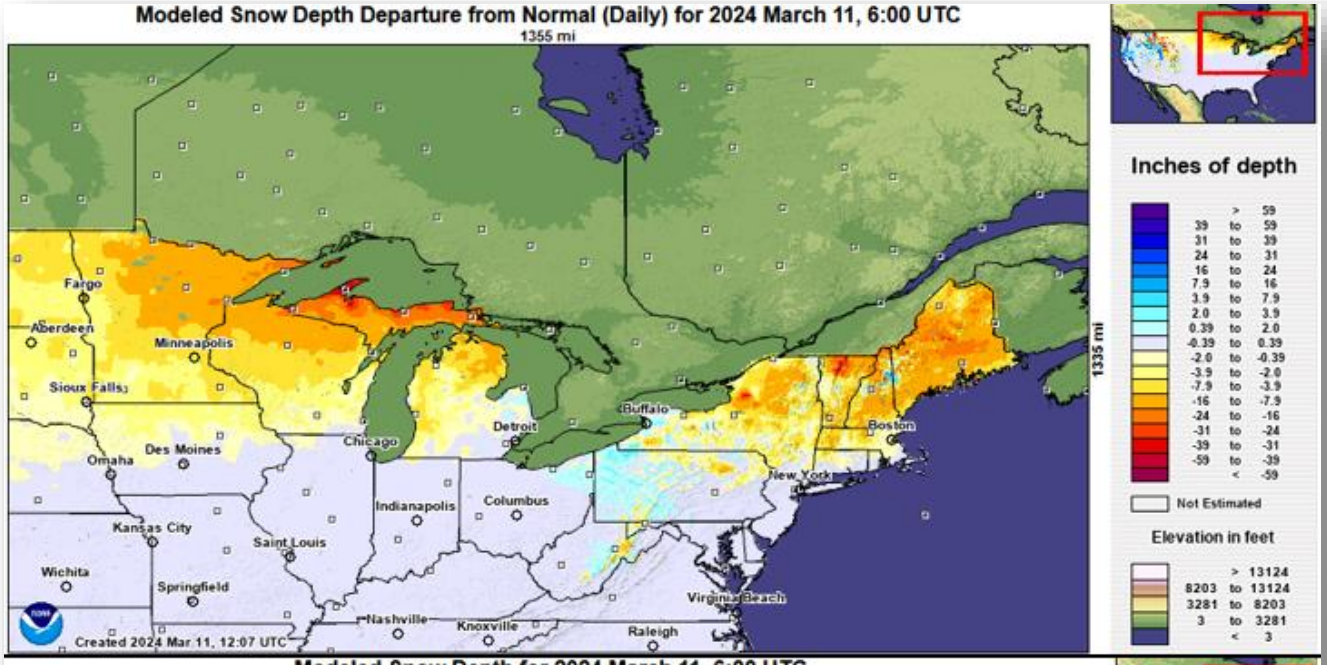
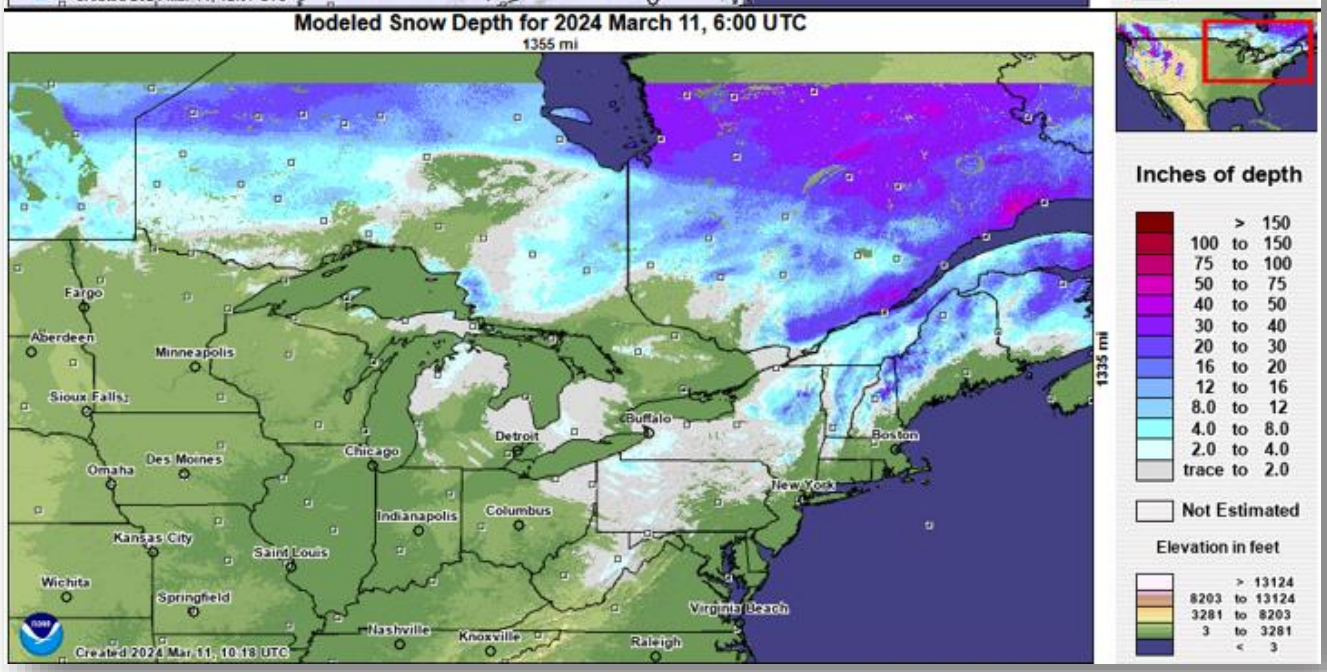
Eastern Area Spring Wildfire Risk Rapid Assessment March-April 2024





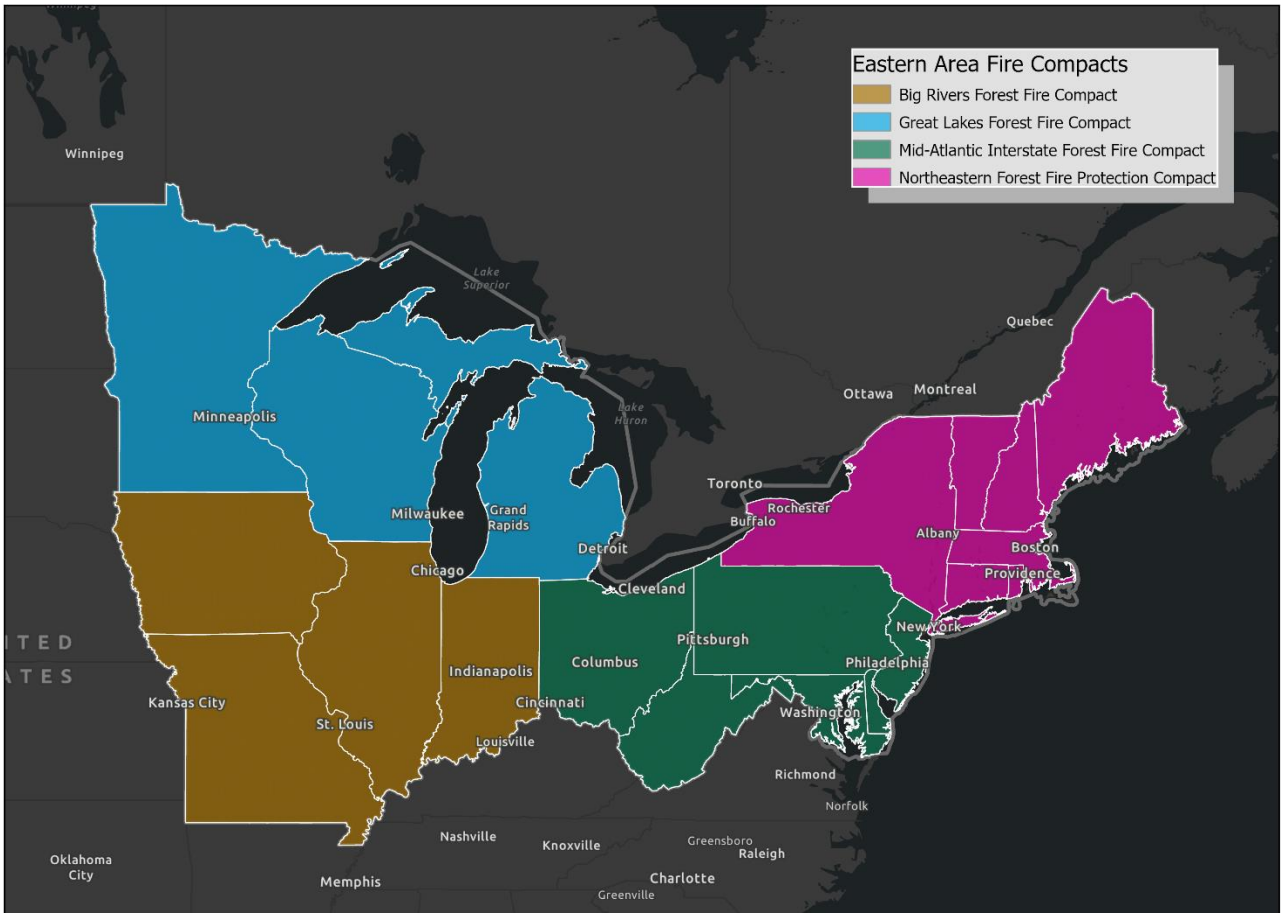
Part A. Executive Summary

In response to deepening drought, amplified by below normal snowpack and rainfall, a wildfire risk assessment has been completed to assess wildland fire danger and risk across the Eastern Area (GACC) for the spring months of 2024. The assessment will cover a period from early March through April. Recommendations are provided and based on the findings and conclusions of the analysis.

Portions of the GACC are entering normal fire season. Moderate to extreme drought conditions that have surged in severity since the spring of 2021, are amplifying this springs fire environment. Drought conditions are being further exasperated by far below normal snowpack throughout most the area.

Based on current fuels conditions and forecasted weather conditions, the most likely scenario is an above average level of wildfire potential and activity for the next month and beyond, specifically across the Great Lakes and Big Rivers Compacts. This level of activity will likely cause increases in wildland fire resources being mobilized within the area, and a likely increase in interagency resource sharing between partners. The possibility of several Type III incidents occurring simultaneously in the GACC, and the potential for Critical Incident Management deployment, should be expected. If environmental conditions continue trending dry through April, probabilities of significantly elevated wildfire risk will rise into the summer months.

This assessment describes geographic locations using Eastern Area Fire Compact boundaries. The map below displays the Big Rivers, Great Lakes, Mid-Atlantic, and Northeastern Compact boundaries.



Scenario Descriptions

This risk assessment identifies three scenarios for the upcoming spring fire season.

Most Likely Scenario: Increasing fire activity and elevated risk over the western half of the GACC through April. Fire ignition may produce large fire growth, depending on where it starts and whether winds to support it develop. Portions of the Great Lakes Compact specifically are four to five weeks ahead of their normal spring wildfire season. Grasses that would normally be compacted due to snowpack have greater fuel bed depth vertically than normal and are available to burn.

- **Great Lakes:** Compounded by above normal temperature, below normal snowpack, and long-term drought, the lake states observe significant wildfire risk through April. Dependent on ignition location and wind presence, potential exists for rapid fire spread and extreme fire behavior. Out of GACC response is required. Multiple T3 IMT deployments are expected.
- **Big Rivers:** An uptick in wildfire occurrence began in February in the Big Rivers Compact. Peak wildfire season developed earlier than normal and is elevated compared against normal. Risk mitigates and slows, with development of early spring green-up. Additional out of area response may be required over the next three weeks. Some T3 IMT deployment is likely.
    - Drought stricken fuels that have experienced green-up would be significantly influenced by a freeze event. Freeze events could alter how this scenario plays out through the spring.
- **Mid-Atlantic and Northeast:** The Mid-Atlantic and Northeastern compacts have observed above normal precipitation since the first of the year, are drought free, and project to see above normal probability of precipitation through April. It is likely that a normal to below normal wildfire risk should be observed through April. Normal responder resource utilization should be experienced.
    - The very northern reaches of New York, Vermont, New Hampshire, and Maine should be monitored as the season progresses; these areas have observed slightly below normal precipitation for the past month, coupled with low snowpack. The fire environment could transition into elevated risk with longer periods of wind and drying.

Best Case Scenario: Rainfall frequency, a lack of extreme wind events, and spring green-up will be critical for the best-case scenario to come to fruition. A season slowing and ending event, in the form of spring green-up, should alleviate wildfire risk in the Big Rivers Compact by the end of March. The Great Lakes Compact is forecast to remain warmer and dryer than normal through April, and the only fire environment variables that may impede a significant spring season will be a lack of wind and a series of precipitation events that will moderate overall drought degradation throughout the GACC.

