

Weekly Fire Danger Assessment NCFS - Region **THREE**

For Time Period:

Friday (4/14/23) to Thursday (4/20/23)

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NC Forest Service*

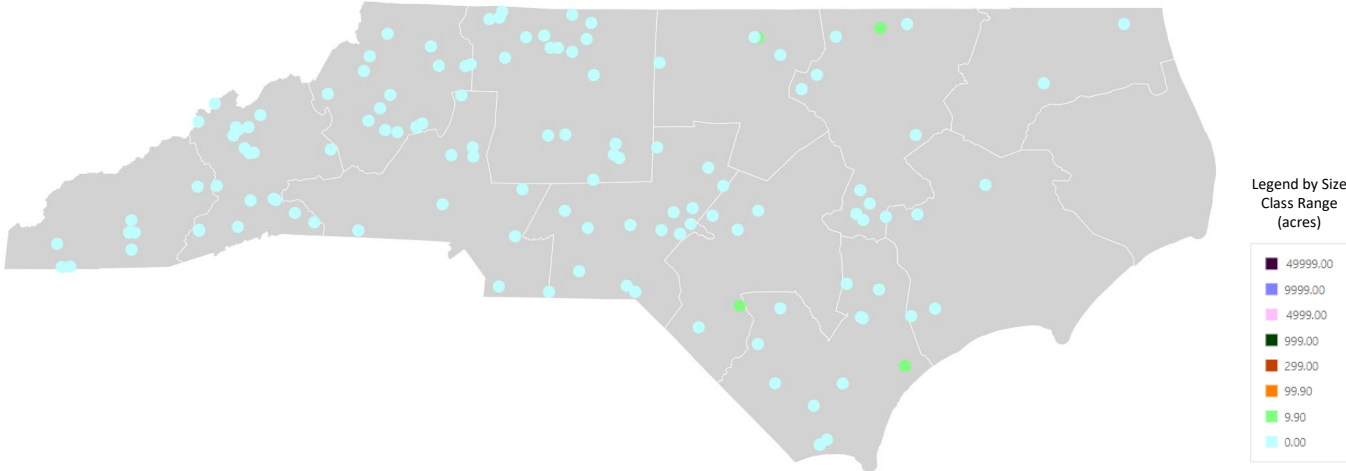
Past 7-Days Signal 14 Activity

| 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: | 4/6 - 4/12, 2023 | | |
| Type | Number | Acres | |
| Wildfires: | 43 | 59.2 | |
| Prescribed Fires (State & Private Lands): | 2 | 146 | |

fiResponse Incident Location Map (for general context)

Date Range: 4/6 – 4/12, 2023

Report: Business Intelligence Module, Response Trends Map



Current and Forecasted Fire Danger Conditions by FDRA

R3

Regional Comments for this Week – R3

- Fuel moistures temporarily rebounded after the rain event.
- Normal Fire Season Activity, drying fuels again (especially 1-hr & 10-hr).
- Still about two-weeks ahead of normal for green-up below the escarpment.

From Today's SACC [Daily Outlook](#) Discussion

- 10-hr fuels are remaining very dry due to multiple days of extremely low RH and above normal temps, especially in the Appalachians.
- These conditions will likely improve for the next few days as the Gulf low pressure system draws higher RH into the region, then a passing front on Sunday will be followed by a long stretch of dry weather and accelerated drying potential next week.
- Most areas will then experience drying of finer fuels early next week as high pressure brings another round of very dry air into the geographic area.

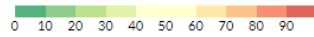
Today's WIMS Observations and NFDRS Estimates

Averaged by FDRA SIG Group

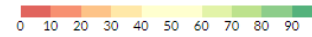
- This is available on the FWIP at: <https://products.climate.ncsu.edu/fwip/nfdrs.php?data=ob&state=NC>
- The averaged values are derived from the SIG Station Outputs for a particular FDRA
(SIG station names shown in bold on the live link above)
- You can toggle the percentiles on/off, displaying below 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 | 2023-04-13 | 116.40 92.1% | 63.20 99.1% | 25.37 99.8% | 45.23 81.4% | 42.67 | 6.88 0.4% | 10.80 1.4% | 18.05 31.0% | 22.75 87.0% | 106.13 | 100.00 | 69.0°F | 21.7% | S 9.0 mph | 0.00 in. | 0.0 |
| Central Mountains | 3 | 2023-04-13 | 79.10 77.9% | 44.77 86.4% | 13.57 94.8% | 27.73 71.0% | 38.00 | 9.03 6.9% | 14.32 12.6% | 19.23 49.8% | 21.84 83.1% | 147.43 | 125.00 | 76.0°F | 14.0% | S 6.3 mph | 0.00 in. | 0.0 |
| Northern Highlands | 2 | 2023-04-13 | 123.75 92.1% | 51.15 92.0% | 20.75 98.5% | 64.60 90.7% | 29.00 | 8.85 5.0% | 14.52 23.3% | 18.87 50.6% | 21.59 80.1% | 82.00 | 97.00 | 71.0°F | 23.5% | E 6.5 mph | 0.00 in. | 0.0 |
| Blue Ridge Escarpment | 3 | 2023-04-13 | 94.80 78.3% | 59.33 94.9% | 20.80 96.9% | 30.97 70.6% | 92.00 | 7.10 2.5% | 10.72 5.2% | 15.41 8.3% | 19.69 50.8% | 134.53 | 121.33 | 79.0°F | 21.3% | SW 5.0 mph | 0.00 in. | 0.0 |
| Western Piedmont | 3 | 2023-04-13 | 73.20 68.7% | 43.93 76.8% | 11.20 81.4% | 23.43 63.7% | 55.00 | 9.84 29.8% | 16.23 50.3% | 18.96 62.7% | 22.53 94.8% | 110.23 | 103.67 | 80.7°F | 26.7% | SSW 4.3 mph | 0.01 in. | 1.0 |
| Sandhills | 3 | 2023-04-13 | 35.53 48.9% | 40.30 50.3% | 10.40 60.2% | 5.57 61.1% | 39.33 | 9.68 32.4% | 13.92 23.9% | 17.55 40.5% | 22.43 86.8% | 163.70 | 144.00 | 80.7°F | 28.7% | S 5.0 mph | 0.00 in. | 0.0 |
| Eastern Piedmont | 4 | 2023-04-13 | 66.48 34.3% | 39.53 49.3% | 10.88 69.2% | 21.33 27.7% | 35.25 | 9.69 24.4% | 12.93 14.1% | 18.22 39.7% | 22.03 89.0% | 165.33 | 146.00 | 79.3°F | 31.0% | SSW 6.0 mph | 0.00 in. | 0.0 |
| Southern Coastal | 7 | 2023-04-13 | 55.87 46.4% | 37.04 57.3% | 9.26 71.7% | 15.71 38.4% | 105.43 | 9.83 22.6% | 15.90 38.7% | 19.46 46.5% | 22.91 88.7% | 231.37 | 142.43 | 80.9°F | 32.1% | SSW 4.9 mph | 0.00 in. | 0.0 |
| Northern Coastal | 4 | 2023-04-13 | 70.50 52.5% | 52.35 83.8% | 14.18 89.4% | 18.18 35.6% | 179.00 | 7.90 3.9% | 12.36 2.6% | 18.52 52.8% | 22.56 91.6% | 170.95 | 131.25 | 83.5°F | 29.0% | SW 5.0 mph | 0.00 in. | 0.0 |

BI/ERC/IC/SC
Percentiles (%)
(based on all days through 2021)



Fuel Moisture
Percentiles (%)
(based on all days through 2021)



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

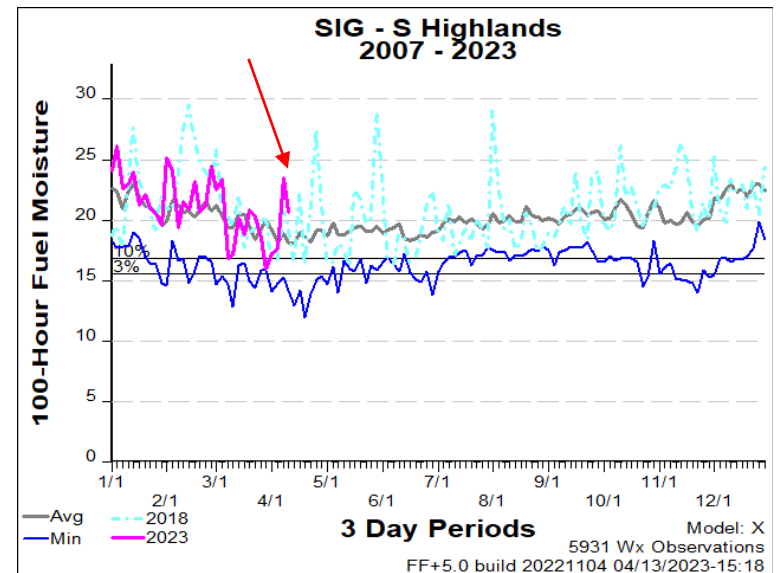
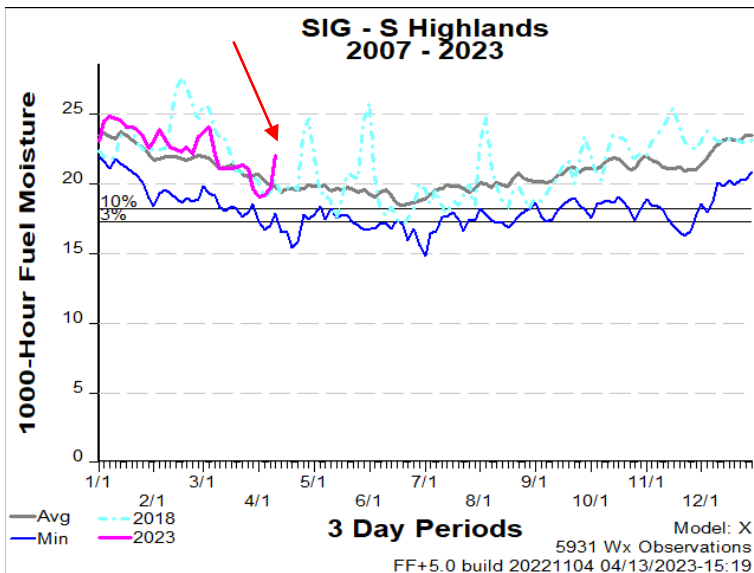
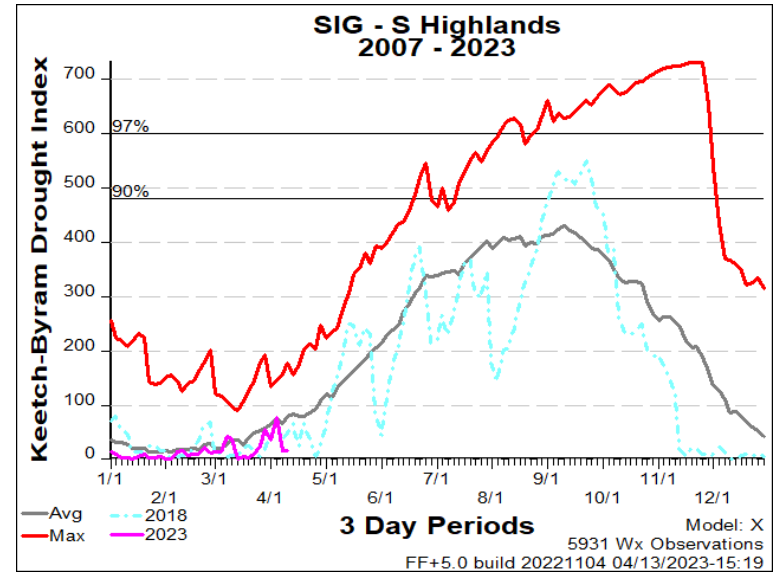
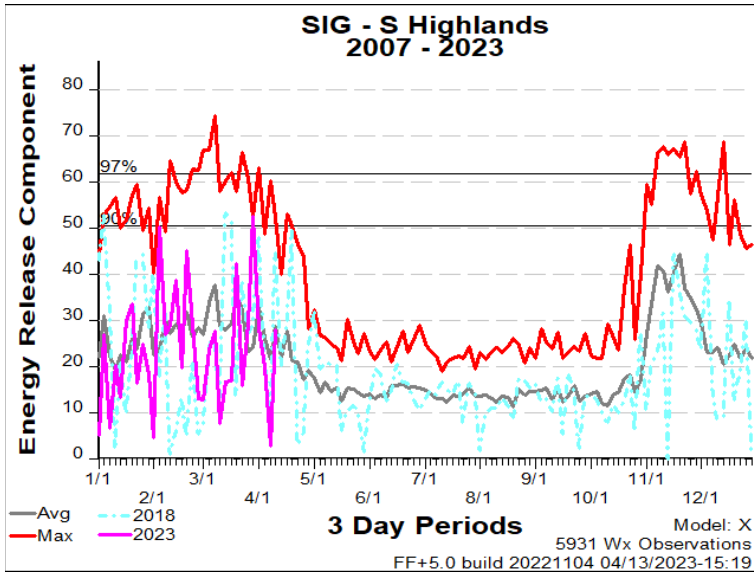
Dead fuel moisture forecast values are grouped into three categories based on historical percentiles, assessed using the FF+ All Days filter through 2021:

