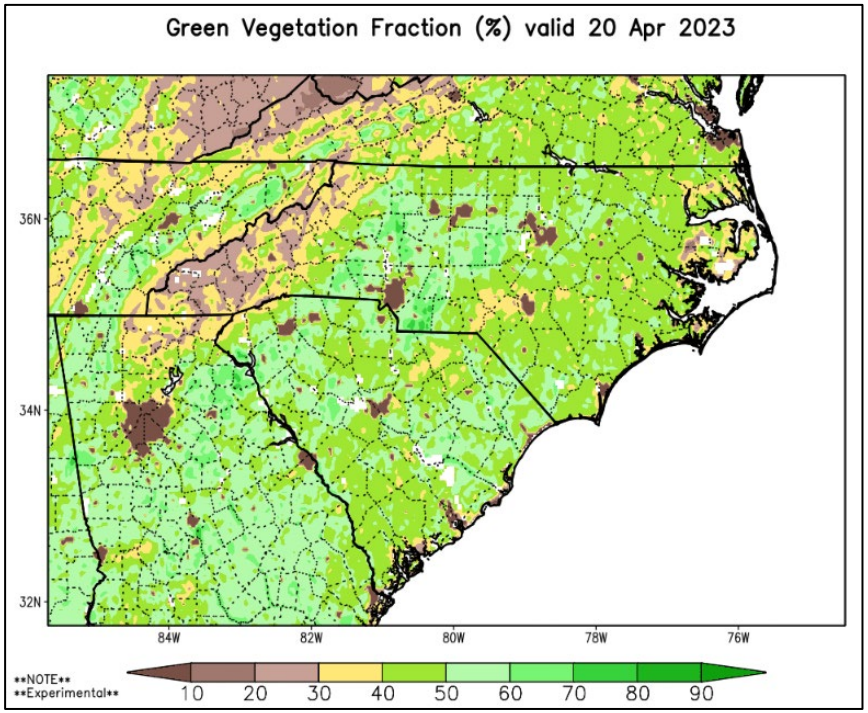
Green Fraction & Green-Up Anomaly

- Green-Up processes continue, higher elevations still in leaf-out.
- General reminder that many live fuels, even when appearing “green” still lack full moisture content until completing spring regrowth processes. A couple examples being conifer needles and waxy leaf pocosin plants. Combining this live fuel condition with very dry dead fuels can create enhanced fire behavior.

Last Week



Current



Link: https://weather.msfc.nasa.gov/cgi-bin/basicLooper.pl?category=lis_NC&initialize=first&regex=gvf_20230228