Worst Case Scenario: Observed fire occurrence and spread is unprecedented this spring throughout Great Lakes. Precipitation events are minimal through June and the spring fire season transitions deep into the summer months, when and where historically some of the largest fires in the GACC have occurred. Spring green-up in the Big Rivers Compact has negligible effect and fire season continues escalating into April, especially if compounded by freeze events. Continued drying through the spring leads to an uptick in fire potential throughout the northern tier of the Northeastern Compact. Numerous extended attack fires occur and large-scale mobilization of out of GACC resources is required.

Recommendations

- Fire managers in those areas observing escalating fire danger should continue to assess these conditions locally. These areas have experienced prolonged rainfall shortages, below normal snow levels, and drought, and could observe increased fire spread and fire behavior in conjunction with low daily relative humidity, poor overnight humidity recovery, and wind events.
    - Staff resources adequately to deal with increased fire occurrence and advanced fire behavior.
    - Consider indirect and extended attack when making tactical decisions related to line placement and type.
    - Consider live fuel moisture as areas transition through normal 'spring dip'. Due to prolonged drying and droughty conditions, vegetation may respond and recover moisture slower this year.
    - Fire suppression tactics may require the use of heavy equipment, based on both fire behavior and successfully constructing line through deep organic soil. Don't underestimate the potential for holdovers in duff and organic soils.
        - Leaf blowers nor dozers prove effective under drought conditions currently being experienced. An important indicator for dozer operations may be the carpet rolling of sod and whether sod carpet rolls into heavy mass or disintegrates due to dry soil conditions.
    - Significant mop-up and water handling operations may be required on peat fires throughout the Great Lakes.
    - Don't rely on normally wet timber understory or wet marshlands to serve as fire spread barriers. These fuels are already drying, and manager observations describe these areas are no longer stopping fire spread.
    - Black spruce stands in the lake states may be available to burn due to lower water table levels, thus resulting in major fire control problems.
- Days since rain is an important indicator to be monitored. Under the normal fire environment, a span of 5-7 rain free days indicates the potential for increased wildfire risk. Significant drought, coupled with below normal snowpack and precipitation, has accelerated this risk and 3-5 days without rain should be considered a 2024 critical threshold.
- Intensive monitoring and mop-up will be necessary to secure the fire line in lowland grasses and peat, where deep fires burn in layers of forest fuels and organic soils. Fires that smolder may become long duration events, crossing non-mineral soil breaks, reigniting on the other side, and potentially requiring substantial water handling operations.
- Water from the air (aircraft or rainfall) will do little other than slow the forward spread of fires.
- Maintain capabilities to mobilize Type III teams. If conditions continue to escalate through the summer with continued below normal precipitation, Complex Incident Management Teams could be utilized. Those teams should continue to be rostered and available.
- Maintain national standardized predictive services products in a timely fashion. Produce new products as requested. Don't rely on some Wildland Fire assessment System (WFAS) products as many of those products continue to be transitioned to NFDRSv4.

Specific Concerns to Fire Responders and the Public

- Entire surface area, including leaves and grasses (which appear vibrant green), is available to burn.
- The effect of rainfall is short-lived. Resources must be aware of the long-term impact of drought and expect a rapid increase in the potential for fire behavior immediately after any rain event.
- Drought stricken vegetation that has transitioned into the growing season, and then experiences a freezing event, will be extremely susceptible and likely promote erratic fire behavior.
- Extreme fire behavior, common under record setting conditions, will occur where fires, fuels, and weather elements (namely wind) align to create the worst-case conditions.
- Dead branches on live trees are more susceptible than normal to ignition, while standing snags are also more susceptible to burning through and falling.
- Fire personnel should ensure that LCES is in place before engaging on any fire. Remember to STOP, THINK, and TALK before you ACT and actively look for ways to minimize risk to fire responders in what is forecast to be a period of very high fire danger.
- Ensure firefighters adequately assess potential fire behavior daily and have trigger points for when to disengage.
- ➢ Ensure fire responder pocket cards are up-to-date and posted on the national website. Pocket cards should note unique localized conditions that out of area responders would need to know when implementing suppression activities. https://www.wildfire.gov/wims/pocket-card-table
    - For example, many old growth oak stands on the Huron-Manistee National Forest have become decadent and are dying due to nutrient poor sandy soil. Oak wilt in these stands have created situations in the fire environment that further promote rapid spread rates, extreme fire behavior, and difficulty to control and suppress.
        - A significant dead component in the oaks have led to a more open canopy resulting in more solar radiation reaching the floor; these canopy openings lead to rapid drying, accelerated fire behavior, and more resistance to control.
        - Oak snags, including live oak, will contribute significantly to short range spotting.
        - Carex, or oak sedge, is a continuous turf/sod like mat that grows in the understory of these oak stands.

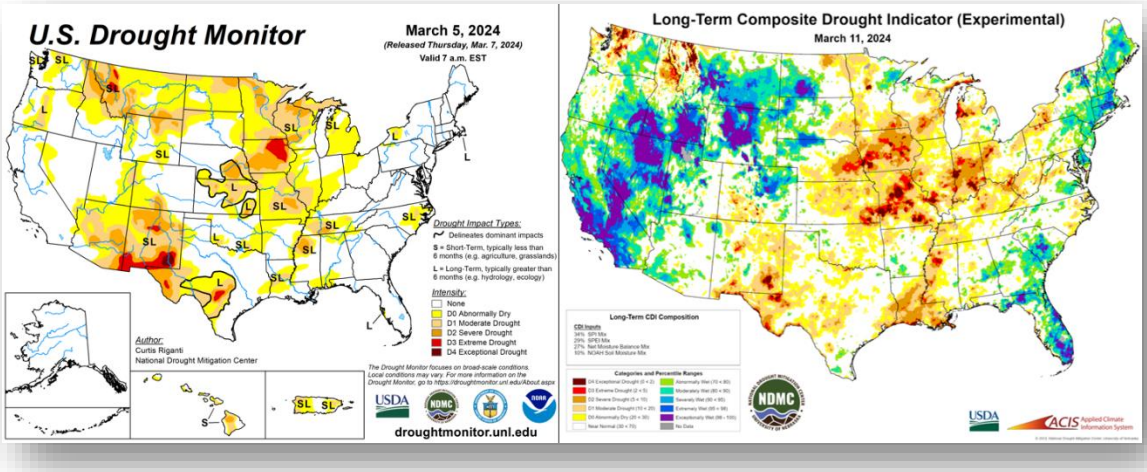
Unless weather conditions shift significantly from what is being experienced now, and what projections describe, fire responders should expect multiple fires with potential to become large and long duration events throughout the GACC. It should be expected that observed fire behavior has the potential to be high to extreme if environmental conditions continue to persist or trend worse.

Part B. Analysis

Introduction and Background

The southern tier of the Eastern Area GACC (GA) has entered normal spring wildfire season. The Great Lakes States of Minnesota, Wisconsin, and Michigan are observed to be several weeks, and even a month, ahead of schedule in their typical spring wildfire season. Below normal snowpack throughout the northern third of the GA, coupled with 50-75% of normal precipitation throughout the Big Rivers Compact Fire in the southwest corner of the GA, have intensified the risk of wildland fire and resultant fire behavior. Drought conditions throughout the western half of the GA have surged in and out of severity for the past three years. These reoccurring drought conditions amplify the effects of below normal snowpack and precipitation in general and will significantly contribute to and elevate wildfire risk. Under normal spring fire environment timbered and marshland fuels are wet, or snow covered, and slow or stop fire spread. Under current drought conditions it is a common observation that these fuels are currently dry and promoting and supporting fire spread. As the GA further transitions into the spring, and deeper into wildfire season, the overall risk of fire ignition and spread will escalate.

The different levels of drought are classified by percentiles, with exceptional rating in the top 2-3% of the historical record. The two images below depict drought conditions across the area. The U.S. Drought monitor is subjective and based on human interpretation of many datasets and models. As of February 27, 2024, approximately 75% of the Midwest Drought Region is classified as ranging between D0 (abnormally dry) to D4 (exceptional) drought. The image on the right, created by the National Drought Mitigation Center, depicts



drought condition as based on a combination of the Standardized Precipitation Index, the Standardized Precipitation Evapotranspiration Index, and soil moisture data. The Long-term Objective Drought Blend Equivalent map shows an even more drought stricken range with the majority of the area being classified between Severe and Exceptional Drought. When analyzing the fire environment and risk, it is helpful to access a wide range of models and interpretations to further build perspective.

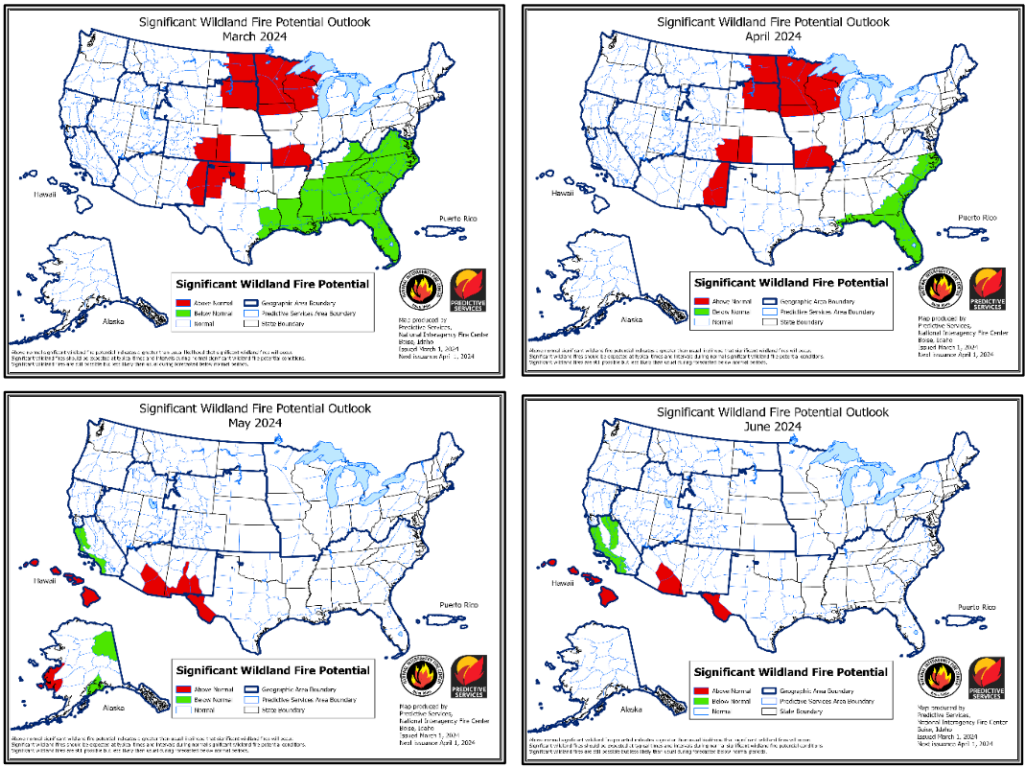
**Please note, the content included in this analysis is dynamic and most of the represented data updates daily and even hourly. Please navigate to those sources for the most updated information.

Risk Analysis

Fire Weather

Normal fire potential is forecast across the majority of the Eastern Area through June, with above normal wildfire potential across the Upper Mississippi Valley and the north-central Great Lakes March into April. 30-to-60-day negative precipitation anomalies were indicated across the much of Minnesota, northwestern Wisconsin, and the western Upper Peninsula of Michigan towards the middle of March. Longer term drought remained in place across portions of the Mississippi Valley and the northeastern Great Lakes towards the middle of March. In addition, below normal snowpack was in place across the northern tier of the Eastern Area.

The El Nino Southern Oscillation (ENSO) is undergoing a transition from an El Niño to an ENSO neutral sea surface temperature regime this spring, and with La Niña conditions expected to develop through early to mid-summer. Other sea surface temperature regimes also contribute to global weather patterns adding to some uncertainty in long term weather forecasts. With El Niño conditions expected to linger into the spring season, the north central portions of the contiguous US will likely continue to experience above normal temperature trends. Precipitation trends are more uncertain but drier than normal conditions across the Upper Mississippi Valley and north central Great Lakes may persist into the spring season.

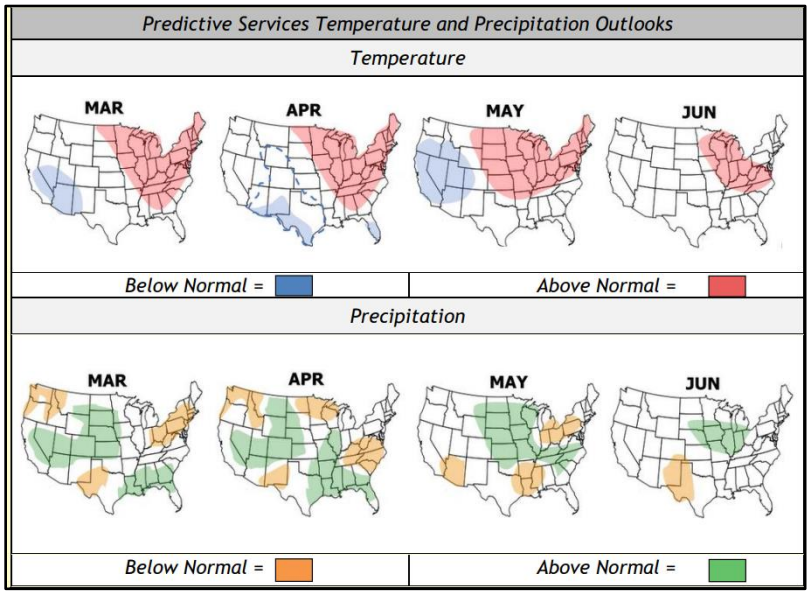


The Predictive Services precipitation outlooks forecast below normal precipitation across the Mid-Atlantic states and southern New England in March. Drier than normal conditions are expected over the Upper Mississippi Valley and the central Appalachians heading into April. Above normal precipitation is forecast over the Mid-Mississippi Valley in April and the majority of the Mississippi Valley in May. Drier than normal conditions are forecast over the northern Mid-Atlantic States, Indiana, and the southeastern Lower Peninsula of Michigan in May. NOAA's Climate Prediction Center's precipitation outlook for March through May indicates wetter than normal conditions likely across the southern tier of the Eastern Area.