- 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 14-Apr | SAT 15-Apr | SUN 16-Apr | MON 17-Apr | TUE 18-Apr | WED 19-Apr | THU 20-Apr |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Avg. Max. Temp. (°F) | 63 | 73 | 68 | 57 | 68 | 74 | 75 |
| Avg. Min. Humidity (%) | 68 | 43 | 63 | 30 | 26 | 28 | 32 |
| Avg. 20' Wind Speed (mph) | 6 | 6 | 11 | 15 | 12 | 7 | 7 |
| Avg. Wind Direction* | SSE | WNW | SW | WNW | WNW | WSW | SE |
| Avg. Probability of Precip. (%) | 78 | 24 | 82 | 3 | 2 | 4 | 12 |
| Days Since a Wetting Rain** | 0.0 | 1.0 | 2.0 | | | | |
| Forecast ERC (Fuel Model X) | 29.0 | 19.8 | 25.9 | 36.7 | 43.8 | 42.3 | 42.4 |
| Forecast BI (Fuel Model X) | 81.0 | 60.0 | 106.2 | 137.9 | 144.7 | 106.0 | 106.1 |
| Forecast IC (Fuel Model X) | 7.5 | 4.8 | 9.7 | 15.1 | 18.2 | 14.6 | 14.9 |
| Forecast 100-Hr. FMC | 17.4 | 18.1 | 18.7 | 18.9 | 18.0 | 16.9 | 16.1 |
| Forecast 1000-Hr. FMC | 22.8 | 22.6 | 22.3 | 22.1 | 21.9 | 21.6 | 21.3 |
| KBDI | 42.7 | | | | | | |

Data Source:

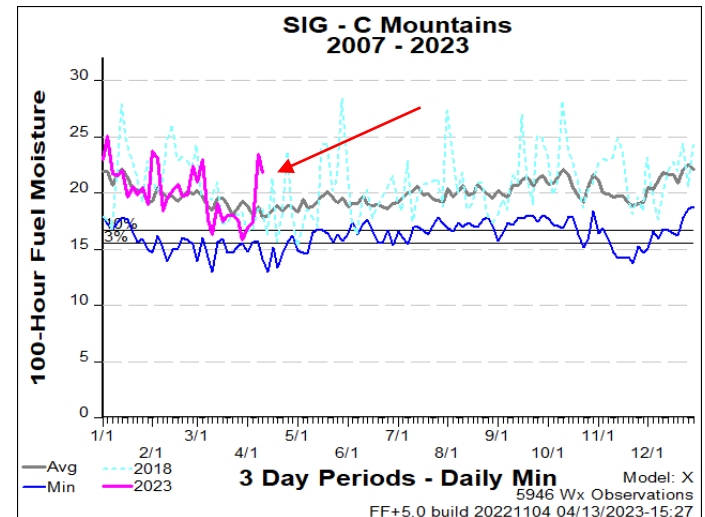
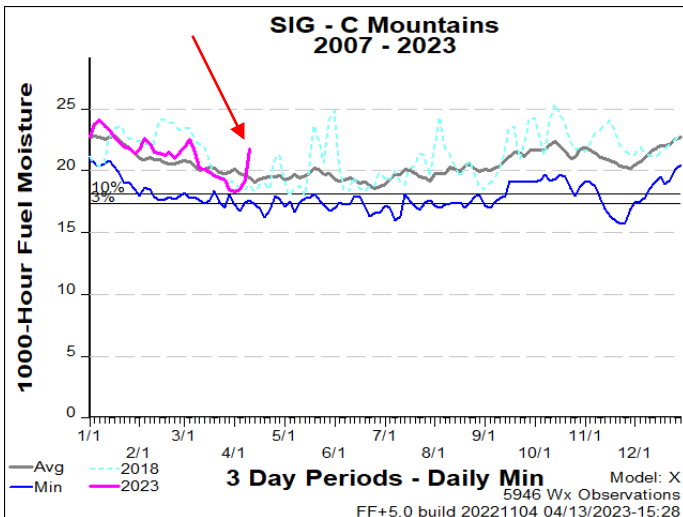
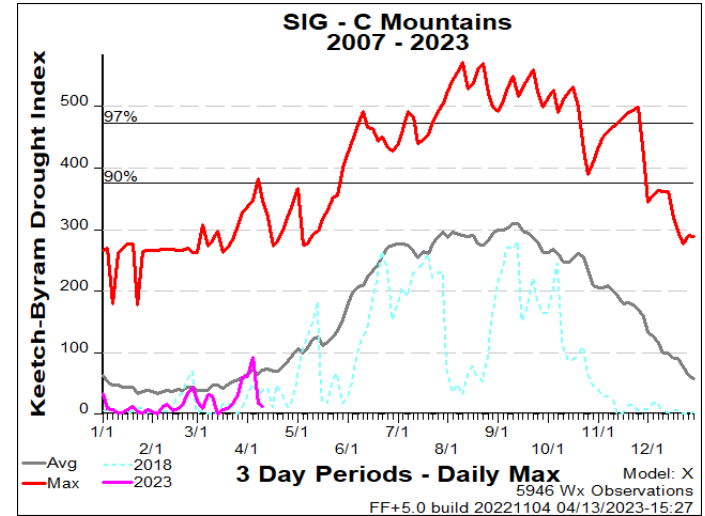
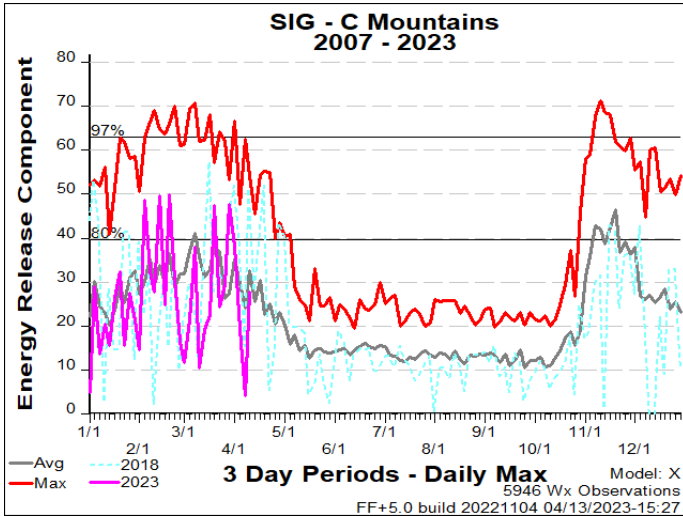
- Weather forecasts come from the National Weather Service's [Digital Forecast Database](#). The wind speed and direction, and probability of precipitation, are calculated as averages of the 1 am, 7 am, 1 pm, and 7 pm forecasts. The 20-foot wind speed is estimated from the 10-meter forecast using the 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 14-Apr | SAT 15-Apr | SUN 16-Apr | MON 17-Apr | TUE 18-Apr | WED 19-Apr | THU 20-Apr |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Avg. Max. Temp. (°F) | 66 | 74 | 73 | 60 | 69 | 76 | 78 |
| Avg. Min. Humidity (%) | 64 | 42 | 50 | 27 | 25 | 25 | 29 |
| Avg. 20' Wind Speed (mph) | 6 | 6 | 11 | 16 | 14 | 8 | 7 |
| Avg. Wind Direction* | SSE | WNW | SW | WNW | WNW | WNW | SSW |
| Avg. Probability of Precip. (%) | 74 | 9 | 81 | 4 | 2 | 3 | 12 |
| Days Since a Wetting Rain** | 0.0 | 1.0 | 2.0 | | | | |
| Forecast ERC (Fuel Model X) | 25.3 | 16.2 | 21.0 | 33.2 | 42.1 | 40.2 | 36.6 |
| Forecast BI (Fuel Model X) | 60.4 | 38.5 | 82.4 | 121.1 | 143.9 | 97.7 | 84.3 |
| Forecast IC (Fuel Model X) | 6.3 | 3.5 | 8.6 | 15.6 | 20.8 | 14.8 | 13.2 |
| Forecast 100-Hr. FMC | 18.6 | 19.3 | 19.5 | 19.6 | 19.0 | 17.6 | 16.5 |
| Forecast 1000-Hr. FMC | 22.0 | 22.0 | 21.9 | 21.7 | 21.5 | 21.3 | 21.0 |
| KBDI | 38.0 | | | | | | |