According to the Predictive Service temperature outlooks, above normal temperatures are forecast across the majority of the Eastern Area April into June. The Climate Prediction Center forecast also predicts above normal temperatures are likely across the majority of the Eastern Area March into June 2024, with the warmest temperatures across the Northeast.

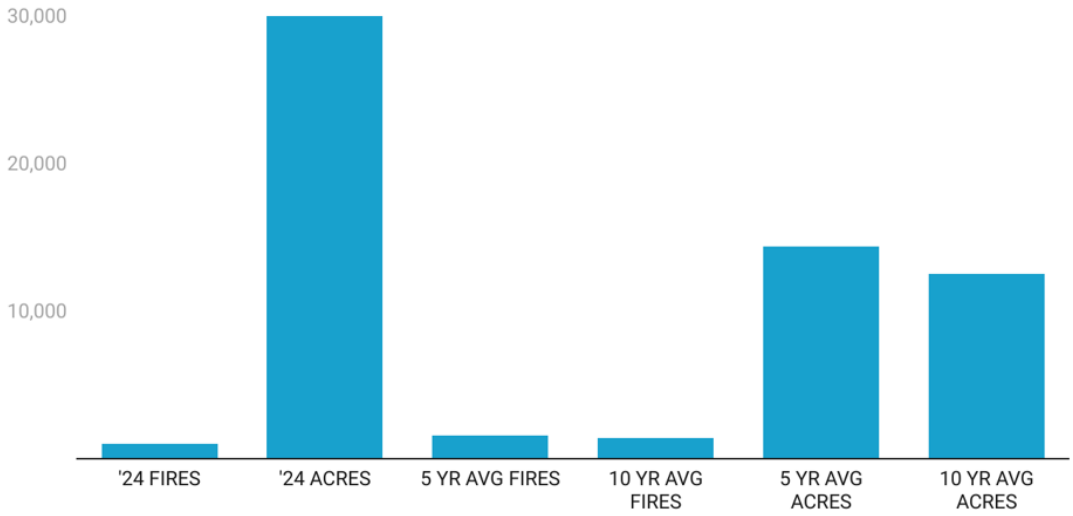
Normal fire potential is forecast for the eastern tier of the GACC through the outlook period. For the western tier, including Michigan and Indiana, fire season has had an early beginning and potential for increased and potentially significant fire activity is present due to continue above normal temperatures and very early snow off conditions. Exposed fine fuels and tall grasses that were not compressed under snow have become available to burn. Hot, dry, windy events and persistently strong winds will be a big determinant in both the potential for increased and significant fire activity during the outlook period. Early green up or lack of curing of grasses from a warm and predominantly snow free fall and early winter may temper the fire potential from an early snow melt in some areas. Long term drought as shown in the US Drought Monitor continues to exist in the western tier but is not expected to become a driving factor until green up starts occurring, which is likely to be earlier than normal during this outlook period. Environmental conditions for both prescribed burning and wildfire will be present simultaneously during the outlook period, trending towards a truncated burning season due to early green up and even early wildlife migration.

Longer term drought and negative soil moisture anomalies remained in place across portions of the Mississippi Valley and the northeastern Great Lakes towards the middle of March. If these areas continue to experience below normal precipitation and above normal temperature trends through the spring season, these areas are likely to experience periods of above normal fire potential. Below normal snowpack was in place over the northern tier of the Eastern Area towards the middle of March which is leading to an earlier than normal onset of the 2024 spring fire season.

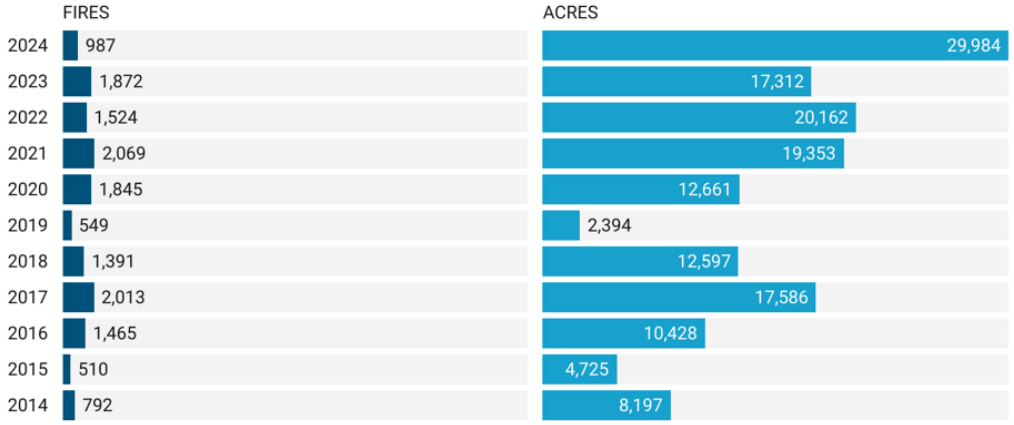


Wildland Fire Occurrence

Average Fires by March 8, compared with fires as of March 8, 2024

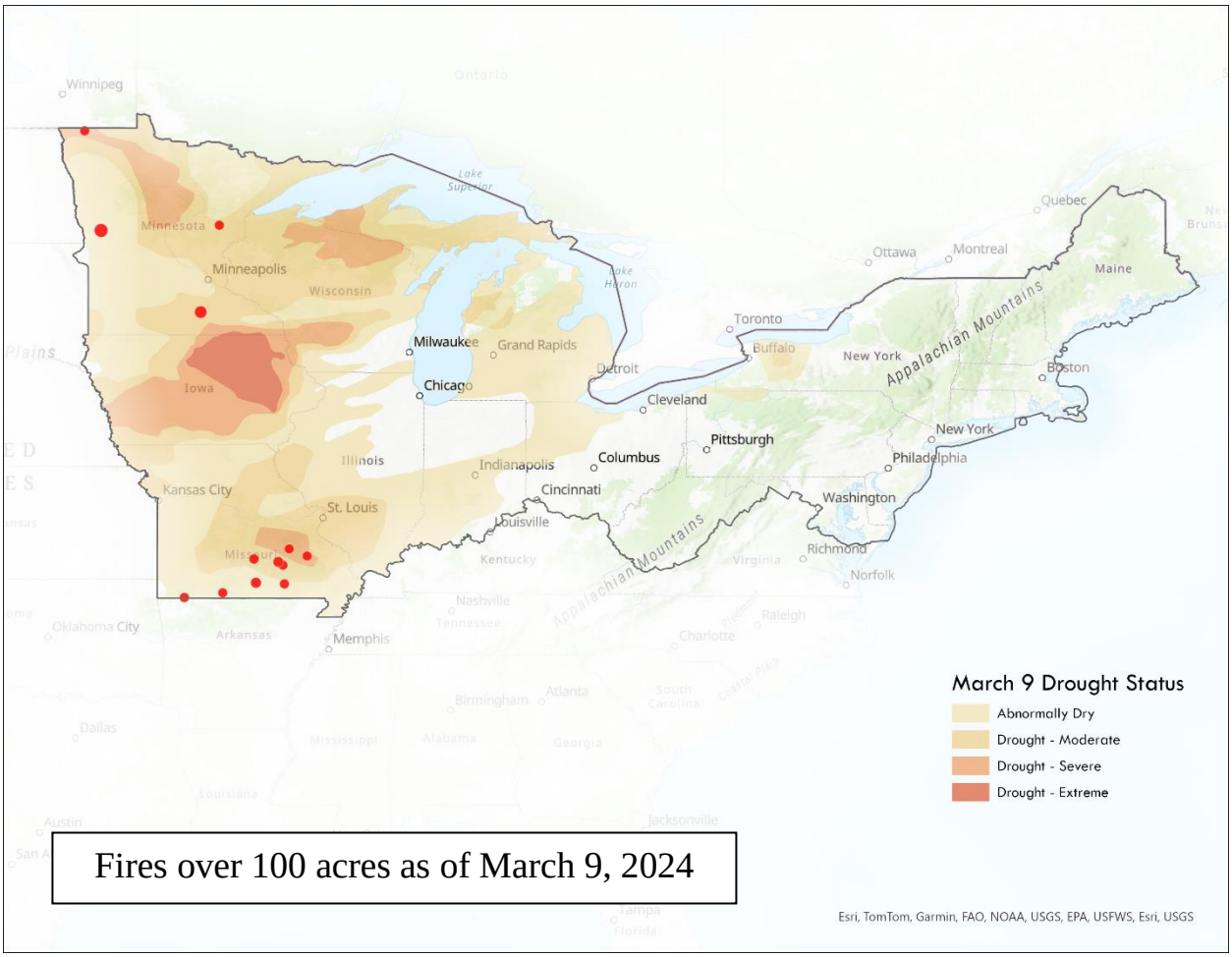


In the past five years, the Eastern Area has had an average of 1,572 fires for 14,376 acres by March 8. The past ten years averaged 1,403 fires burning 12,542 acres during this time. Already in 2024, we have seen more than double the typical acreage burned.



While the number of fires seen in 2024 is near average[1], the number of acres burned exceeds the previous recent high (2022), by more than 9,000 acres.

[1] Due to differences in reporting among the states, it is likely that the 2024 numbers shown are slightly *lower* than the actual number of fires and acres.



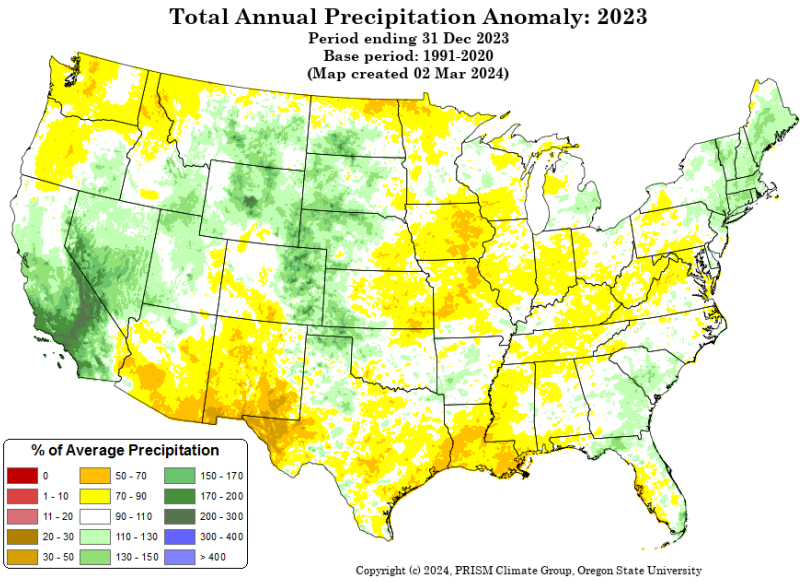
So far in 2024 the Eastern Area has seen 13 fires over 100 acres, varying in size from 116 acres up to 2,300.

For updated fire statistics, refer to https://gacc.nifc.gov/eacc/predictive_services/intelligence/intelligence.htm

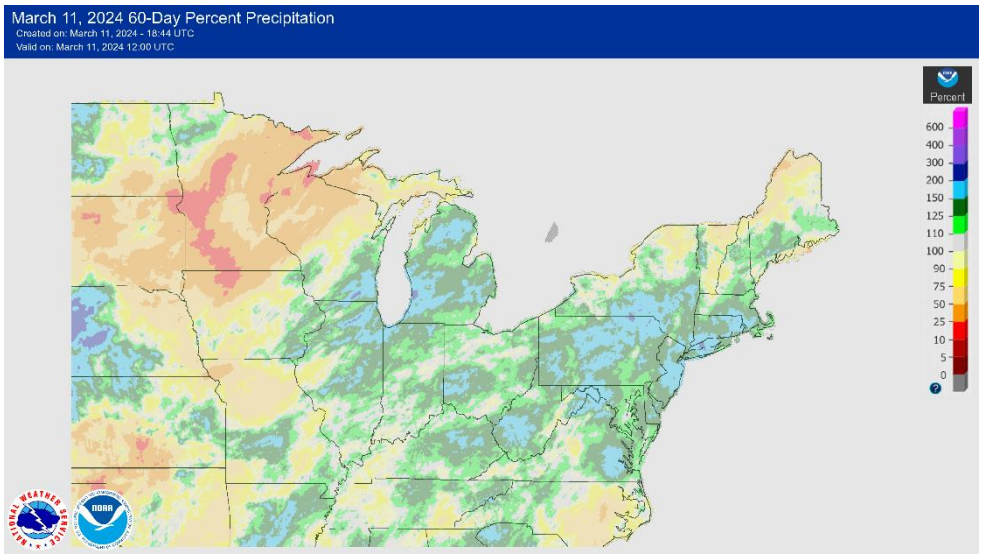
Current Conditions

Temperature and Precipitation

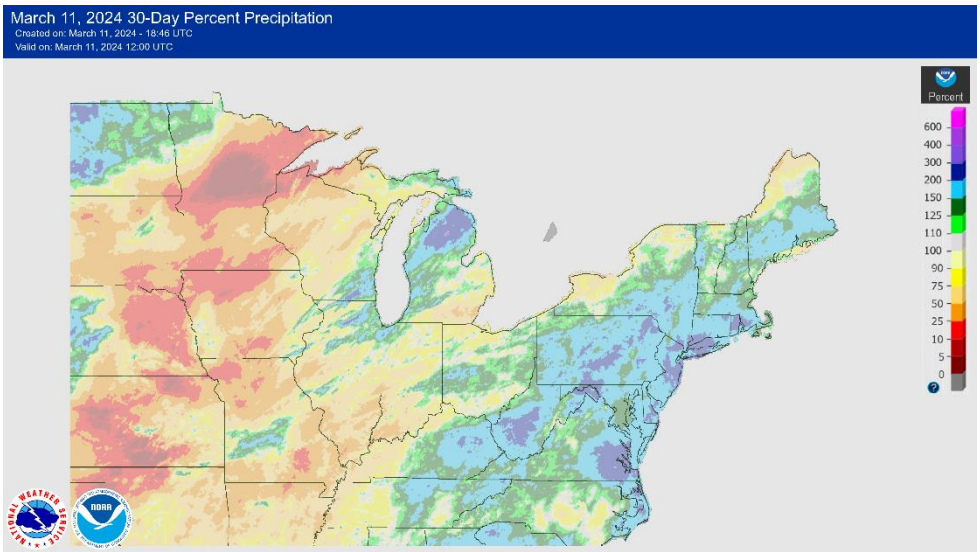
Drier than normal conditions persisted across the GACC in 2023. Most of the area observed 70-90% of average, with isolated pockets of 50-70% appearing over Minnesota and western portions of the Big Rivers Compact. These percentages equate to ranges between 6-12 inches deficits generally, and up to 16 inches in extreme instances for the 2023 calendar year.



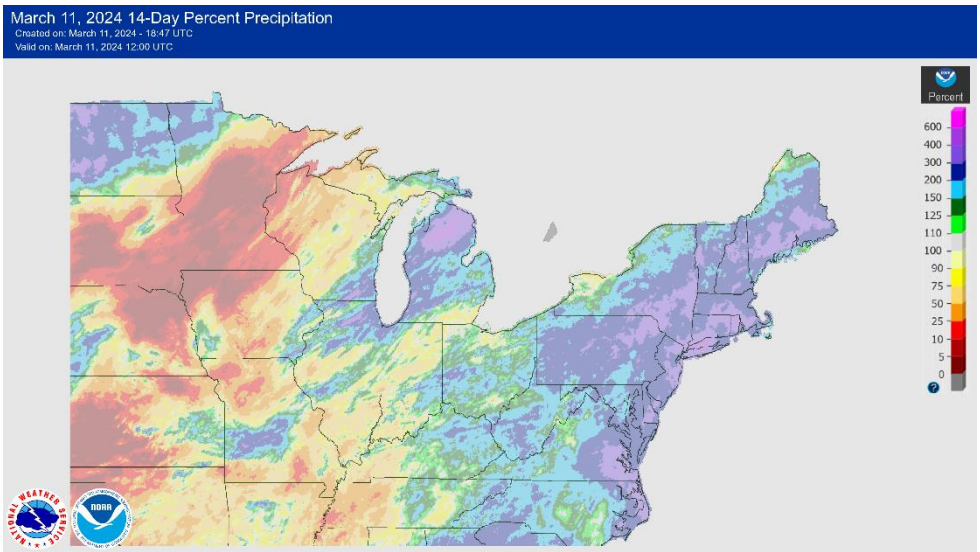
2024 began with moderate precipitation recovery over the Atlantic Seaboard and GACC interior. Over 100% of normal precipitation in January helped ease short-term concern, and wildfire risk, except for the far western reaches in Missouri, Iowa, Minnesota, and the Upper Peninsula of Michigan. Generally, 50-75% of average precipitation has occurred over these areas.



Comparatively, the past month's precipitation totals across the GACC trended down significantly. Excluding the Atlantic Seaboard, much of the area observed amounts significantly lower than normal. During this period, trends ranged from 10% of normal in Missouri and Iowa, to 50-75% throughout the Great Lake states. The Mid-Atlantic Compact states continue to observe trends above normal for the past 30-days.



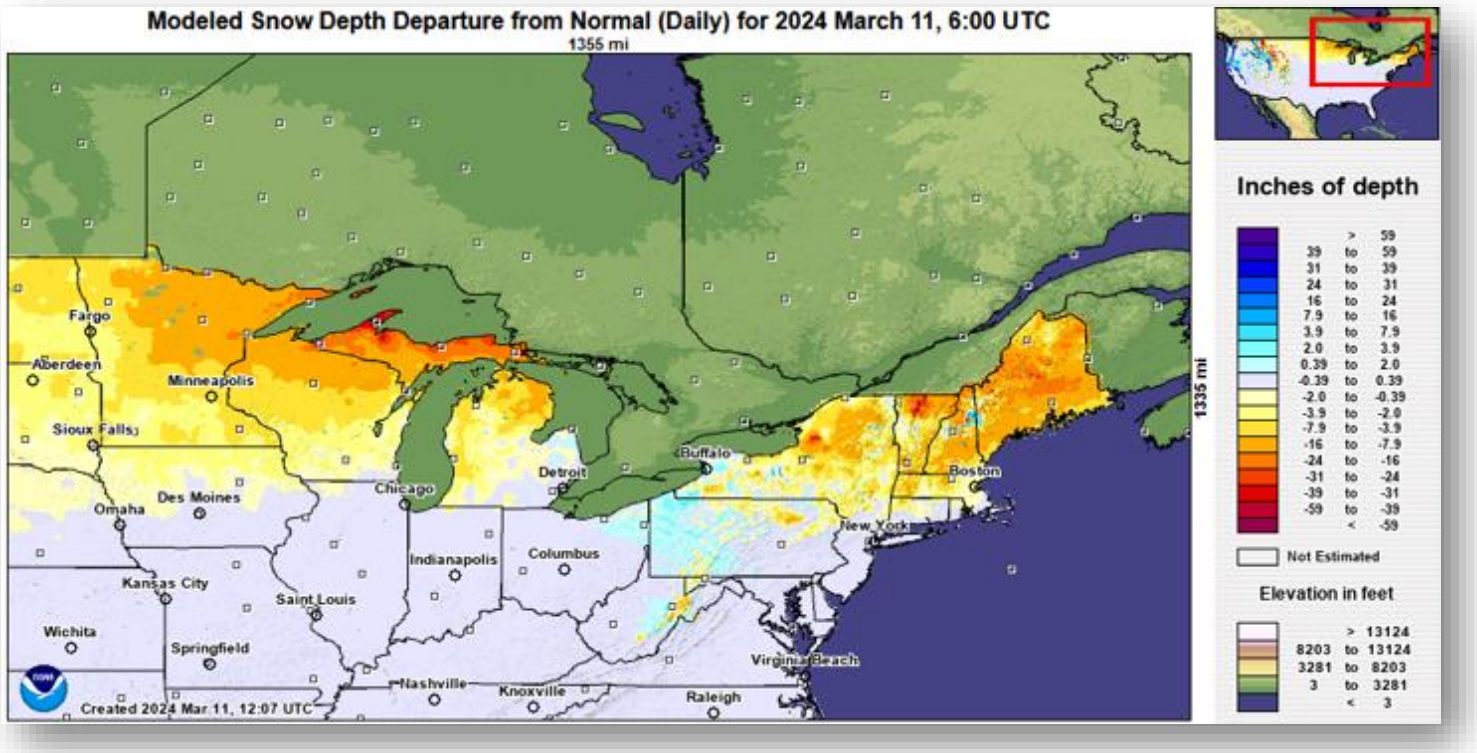
Trends are striking when observing the past 14-days percent of normal precipitation, specifically across the far western reaches of the GACC. The majority of Missouri, Iowa, and the southern two thirds of Minnesota have seen minimal precipitation, equating to 0-10% of normal. Improvement is visible transitioning east towards the Atlantic Seaboard however, the remainder of the Great Lakes and Big Rivers continue to maintain averages around 50% of normal.



Snowpack

Reports of below normal snowpack is a consistent observation among fire managers throughout the northern tier of the GACC. Areas that typically observe several feet of snow this time of year have seen minimal to no snowpack. Other areas that do currently hold snow are expected to see complete melt 1-1 ½ months early.

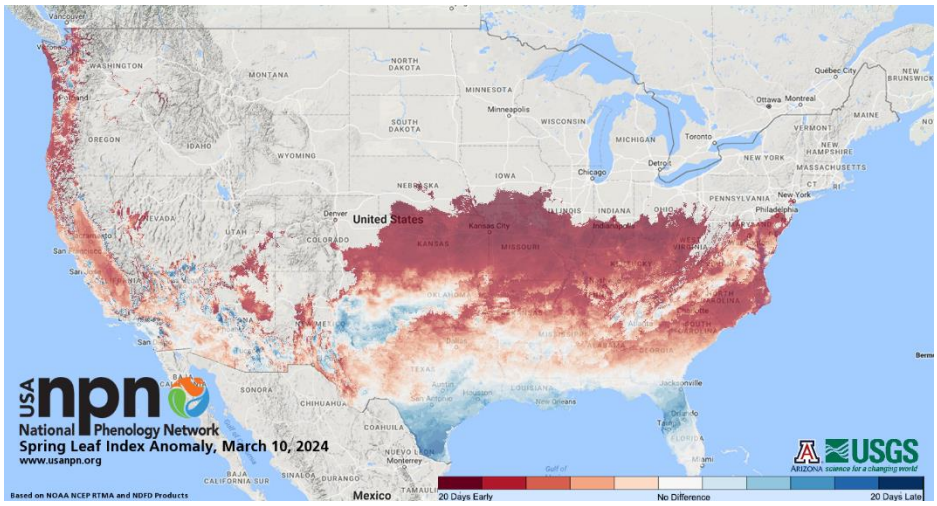
The snow depth departure model displayed below highlight and support these reports. The PRISM model describes significant departures of throughout the Upper Peninsula of around three feet. Consistently throughout this area, snowpack levels range between ½ to 2 feet departure from normal. In the far northeastern corner of the GACC, over New York, Vermont, Massachusetts, and Maine, 2 – 2 ½ feet departure is generally consistent.



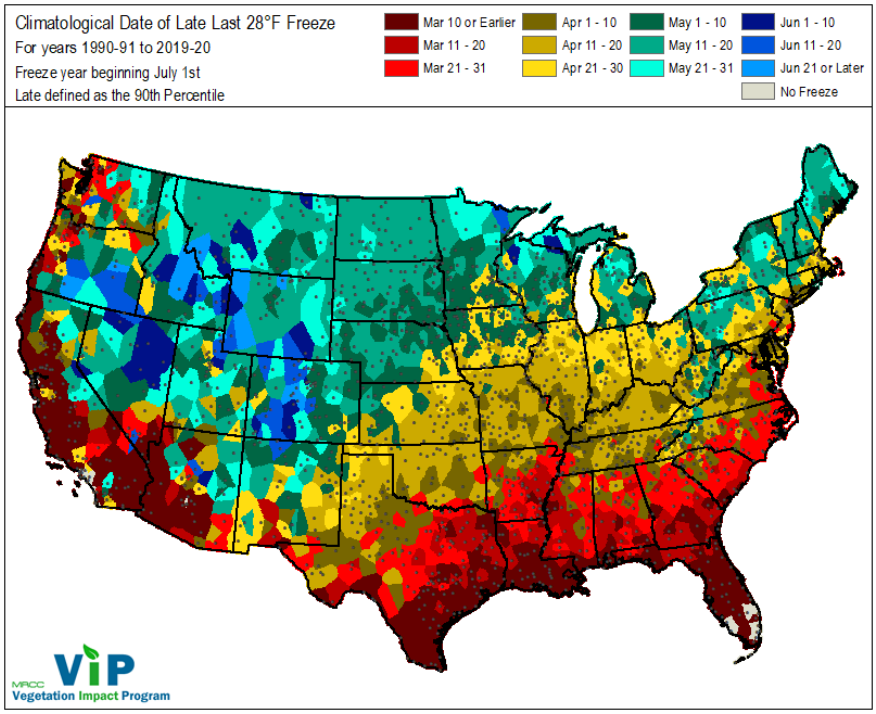
Under typical environmental conditions, a year with low snowpack may or may not have some influence on wildfire risk and potential. An important factor as we transition into spring is compounding drought. Drought conditions have surged in severity as far back as 2021. This reoccurring long-term drought can have significant influence on wildfire risk and resultant fire behavior.