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

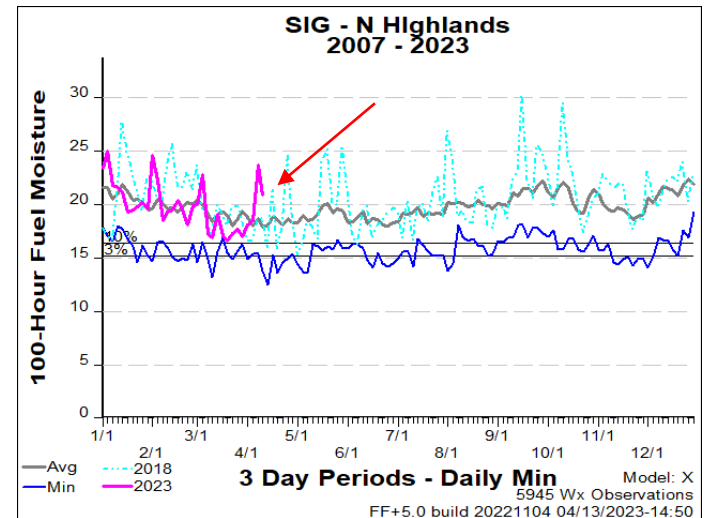
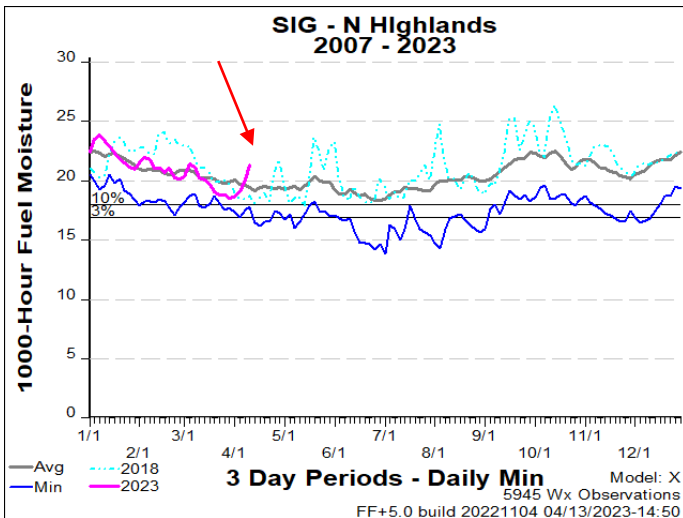
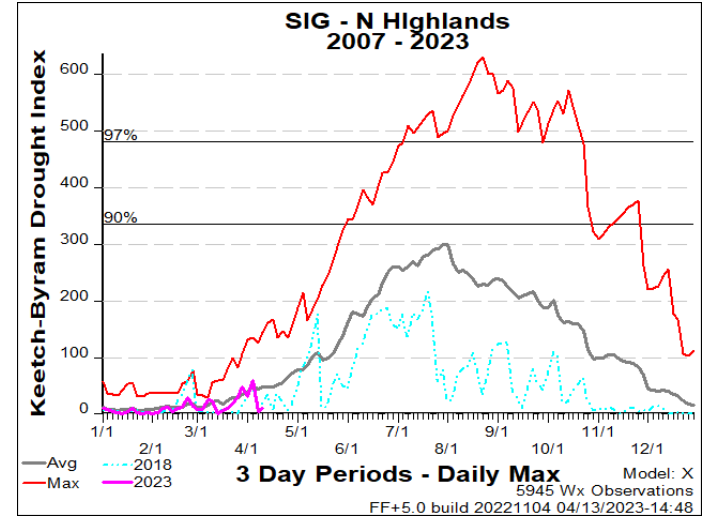
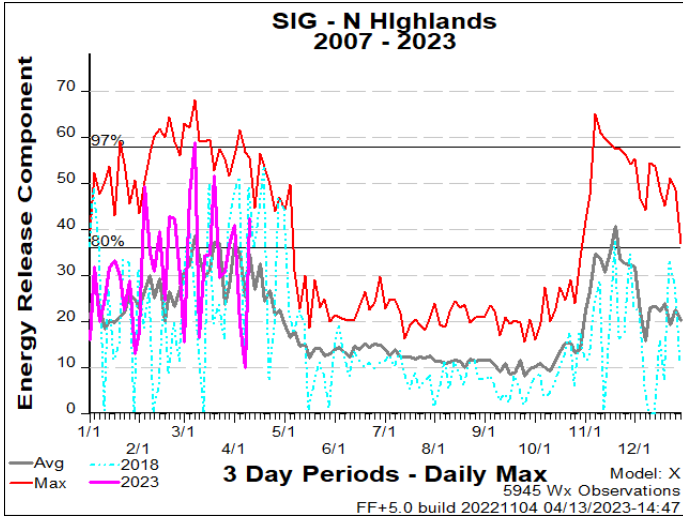
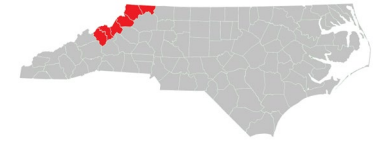
Values in the table above are averages from 3 stations in this FDRA:

- 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 14-Apr | SAT 15-Apr | SUN 16-Apr | MON 17-Apr | TUE 18-Apr | WED 19-Apr | THU 20-Apr |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Avg. Max. Temp. (°F) | 61 | 69 | 70 | 54 | 62 | 71 | 73 |
| Avg. Min. Humidity (%) | 76 | 45 | 57 | 33 | 30 | 28 | 33 |
| Avg. 20' Wind Speed (mph) | 6 | 6 | 11 | 18 | 17 | 10 | 8 |
| Avg. Wind Direction* | SSE | W | WSW | WNW | WNW | WNW | WSW |
| Avg. Probability of Precip. (%) | 80 | 13 | 71 | 7 | 2 | 3 | 8 |
| Days Since a Wetting Rain** | 0.0 | 1.0 | 0.0 | | | | |
| Forecast ERC (Fuel Model X) | 29.0 | 18.0 | 23.0 | 33.0 | 40.1 | 38.2 | 39.1 |
| Forecast BI (Fuel Model X) | 73.6 | 50.5 | 89.9 | 117.9 | 133.9 | 97.0 | 90.8 |
| Forecast IC (Fuel Model X) | 6.6 | 4.5 | 9.3 | 12.9 | 17.8 | 13.8 | 13.9 |
| Forecast 100-Hr. FMC | 18.1 | 18.7 | 19.3 | 18.8 | 18.0 | 16.9 | 16.1 |
| Forecast 1000-Hr. FMC | 21.6 | 21.5 | 21.5 | 21.4 | 21.3 | 21.1 | 20.9 |
| KBDI | 29.0 | | | | | | |

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

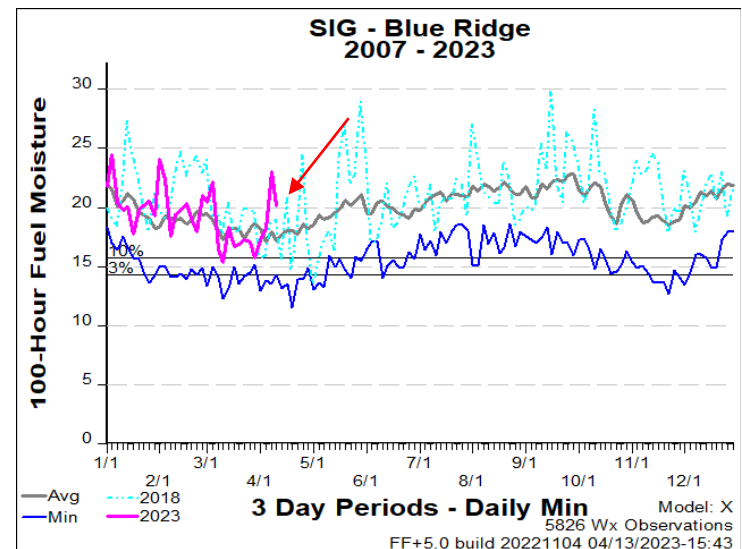
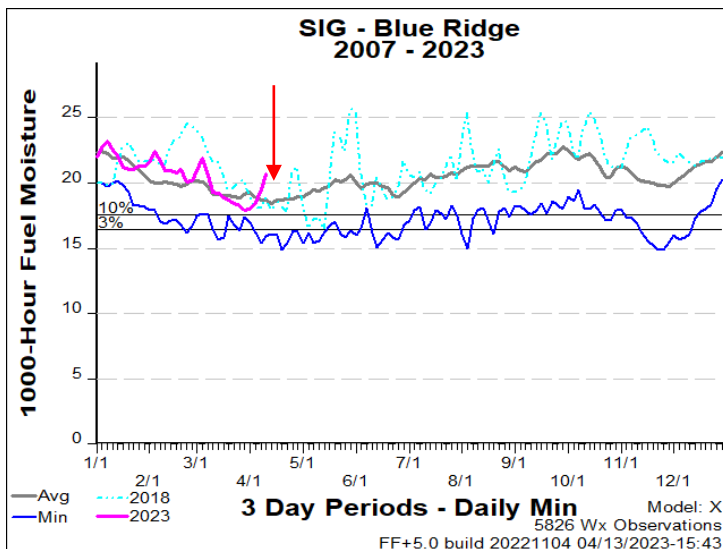
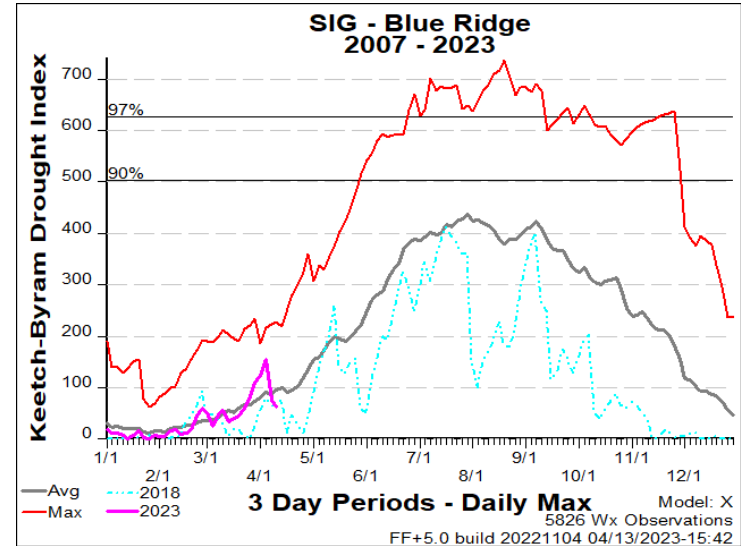
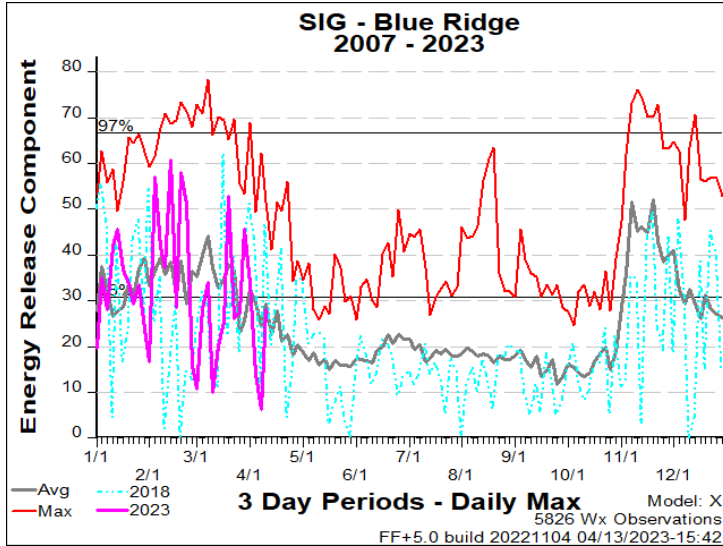
Values in the table above are averages from 3 stations in this FDRA:

- 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 14-Apr | SAT 15-Apr | SUN 16-Apr | MON 17-Apr | TUE 18-Apr | WED 19-Apr | THU 20-Apr |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Avg. Max. Temp. (°F) | 65 | 74 | 74 | 61 | 69 | 76 | 77 |
| Avg. Min. Humidity (%) | 76 | 45 | 55 | 29 | 27 | 28 | 32 |
| Avg. 20' Wind Speed (mph) | 4 | 4 | 9 | 15 | 14 | 7 | 6 |
| Avg. Wind Direction* | ESE | W | WSW | WNW | WNW | W | W |
| Avg. Probability of Precip. (%) | 79 | 9 | 72 | 5 | 2 | 2 | 9 |
| Days Since a Wetting Rain** | 0.0 | 1.0 | 1.3 | | | | |
| Forecast ERC (Fuel Model X) | 30.2 | 24.3 | 29.4 | 41.4 | 46.2 | 43.9 | 42.8 |
| Forecast BI (Fuel Model X) | 51.6 | 52.7 | 104.9 | 124.5 | 135.1 | 99.5 | 87.7 |
| Forecast IC (Fuel Model X) | 4.9 | 4.6 | 10.8 | 16.2 | 20.6 | 15.1 | 13.8 |
| Forecast 100-Hr. FMC | 15.5 | 21.1 | 19.7 | 18.4 | 16.8 | 15.5 | 14.5 |
| Forecast 1000-Hr. FMC | 18.8 | 18.9 | 18.9 | 18.7 | 18.3 | 17.7 | 17.1 |
| KBDI | 92.0 | | | | | | |

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.