Growing Season

Fire managers in the southern tier of the GACC project an early green-up and moderation of wildfire risk. Local projections describe growing season beginning 2-3 weeks earlier than normal, specifically in Missouri, Indiana, and Illinois. The USA National Phenology Network, at www.usanpn.org, models Daily Spring Index Leaf Anomaly. The image below displays the March 8 output and supports local managers observations. Generally, early green-up should occur throughout these southern tier states by up to 20 days. An early growing season and green-up should eventually mitigate wildfire risk, which is currently elevated in these areas.



The caveat to green-up mitigating wildfire risk is the presence, or lack thereof, freeze events. A hard freeze occurring once vegetation is entering growing season could significantly escalate wildfire risk. Freeze events would reduce live and woody fuel moisture values on already drought-stricken fuels. When combined with fire weather events, such as wind and low relative humidity, these fuels could support and promote erratic fire behavior.

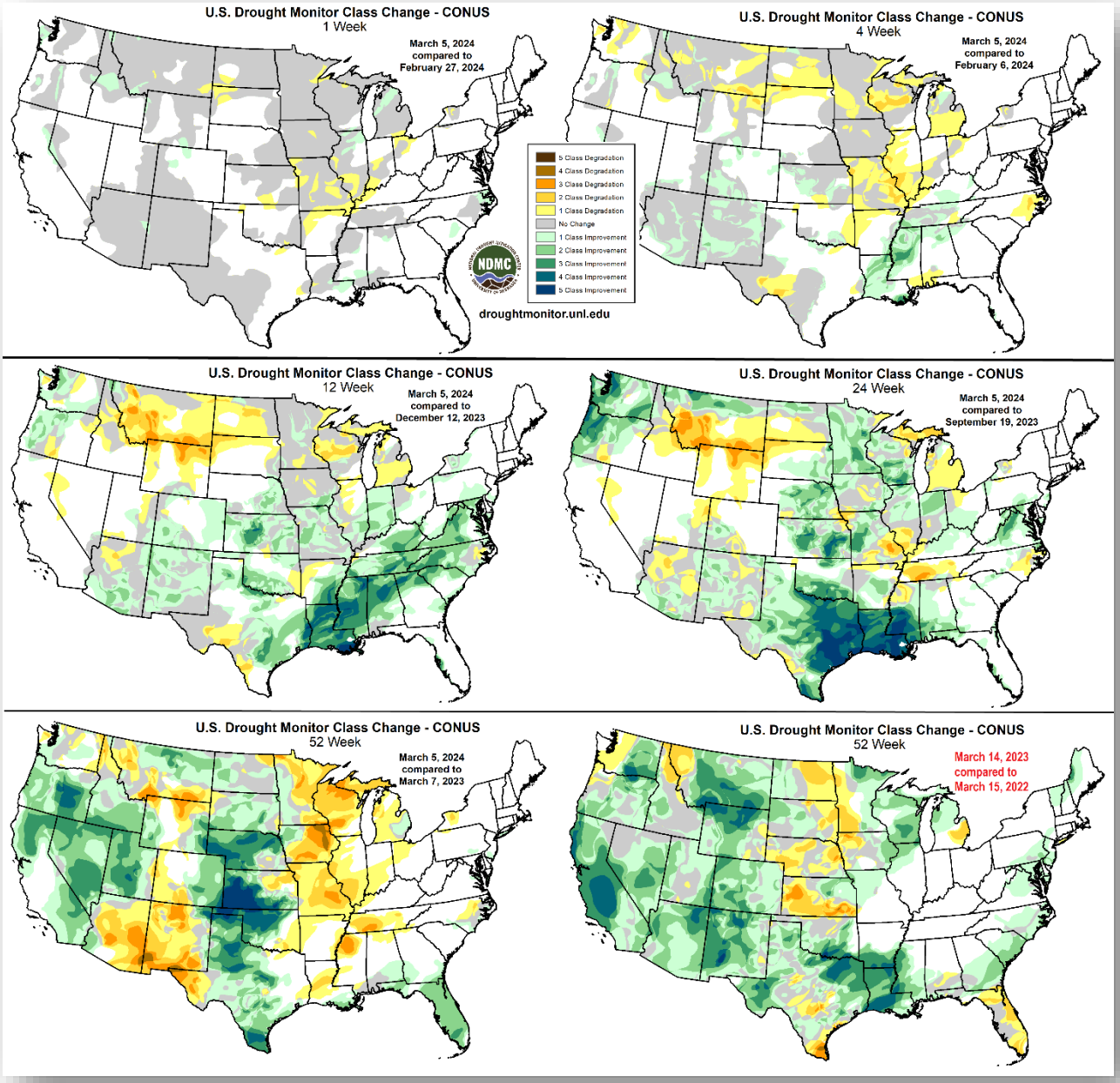


The map to the left here displays the latest seasonal freeze date as based on historical events.

Vegetation may transition into the growing season earlier than normal and fire resources should remain cognizant if these fuels were to experience a freezing event.

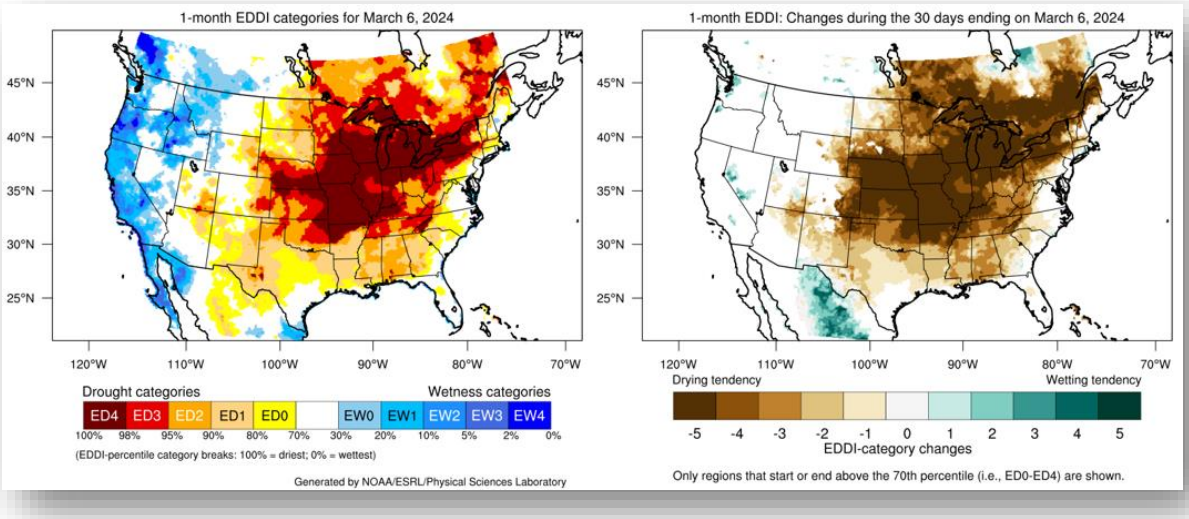
Drought

The National Drought Monitor Class Change at 1 week, 1 month, 6 months, and 1 year, below, shows how drought conditions have surged in severity over the past year. The bottom right map shows drought condition change and improvement from June 2022 to June 2023. Drought conditions in February of 2024 are notably worse than those observed just a year ago. Both the Great Lakes and Big Rivers Compacts have seen noticeable degradation during this time.

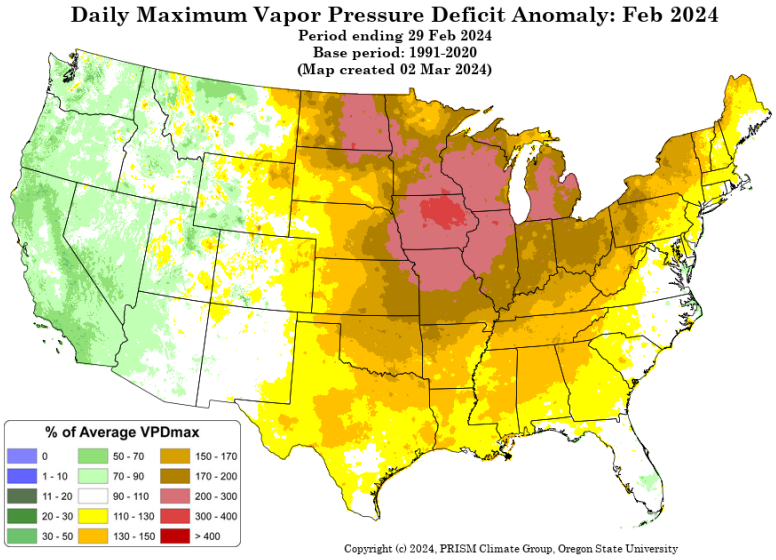


The Evaporative Demand Drought Index (EDDI) displays both drought category and drought change over time. EDDI is another modeled way to look at drought conditions across the GACC. The images below are provided by the NOAA/ESRL Physical Sciences Laboratory, Boulder, Colorado, from their web site at: https://psl.noaa.gov/eddi/.

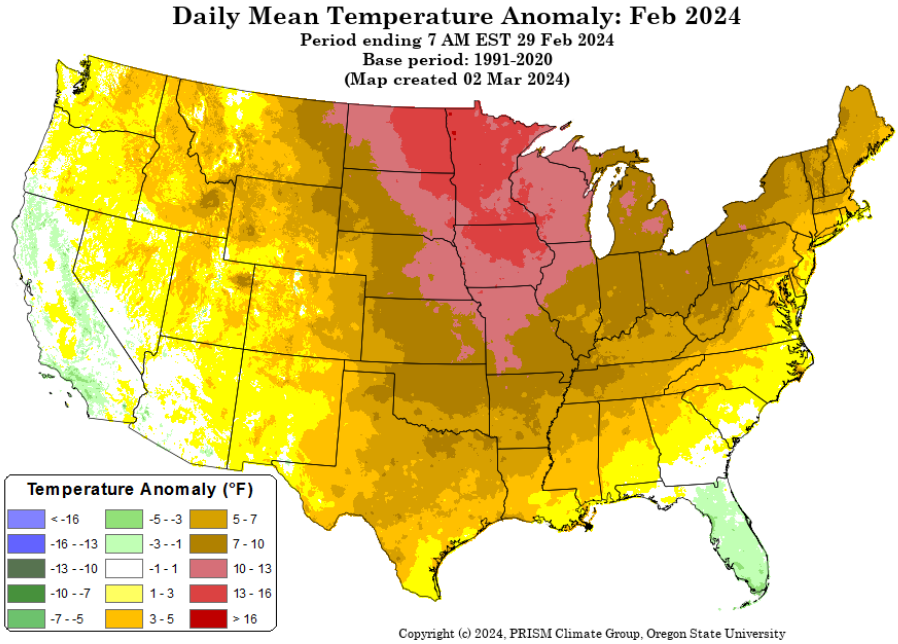
The EDDI models emphasize current drought conditions across the GACC and the context and relationship between these conditions in the Northeastern U.S., and those being experienced to the north in Canada, are striking.



Vapor Pressure Deficit (VPD) measures the difference, in terms of pressure, between the water vapor in the air, and the air's saturation point, which is the maximum amount the air can carry at its current temperature. The point of complete saturation is also called the dew point. VPD is one useful method in which we can assess humidity in the growing environment and allows us to gauge the impact of humidity on plant growth and development. The image to the right is provided by the Parameter-Regressions on Independent Slopes Model (PRISM) and it compares the month of February against historic averages. February experienced elevated VPD and lower relative humidity highs, which in tandem have elevated wildfire danger and risk throughout the GACC.

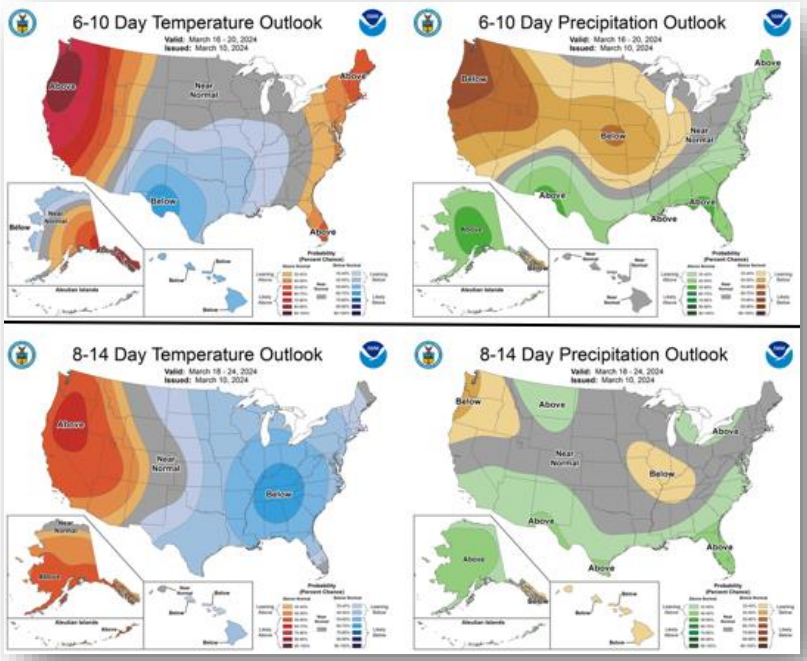


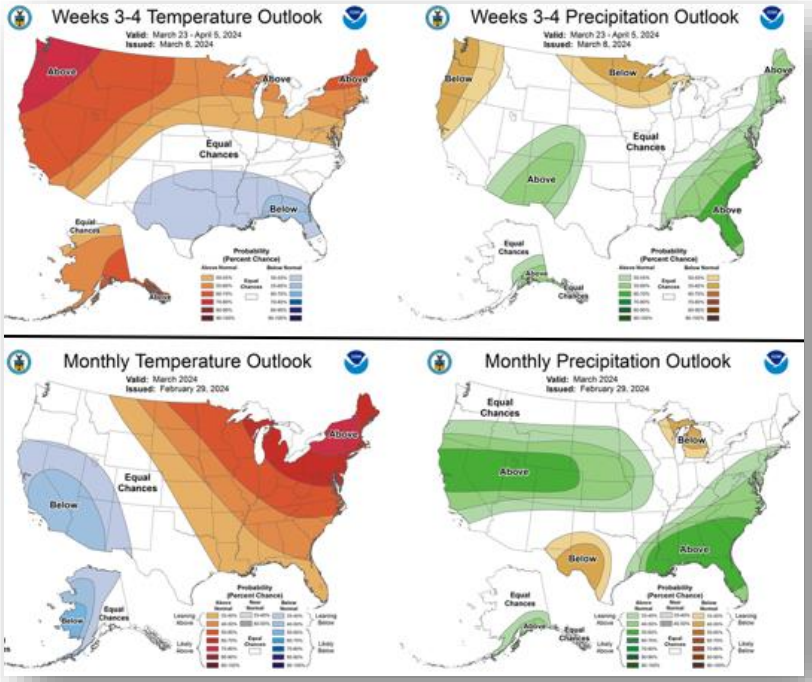
Since December 2023, Daily Mean Temperatures have trended much warmer than average through February throughout the GACC. The PRISM model highlights temperature anomalies consistently ranging between 7 and 16 degrees warmer than normal, when compared to the 1991-2020 dataset. The Great Lake region is stands out, with temperatures peaking out between 10-16 degrees warmer than normal since December of 2023.



PRECIPITATION AND TEMPERATURE OUTLOOK

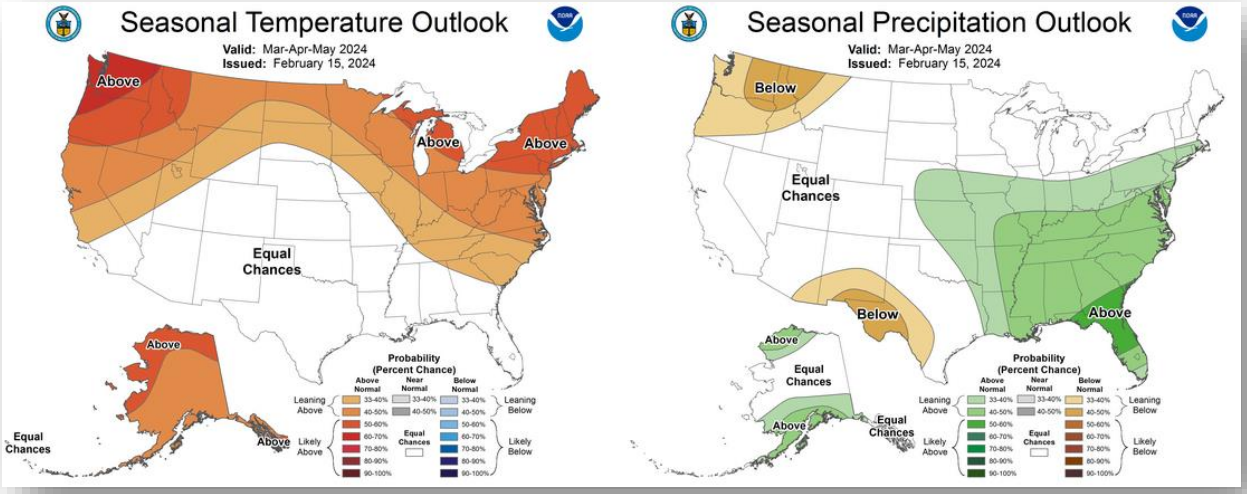
The CPC 6-10 Day Temperature and Precipitation models highlight near normal and leaning above normal precipitation, and high probability of above normal temperatures over this period. This outlook is consistent for the GACC, with some exception along the Mid-Atlantic coast and into the Northeast. Below normal precipitation is expected in these areas.
After the next 10 days, the 8–14 day outlook describes a continuation of these trends, with above normal precipitation probability transitioning in over the Mid-Atlantic coast.





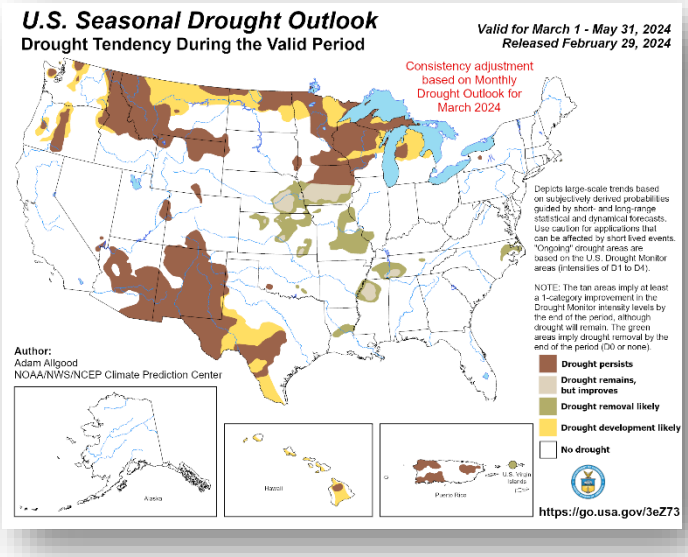
The 3-4 Week Outlooks project a continued warm and dry fire environment across the north central Great Lakes region; alarming is the fact that the bullseye of higher probabilities of hotter and dryer than normal compound drought conditions that are currently at moderate to severe levels. Continued warming and drying in this area will amplify fuels drying, resulting in further fuel availability, and elevating wildfire risk.

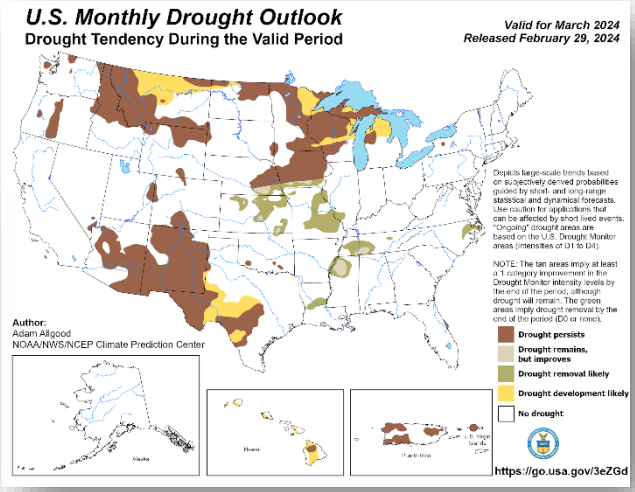
The Three-Month Outlook produced by the CPC offers some increasing chances of above normal precipitation moving into the southern tier of the GACC through May 2024. The remainder of the area observes equal chances of precipitation probability and above normal chances of higher-than-normal temperatures.



Monthly Drought Outlook

Persisting and developing drought is expected to maintain over the Great Lakes and Big Rivers Compacts through March. Some improvement and even removal should occur in Iowa and Missouri during this time.





Projecting drought conditions through May, a continuation of persisting and developing drought is expected. While Missouri and Iowa should see more improvement and removal, Minnesota, Wisconsin, and Michigan continue trending worse in drought severity.

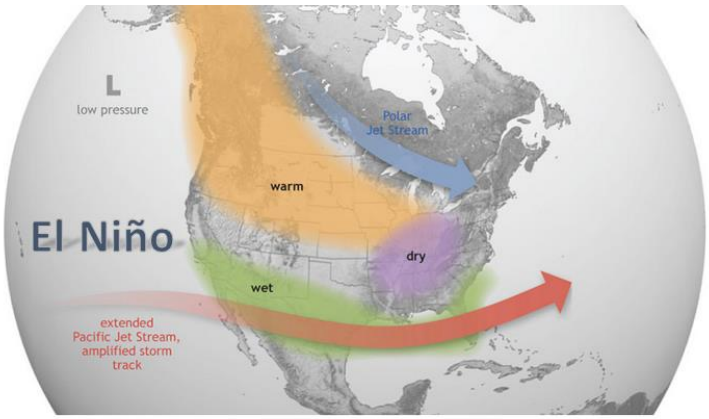
El Nino-Southern Oscillation (ENSO)

The El Niño-Southern Oscillation (ENSO) is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean. On periods ranging from about three to seven years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by anywhere from 1°C to 3°C, compared to normal.

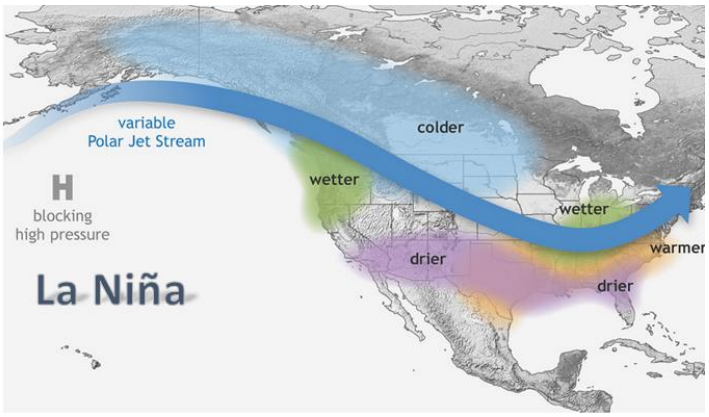
El Niño: A warming of the ocean surface, or above-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean. Over Indonesia, rainfall tends to become reduced while rainfall increases over the central and eastern tropical Pacific Ocean. The low-level surface winds, which normally blow from east to west along the equator ("easterly winds"), instead weaken or, in some cases, start blowing the other direction (from west to east or "westerly winds"). In general, the warmer the ocean temperature anomalies, the stronger the El Niño (and vice-versa).

La Niña: A cooling of the ocean surface, or below-average sea surface temperatures (SST), in the central and eastern tropical Pacific Ocean. Over Indonesia, rainfall tends to increase while rainfall decreases over the central and eastern tropical Pacific Ocean. The normal easterly winds along the equator become even stronger. In general, the cooler the ocean temperature anomalies, the stronger the La Niña (and vice-versa).

Neutral: Neither El Niño or La Niña. Often tropical Pacific SSTs are generally close to average. However, there are some instances when the ocean can look like it is in an El Niño or La Niña state, but the atmosphere is not playing along (or vice versa).



El Niño causes the Pacific jet stream to move south and spread further east. During winter, this leads to wetter conditions than usual in the Southern U.S. and warmer and drier conditions in the North.



La Niña causes the jet stream to move northward and to weaken over the eastern Pacific. During La Niña winters, the South sees warmer and drier conditions than usual. The North and Canada tend to be wetter and colder.

Generally, El Niño has resulted in warmer and dryer conditions across the northern tier of the GACC through the 2023/2024 winter. This is evident with below normal snowpack and above normal temperatures.