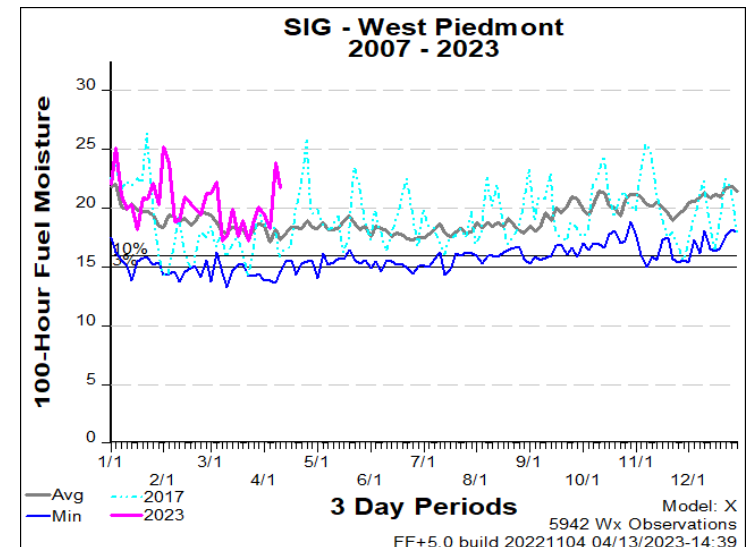
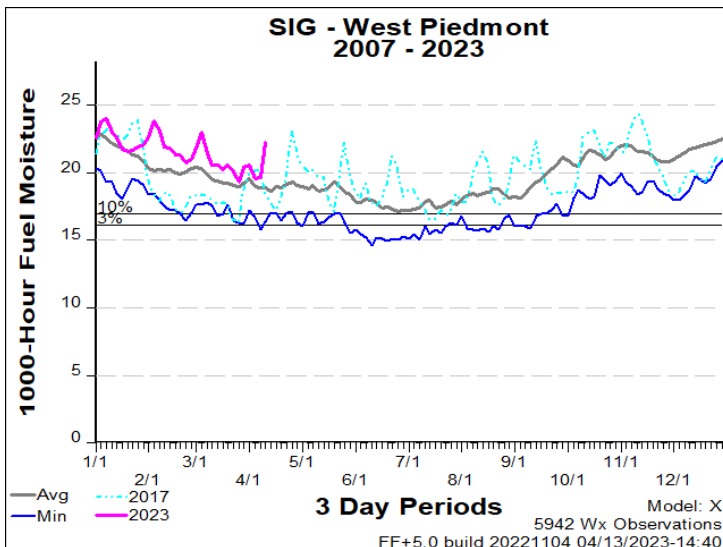
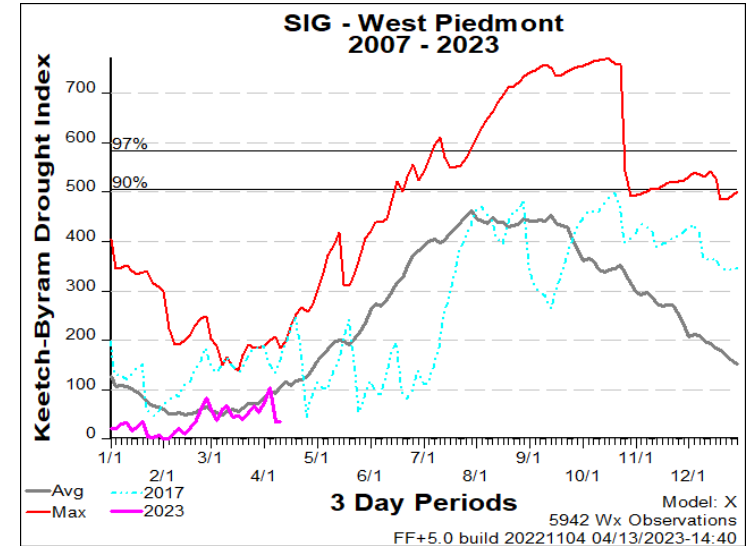
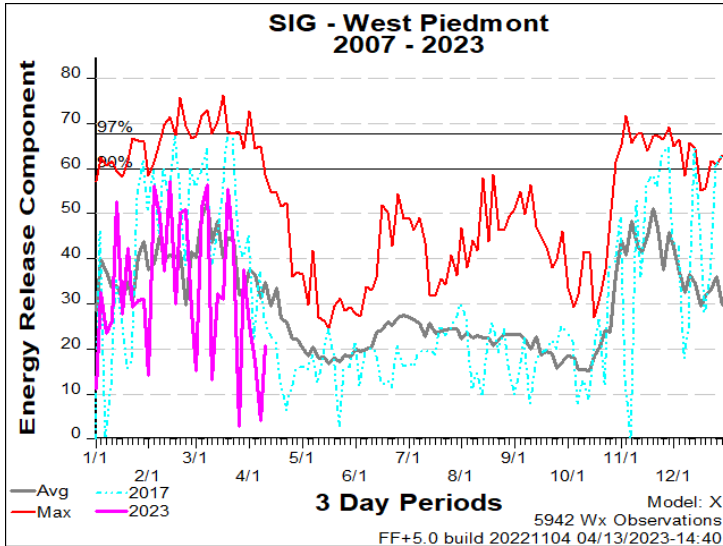
Values in the table above are averages from 3 stations in this FDRA:

- 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 14-Apr | SAT 15-Apr | SUN 16-Apr | MON 17-Apr | TUE 18-Apr | WED 19-Apr | THU 20-Apr |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Avg. Max. Temp. (°F) | 74 | 78 | 80 | 69 | 74 | 79 | 81 |
| Avg. Min. Humidity (%) | 70 | 49 | 53 | 29 | 25 | 31 | 33 |
| Avg. 20' Wind Speed (mph) | 4 | 4 | 8 | 11 | 11 | 7 | 6 |
| Avg. Wind Direction* | SE | SW | SW | W | W | W | S |
| Avg. Probability of Precip. (%) | 76 | 10 | 50 | 3 | 2 | 1 | 8 |
| Days Since a Wetting Rain** | 0.0 | 1.0 | 2.0 | | | | |
| Forecast ERC (Fuel Model X) | 30.8 | 19.7 | 25.1 | 37.8 | 49.3 | 45.4 | 42.8 |
| Forecast BI (Fuel Model X) | 60.4 | 42.5 | 78.4 | 108.8 | 133.2 | 94.0 | 84.2 |
| Forecast IC (Fuel Model X) | 6.2 | 3.6 | 7.8 | 12.9 | 20.9 | 13.4 | 11.7 |
| Forecast 100-Hr. FMC | 18.1 | 19.7 | 19.5 | 18.2 | 17.3 | 16.3 | 15.7 |
| Forecast 1000-Hr. FMC | 22.6 | 22.4 | 22.1 | 21.9 | 21.7 | 21.5 | 21.2 |
| KBDI | 55.0 | | | | | | |

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 |
| 14-Apr | Fri | Low/Mod | High | High | High | Low/Mod |
| 15-Apr | Sat | Low/Mod | Low/Mod | Low/Mod | Low/Mod | Low/Mod |
| 16-Apr | Sun | High | High | High | Low/Mod | Low/Mod |
| 17-Apr | Mon | Critical | Critical | High | High | High |
| 18-Apr | Tues | Critical | Critical | Critical | Critical | Critical |
| 19-Apr | Wed | Critical | High | Critical | Critical | High |
| 20-Apr | Thurs | High | Critical | Critical | Critical | High |

Weather Outlook Discussion

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

National Weather Service Greenville-Spartanburg SC
246 PM EDT Thu Apr 13, 2023

...MOISTURE WILL INCREASE ACROSS THE AREA LATER TODAY AND FRIDAY...

.DISCUSSION...

A weak low pressure system will lift northward from the Gulf of Mexico tonight and Friday bringing showers and thunderstorms to our area. The low moves off the mid Atlantic coast on Saturday. A cold front will approach the region from the west over the weekend. The front is expected to move through our area on Sunday and bring more showers and maybe a few thunderstorms with it. Dry and cooler high pressure moves over our region on Monday.

Blacksburg NWS (PM Fire WX Forecast Discussion):

National Weather Service Blacksburg VA
257 PM EDT Thu Apr 13, 2023

.DISCUSSION...

A change in the weather pattern will begin tonight, clouds overspreading the area from the south. A storm system moving north from the Gulf of Mexico will bring showers to the area Friday, with additional chances for wetting showers over the weekend, along with a few thunderstorms.

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 forecast discussion from

This forecast was issued on **Thursday, April 13, 2023 at 2:26 pm.** ✔ This forecast is currently valid.

Today's Air Quality Conditions

Ozone readings are building into the Code Yellow range over most of North Carolina this afternoon. Fine particulate readings near the Code Green/Code Yellow threshold are being observed over most of interior North Carolina with lower values over the Mountains and along the coast.

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

General Forecast Discussion

Areas of rain and thunderstorms under cloudy skies are expected tomorrow as a strong storm system moves northward through the Carolinas. This unsettled weather should bring ozone and fine particulate readings into the Code Green range statewide.

Outlook

A transient upper-level ridge moving across the Carolinas should allow for a brief period of dry weather Saturday, before unsettled and warm weather builds in again for Sunday ahead of an approaching upper-level trough. Code Green air quality is expected statewide both days.

Author: *Tardif* - NC Division of Air Quality

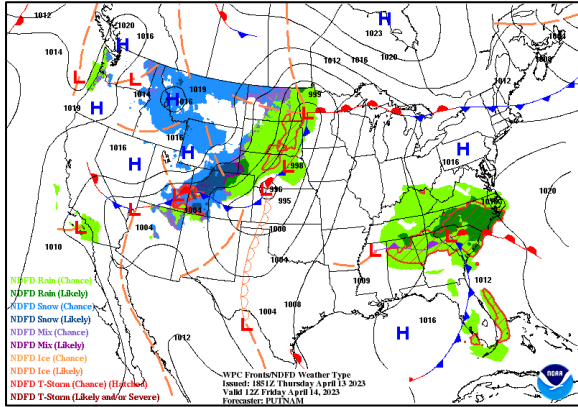
Extended Air Quality Outlook

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.

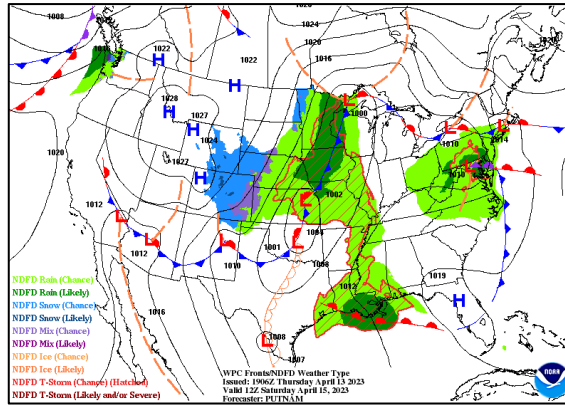
| Forecast Day | AQI Range | Category Range |
|------------------------------------|-----------|--|
| Thursday (Apr 13) | 60 to 90 | Yellow |
| Friday (Apr 14) 🌧️ | 40 | Green |
| Saturday (Apr 15) | 45 to 50 | Green |
| Sunday (Apr 16) | 48 | Green |

WPC Forecasted Weather Surface Fronts & Sea-Level Pressures

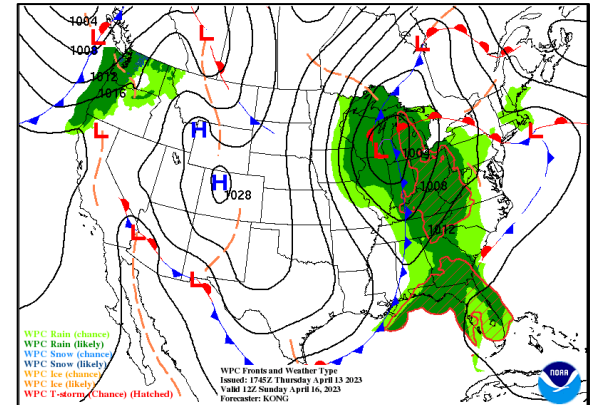
Friday - 800 am



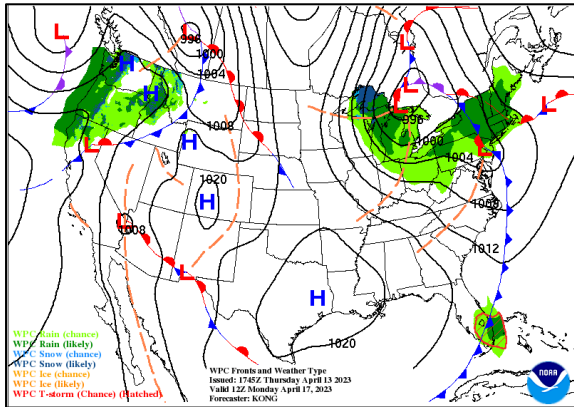
Saturday - 800 am



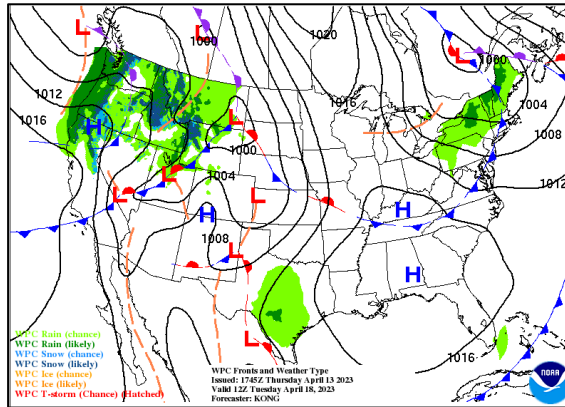
Sunday - 800 am



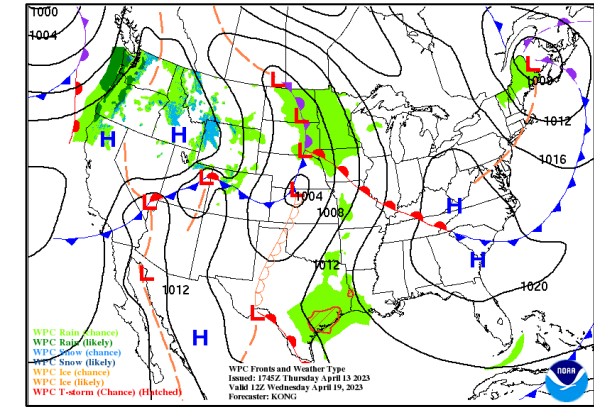
Monday - 800 am



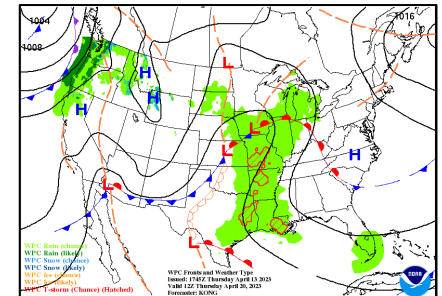
Tuesday - 800 am



Wednesday - 800 am

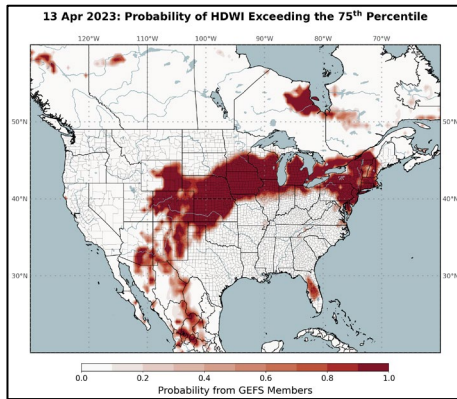


Thursday - 800 am

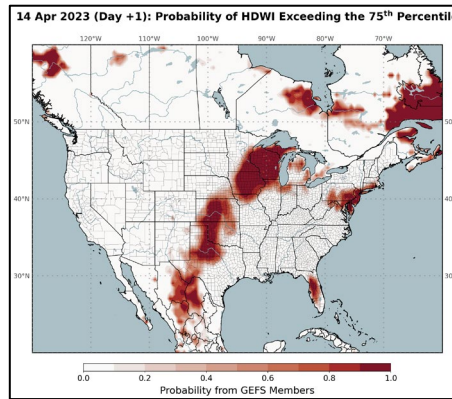


Hot-Dry-Windy Index (HDW)

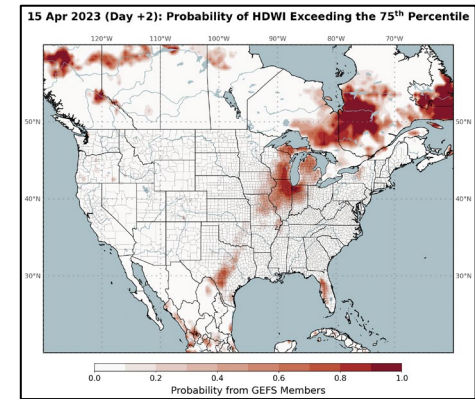
Thursday > 75th Percentile



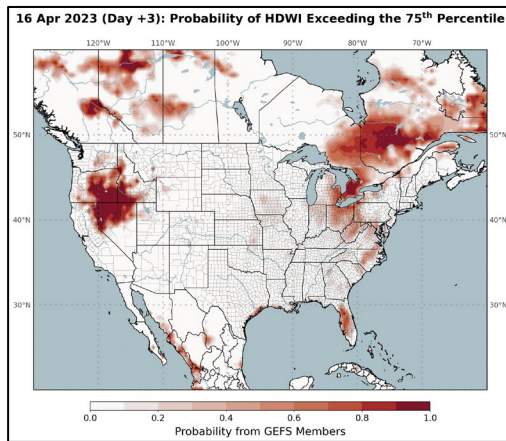
Friday > 75th Percentile



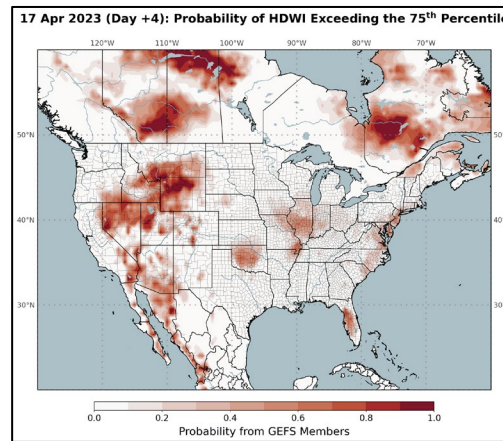
Saturday > 75th Percentile



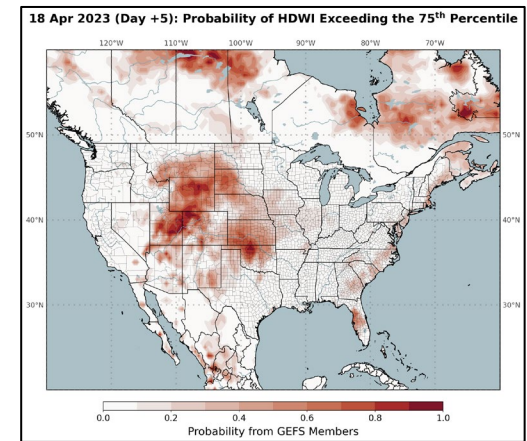
Sunday > 75th Percentile



Monday > 75th Percentile



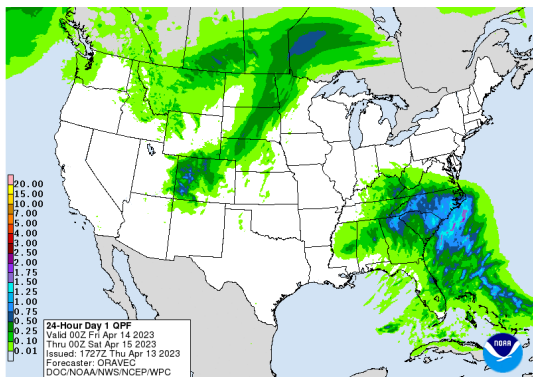
Tuesday > 75th Percentile



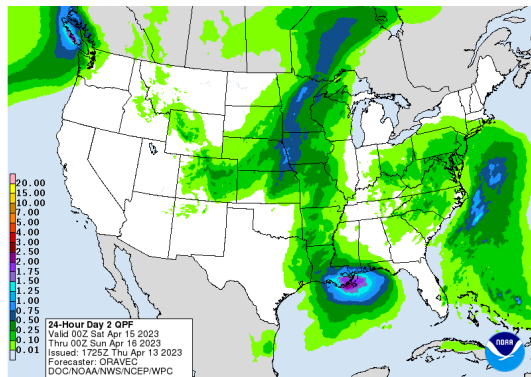
- Another visualization tool to pick up on broader weather, but with *limitations
- Only uses Max VPD (atmospheric moisture & temp) & Max Wind Speed to generate outputs
- Coarse Resolution - 0.5 Degree Grid
- No Account of Local Fuel Conditions and Topo