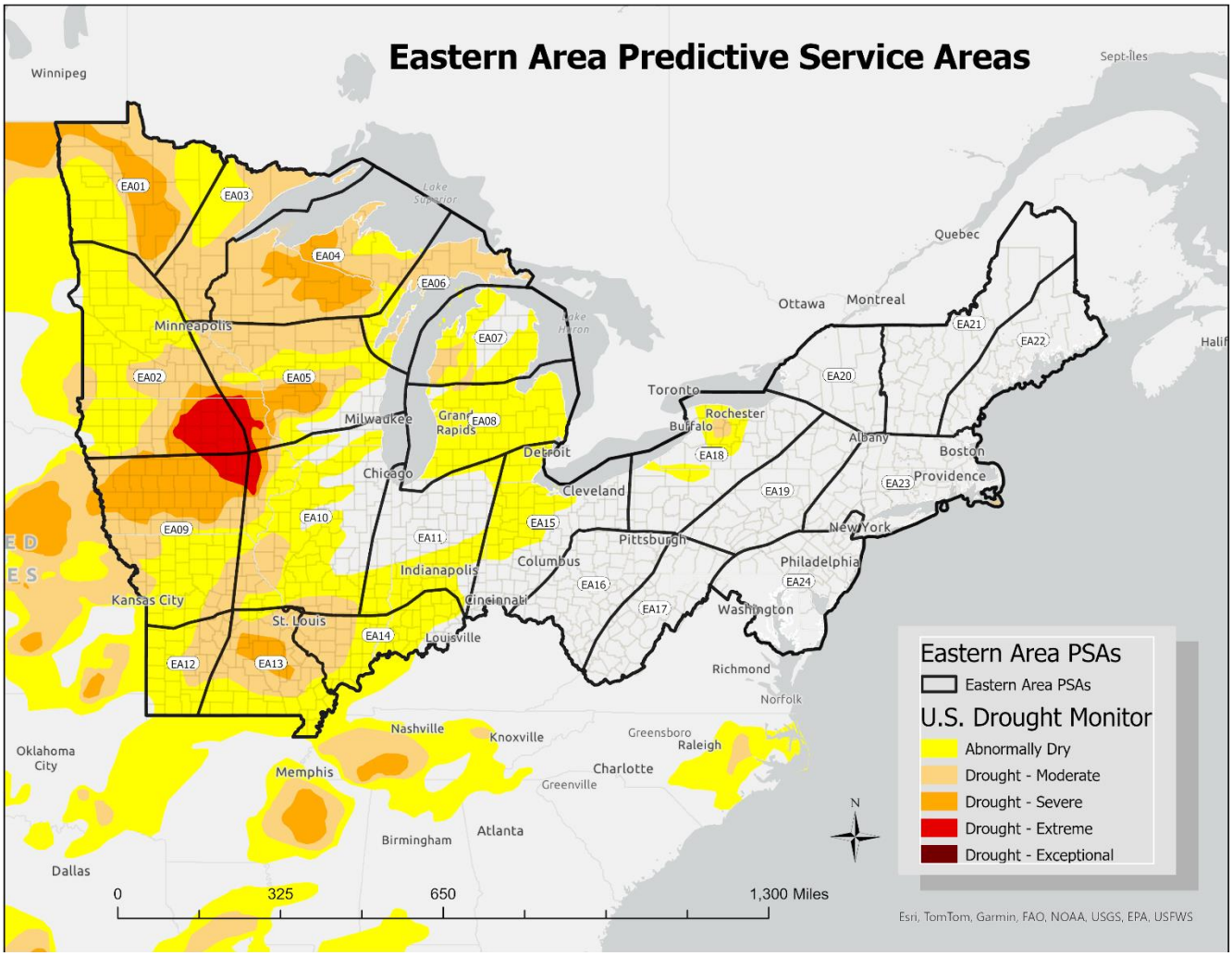
NOAA's March 4th ENSO update projects: a transition from El Niño to ENSO-neutral is likely by April-June 2024 (79% chance), with increasing odds of La Niña developing in June-August 2024 (55% chance).

Ideally, if these transitions come to fruition, the northern tier of the GACC may see a cooler and wetter pattern develop mid-summer.

Fire Danger Conditions

Fire danger indices from both the Canadian Forest Fire Danger Rating System (CFFDRS) and National Fire Danger Rating System (NFDRS) have been reaching historic daily highs. Quantifying fire danger this early in the spring season is challenging because indices are just beginning their trends.

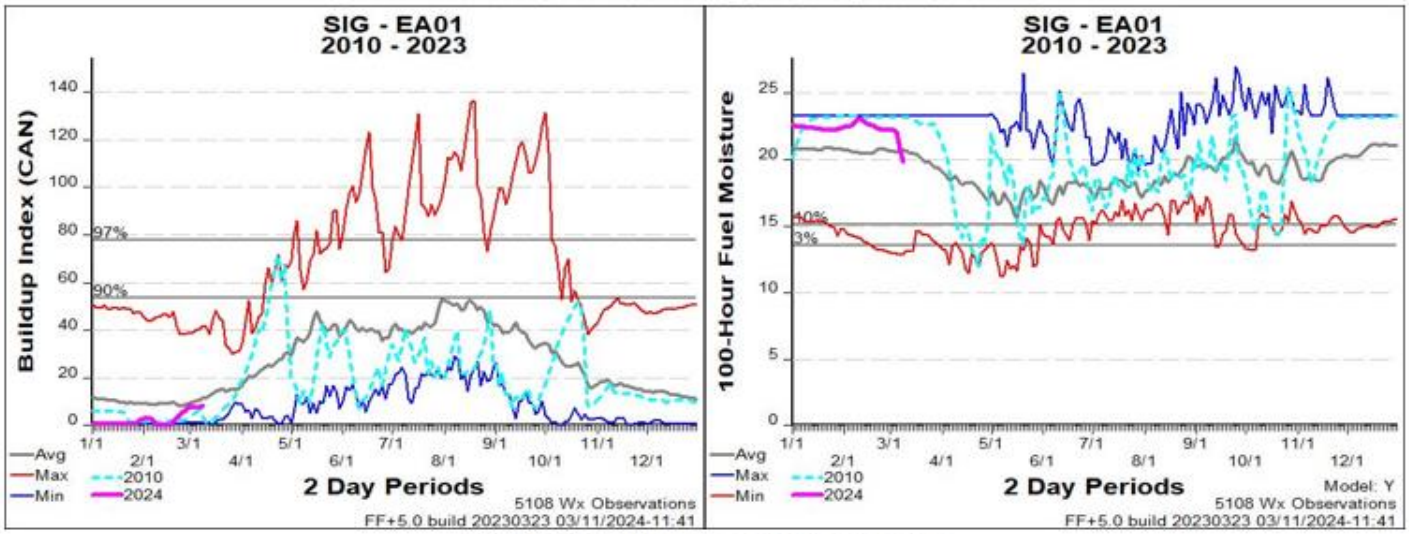
This assessment will highlight fire danger throughout the GACC, by looking indices of both the CFFDRS and NFDRS systems. Predictive Service Area (PSA) climatology will be highlighted, and it should be noted that PSAs differ from Fire Danger Rating Areas (FDRAs) in that PSAs look at only Key Remote Automated Weather Stations (RAWS) while FDRAs include a robust RAWS network. Updated climatology graphs can be found on the Eastern Area Coordination Center Fuels and Fire Danger page under [Predictive Service Area Fire Family Plus Graphs](https://gacc.nifc.gov/eacc/predictive_services/fuels_fire-danger/EA_PSA_Fire_Danger_Graphs.htm) (https://gacc.nifc.gov/eacc/predictive_services/fuels_fire-danger/EA_PSA_Fire_Danger_Graphs.htm)



Values above the 90th percentile are considered critical and represent fire danger that is only experienced less than 10% of the time. Trends above the historic maximum represent 2024 index values that are setting historic highs for that specific date of year. The GACC is just transitioning into a normal spring wildfire season and both NFDRS and CFFDRS indices are just beginning their typical annual ascent.

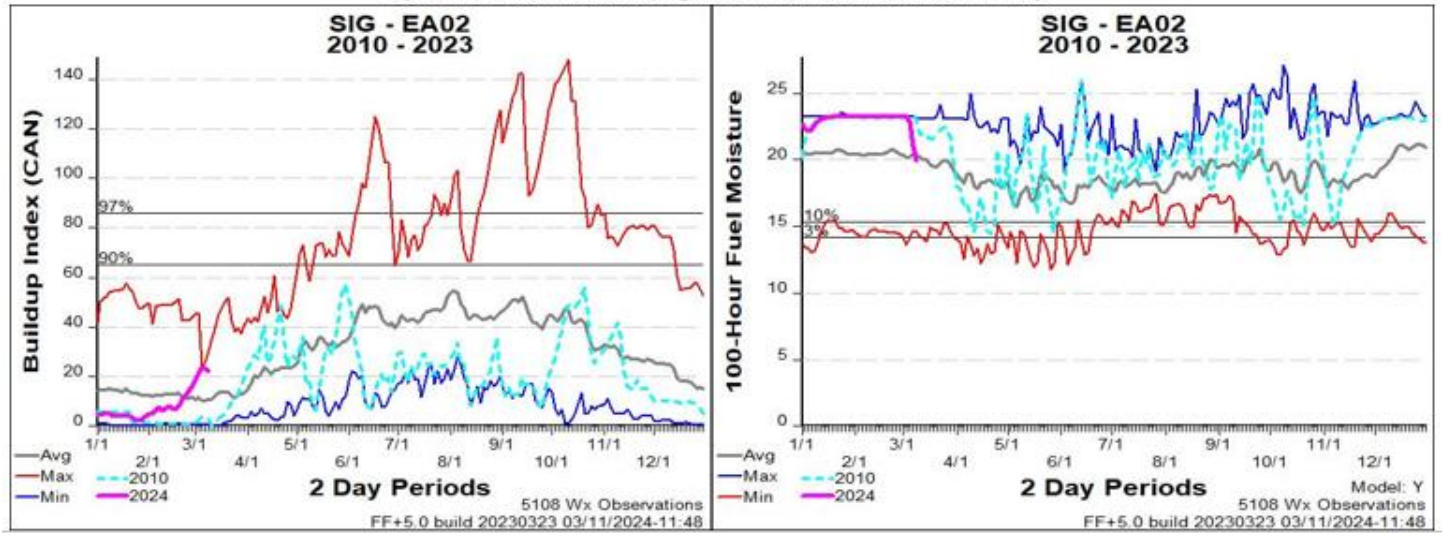
EA01 - Northwestern Minnesota

Key RAWS included: Roseau, Baudette, Little Fork, Agassiz, Bemidji, Badoura, Cass Lake, Brainerd



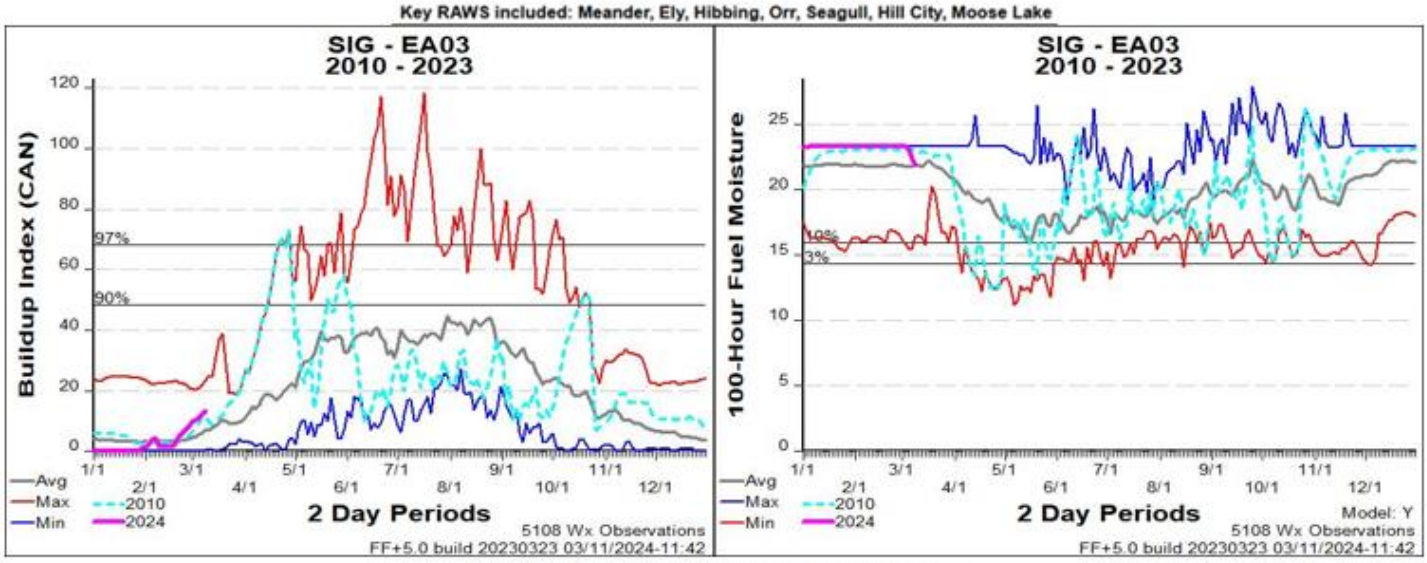
EA02 - Southwestern Minnesota/Northwestern Iowa