Quantitative Precipitation Forecast, 7-Day

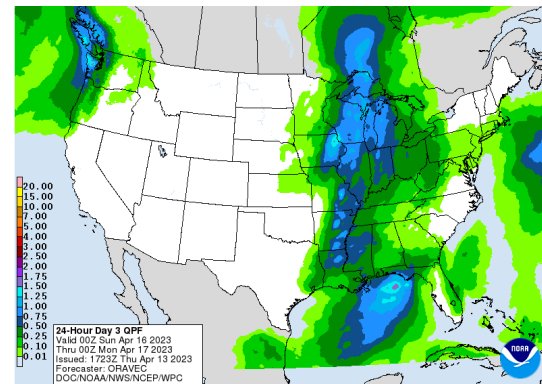
Day - 1



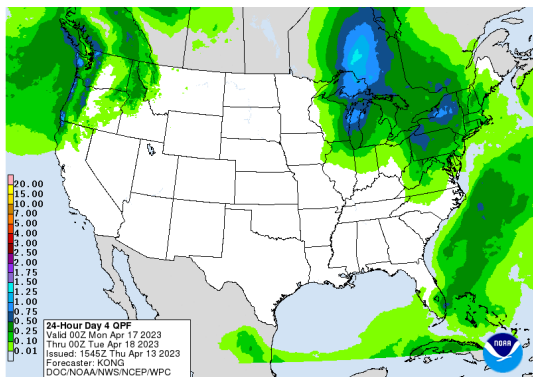
Day - 2



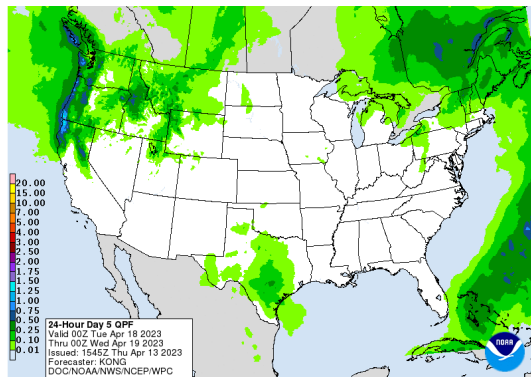
Day - 3



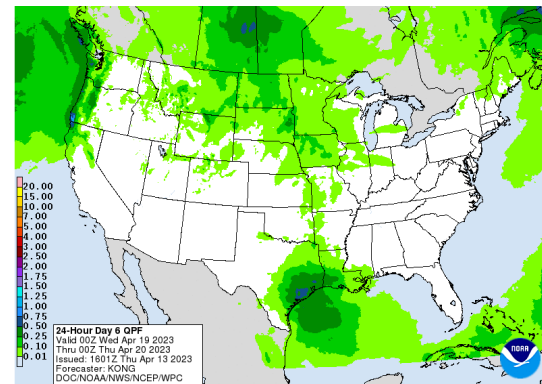
Day - 4



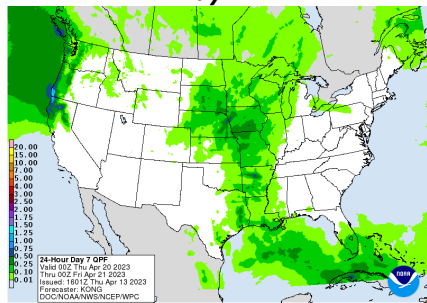
Day - 5



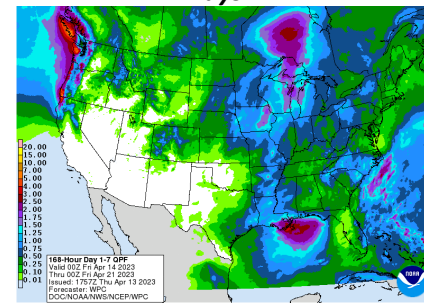
Day - 6



Day - 7



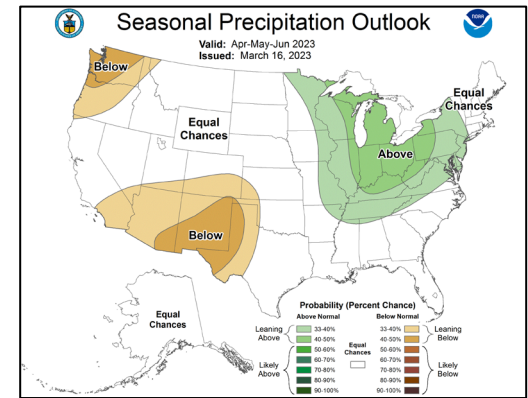
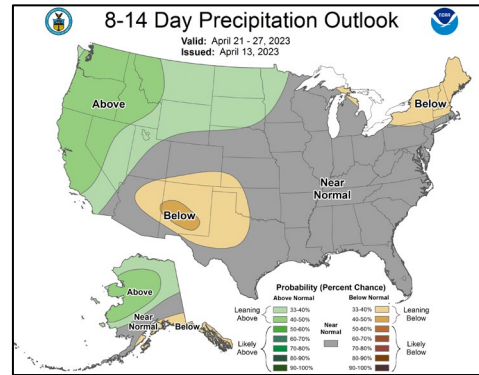
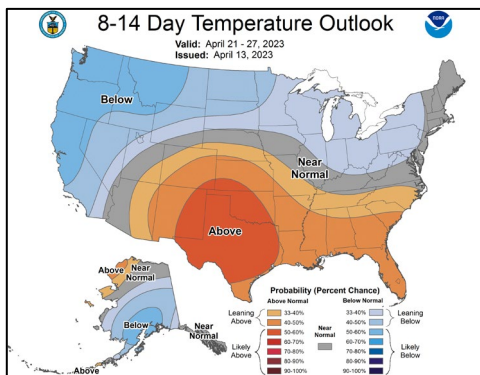
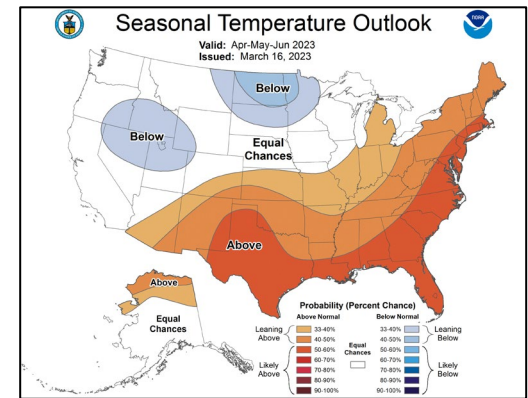
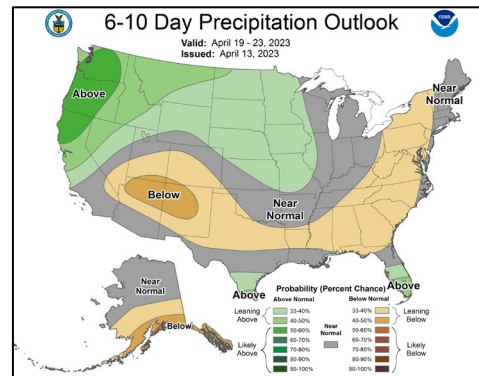
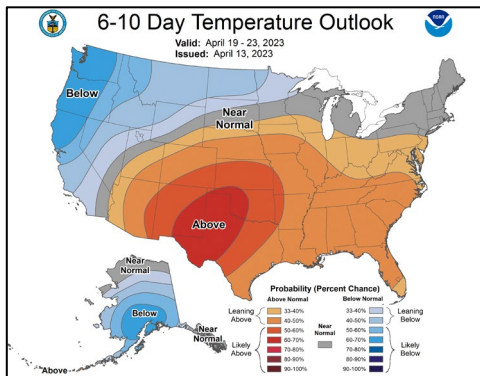
Days 1 - 7



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

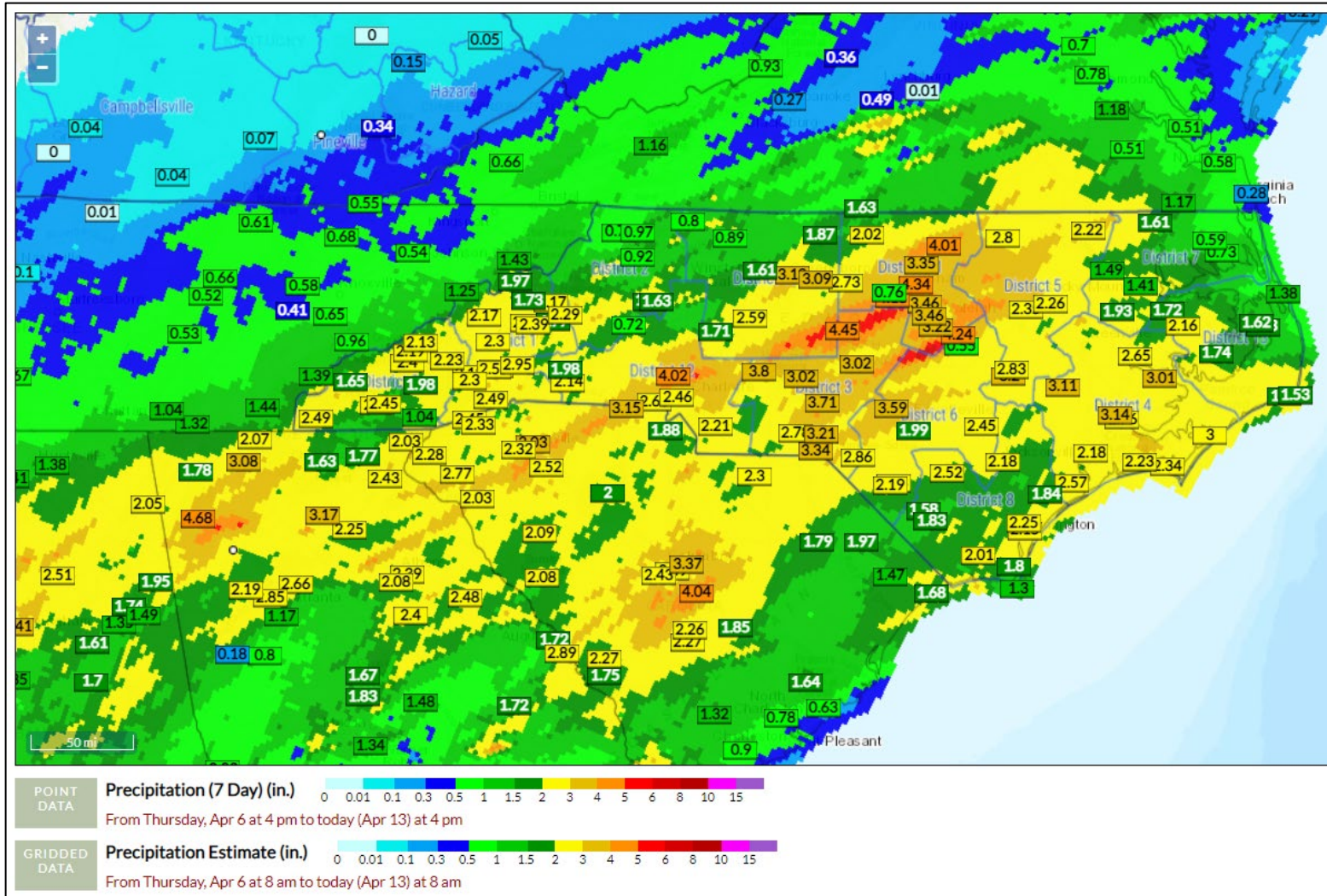
Temp & Precip Outlook

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



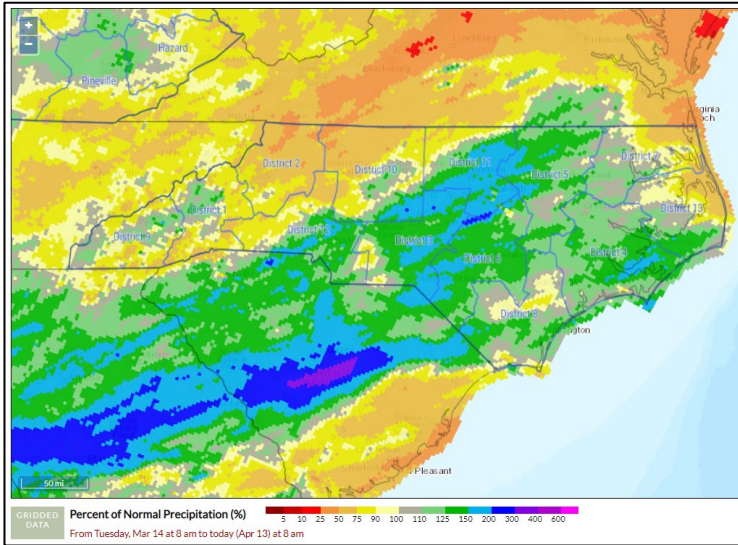
7 Day Precipitation Totals

FWIP (Point accumulation ending at 1600 on 4/13, Grid ending 0800 4/13)

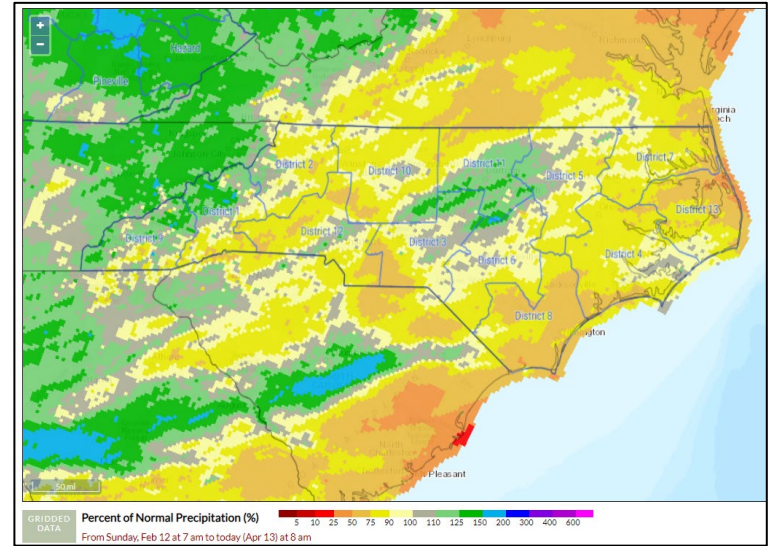


Percent of Normal Precip, FWIP (Ending 0800 4/13)

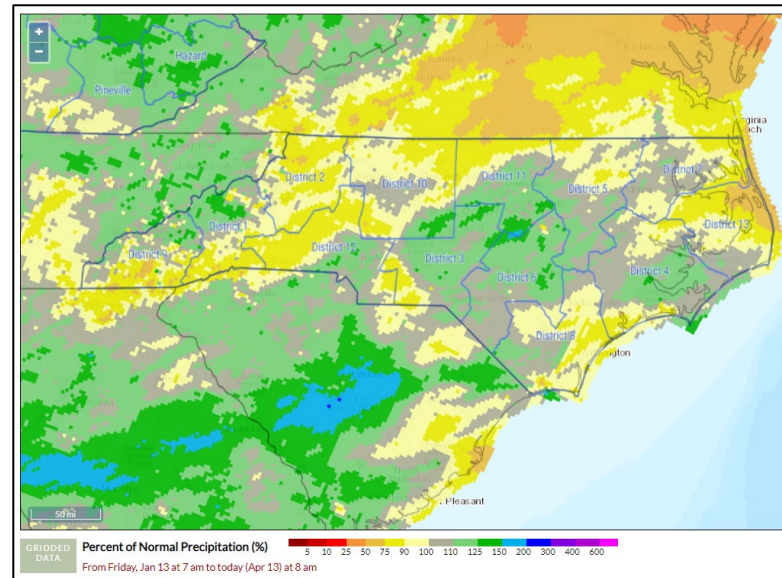
30-Day % of Normal



60-Day % of Normal

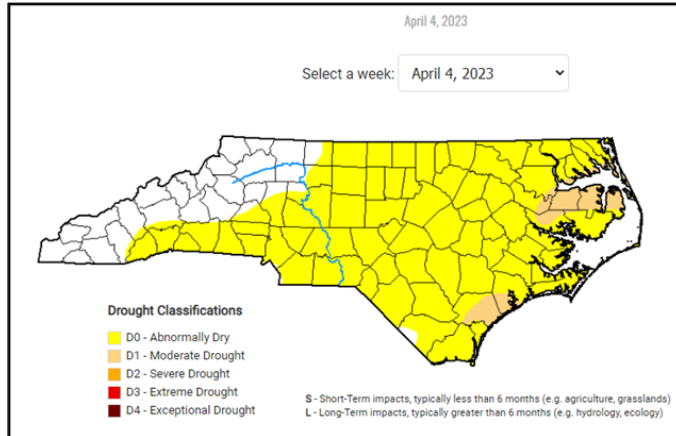


90-Day % of Normal

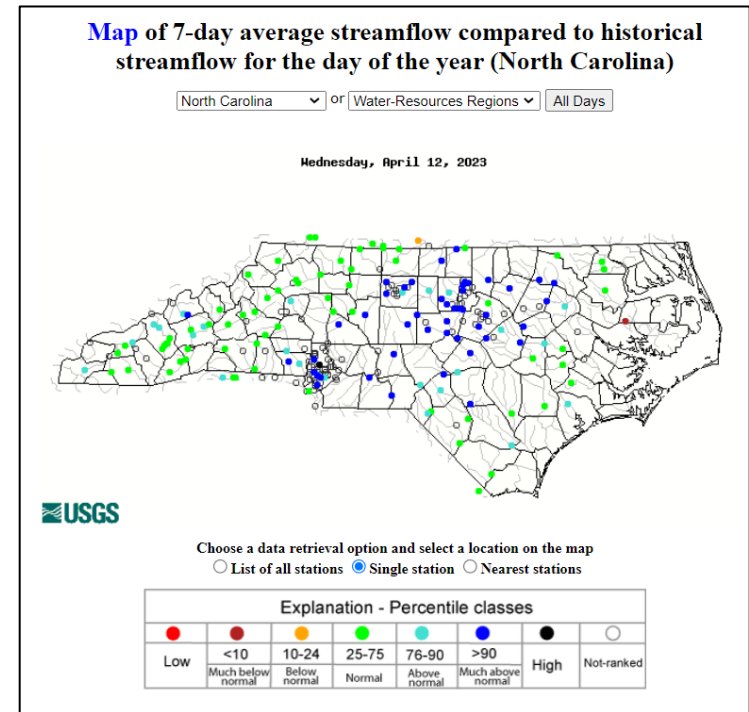
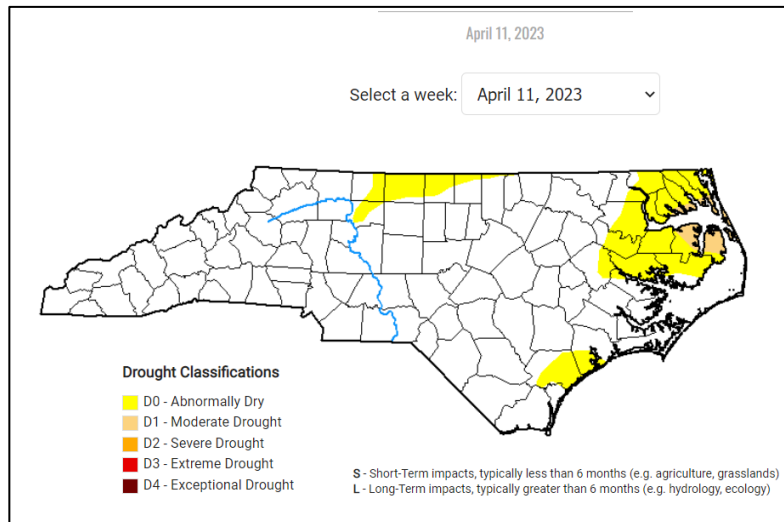


Drought Situation

Previous Week:



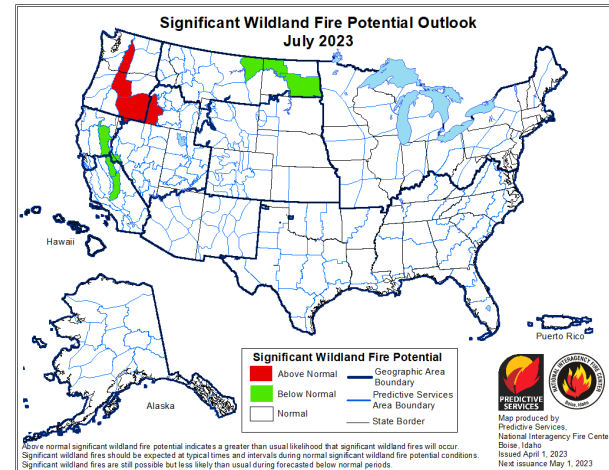
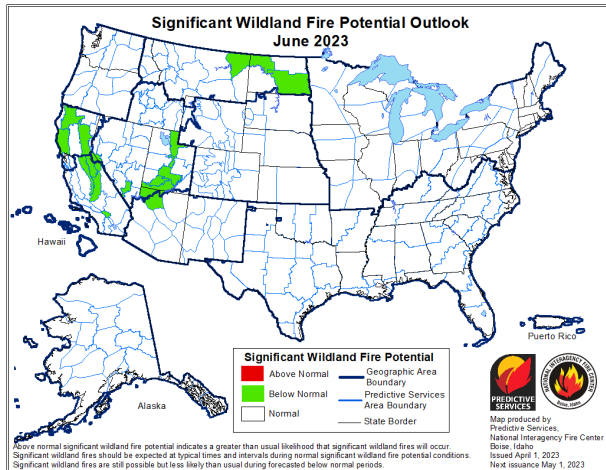
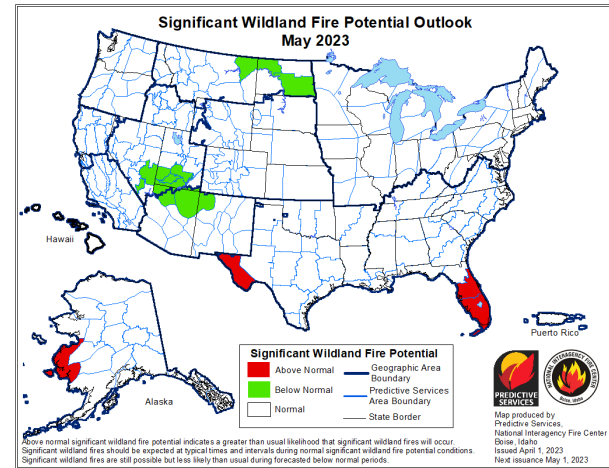
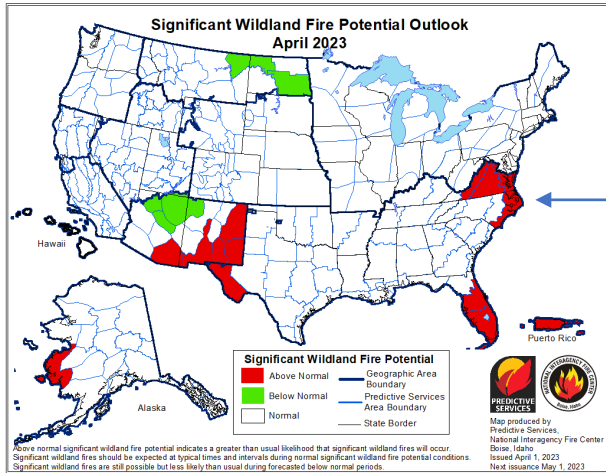
Current Week:



- D-0 Abnormally Dry Conditions Decreased (~12.5% of State)
- D-1 Moderate Drought in Several Counties. (~1.3% of State)
- 7-Day Stream flow averages continue to decline, note decline in both East and West.
- Example: 7-Day averages responded to rains statewide, will begin to decline again – especially with green-up influences.

Significant Wildland Fire Potential Outlook:

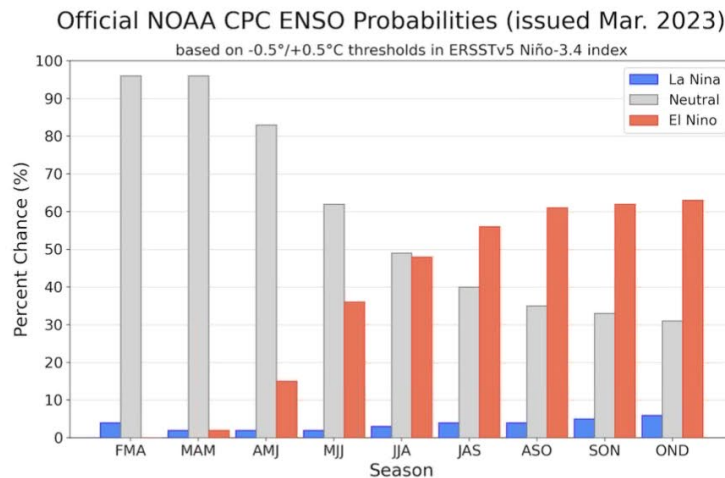
Updated 4/1/23 – Next Update on 5/1/23



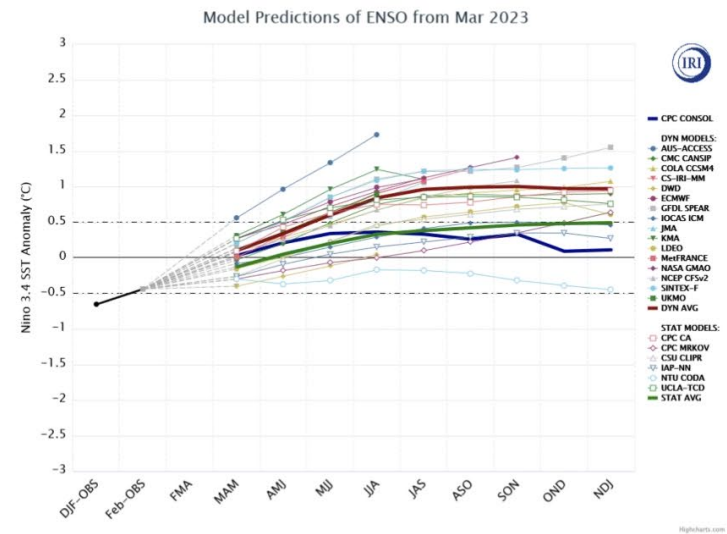
A significant fire is one that requires resources from outside the district (other than aviation). IA potential is based more on shorter term weather factors. Just a few days of dry weather can increase IA activity considerably as we have already seen this year.

ENSO Note

ENSO (El Niño-Southern Oscillation)



La Niña has ended, and ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring and early summer 2023. There is a chance of El Niño forming during the summer, with at least a 60% chance by the August-October period.

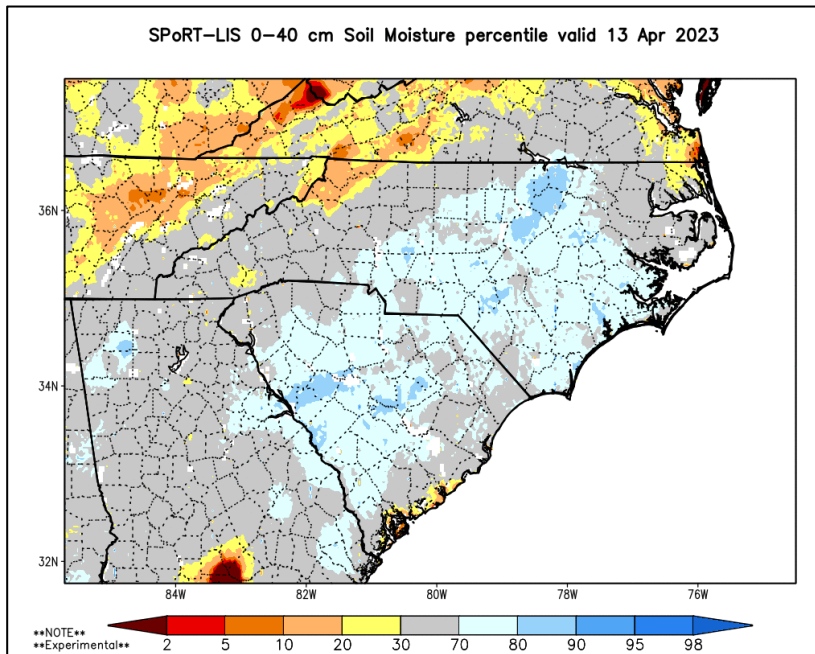


https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-sst_table

https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

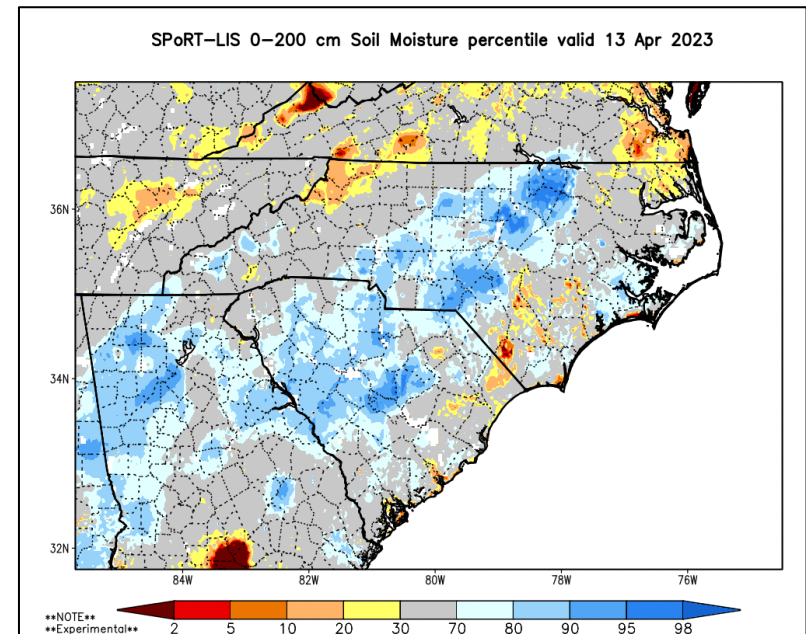
SPoRT Relative Soil Dryness

0-40 cm Depth



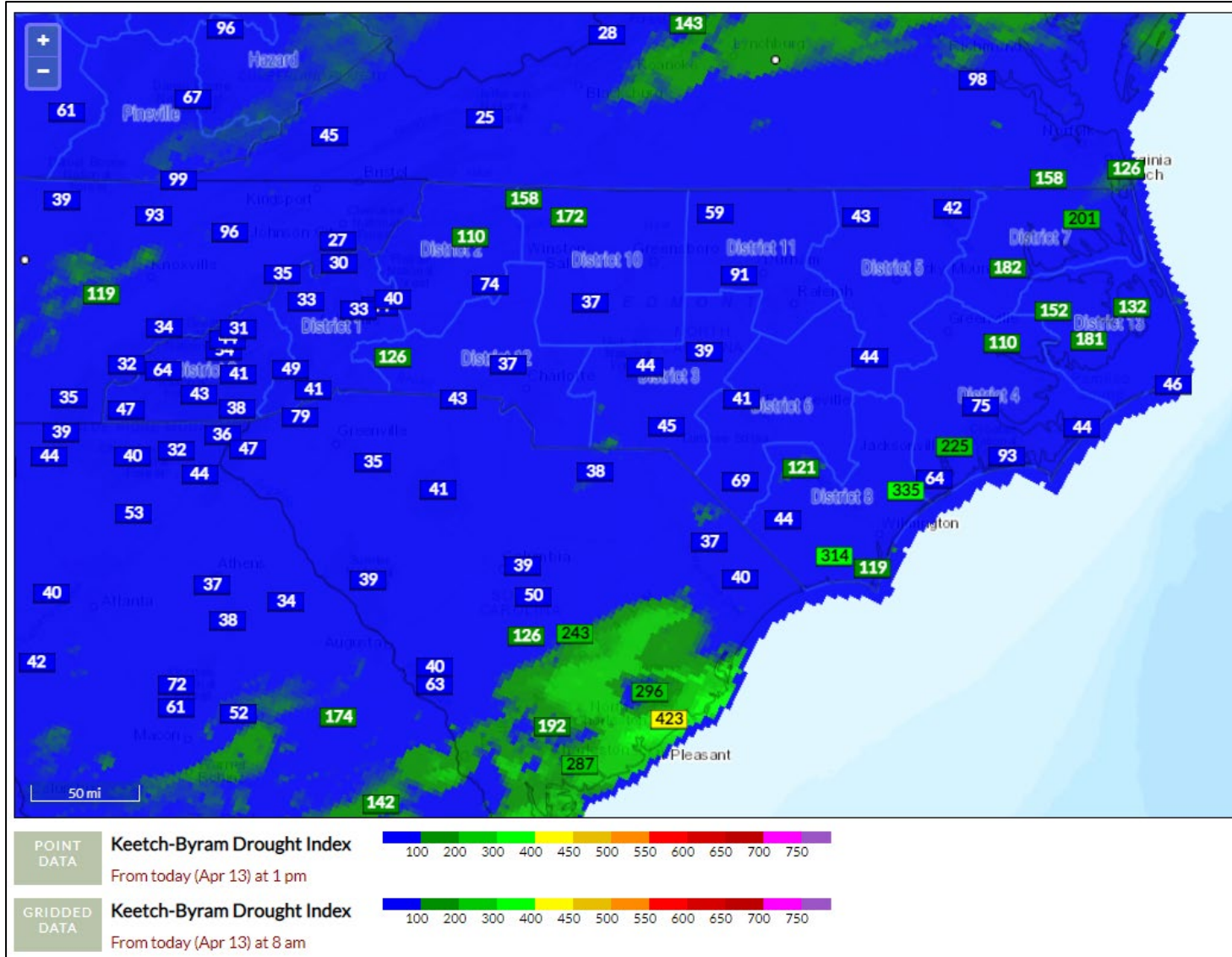
- Note areas that missed the heaviest rains to the northwest and northeast.

0-200 cm Depth



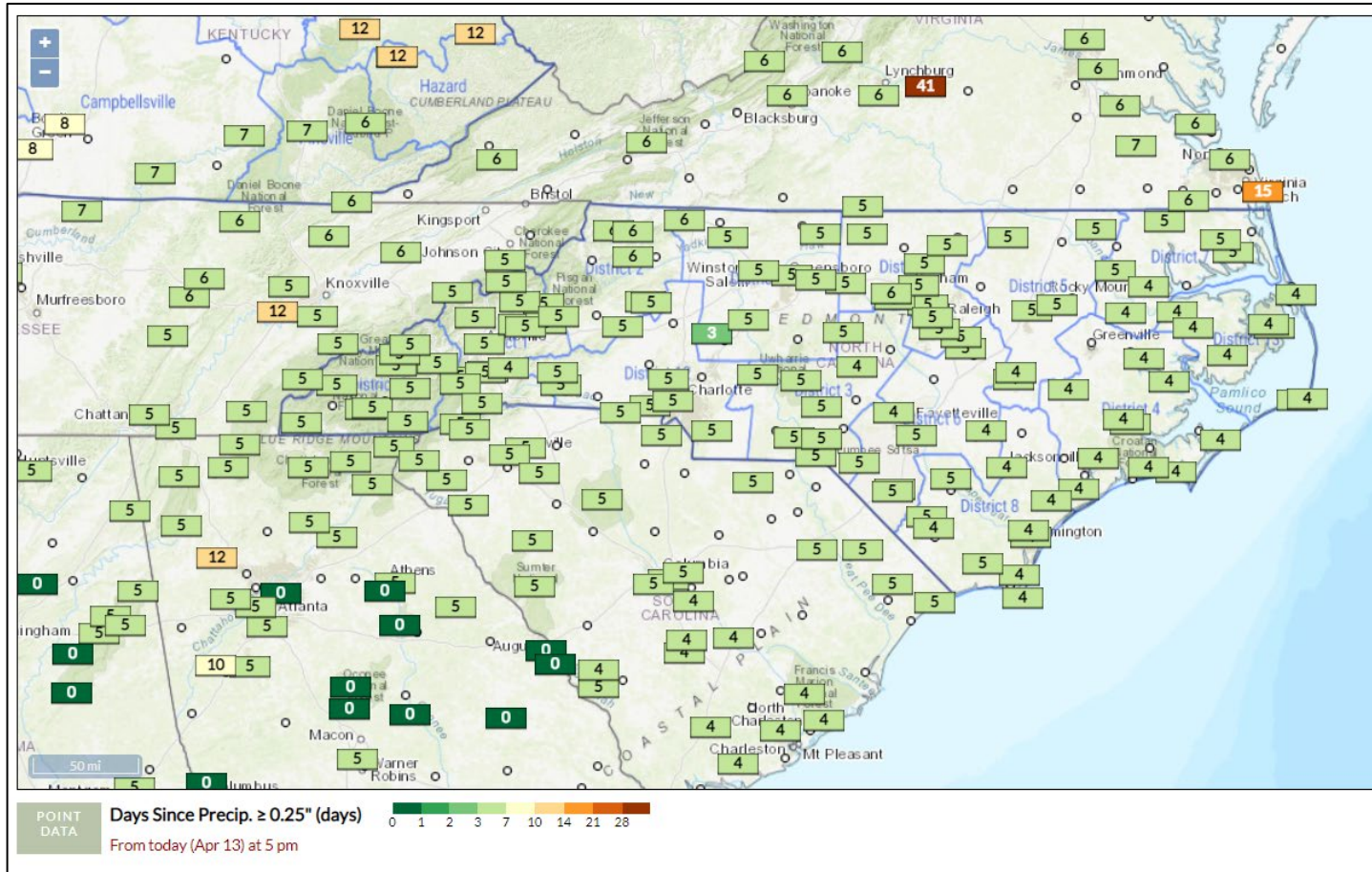
KBDI - Gridded & Station Points

FWIP (Point calculation from 1300 on 4/13, Grid ending 0800 4/13)



Days Since Daily Precip $\geq 0.25''$

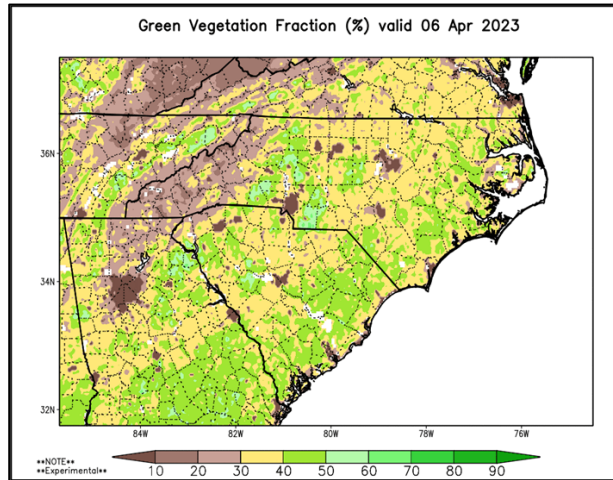
Note – Latest product run was on 4/13/23 @ 1700.
Does not consider rainfall after that point.



Green Fraction & Green-Up Anomaly

- Green-Up continues, generally about two weeks ahead for lower elevations.

Last Week



(Some areas previously shown with green color followed later by brown color in coastal areas likely due to larger scale agricultural activities.)

Current