Key RAWS included: Neal Smith, Big Stone NWR, Sherburne, Carlos, MN Valley



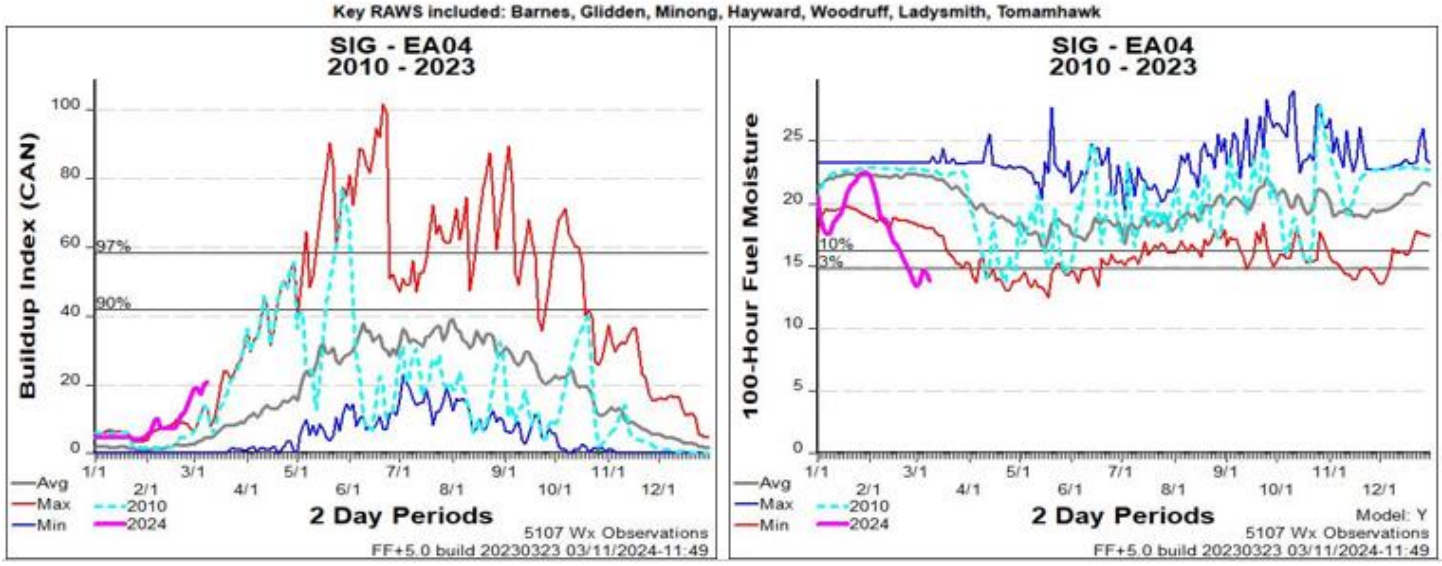
EA03 - Northeastern Minnesota

Key RAWS included: Meander, Ely, Hibbing, Orr, Seagull, Hill City, Moose Lake



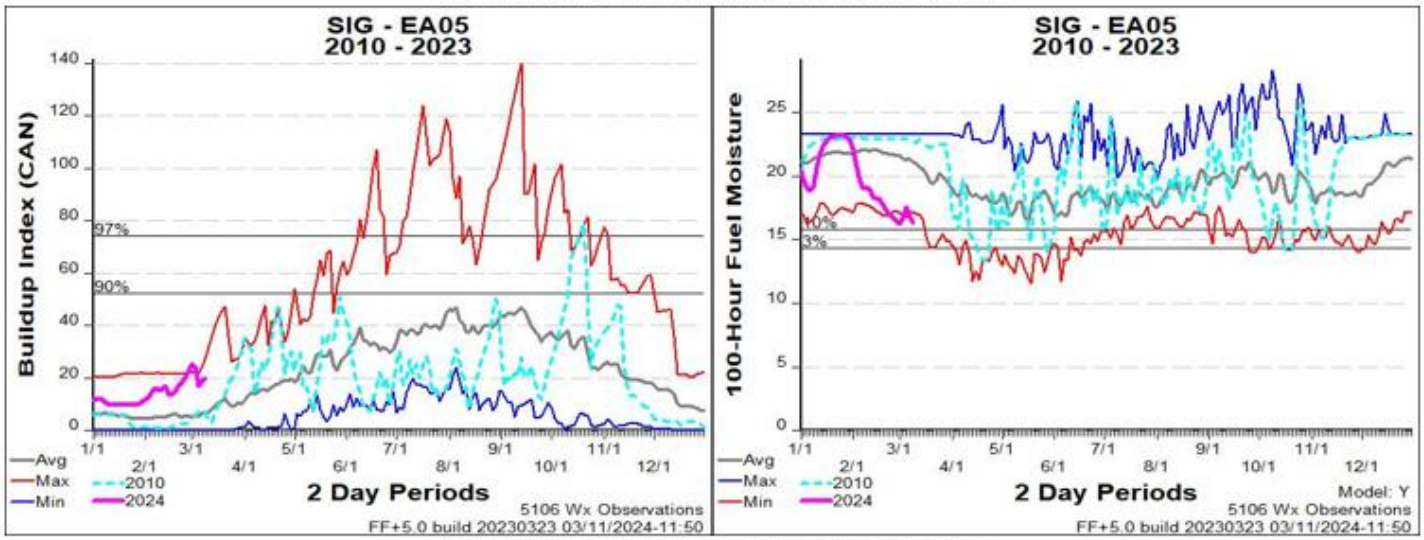
EA04 - Northern Wisconsin/Western UP of Michigan

Key RAWS included: Barnes, Glidden, Minong, Hayward, Woodruff, Ladysmith, Tomamhawk



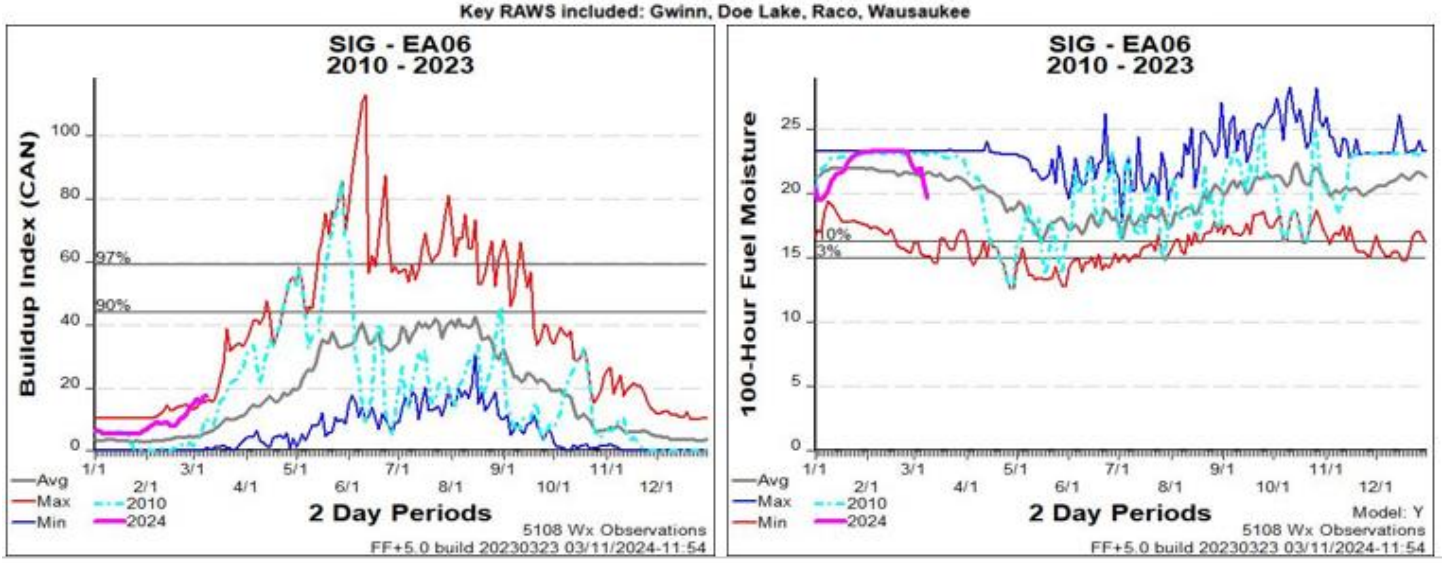
EA05 - Central Wisconsin/Southeastern Minnesota

Key RAWS included: MN Valley, Rome (Saratoga), Black River Falls



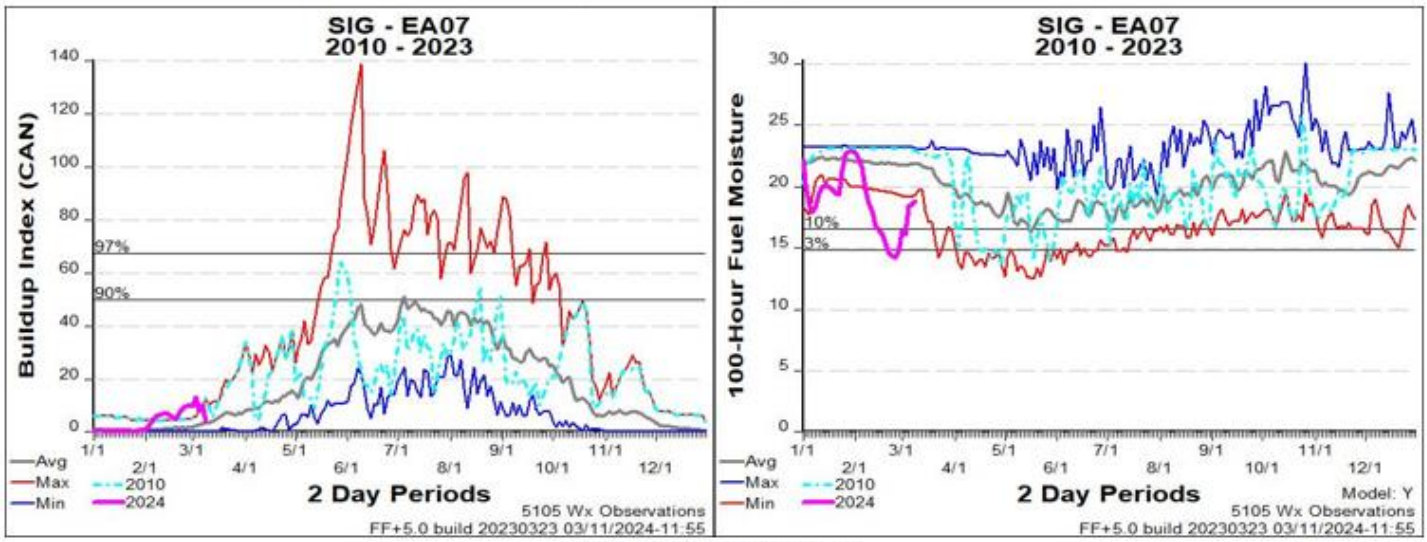
EA06 - Northeast Wisconsin, Eastern UP of Michigan

Key RAWS included: Gwinn, Doe Lake, Raco, Wausaukee



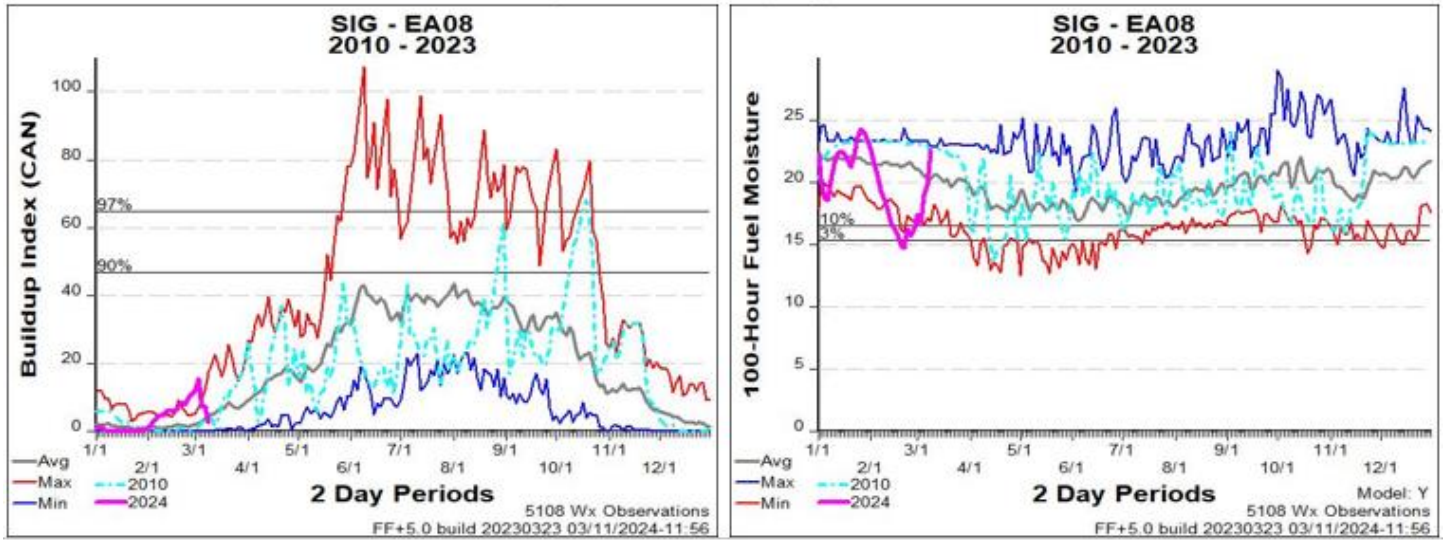
EA07 - Northern LP of Michigan

Key RAWS included: Bear, Mio, Baldwin



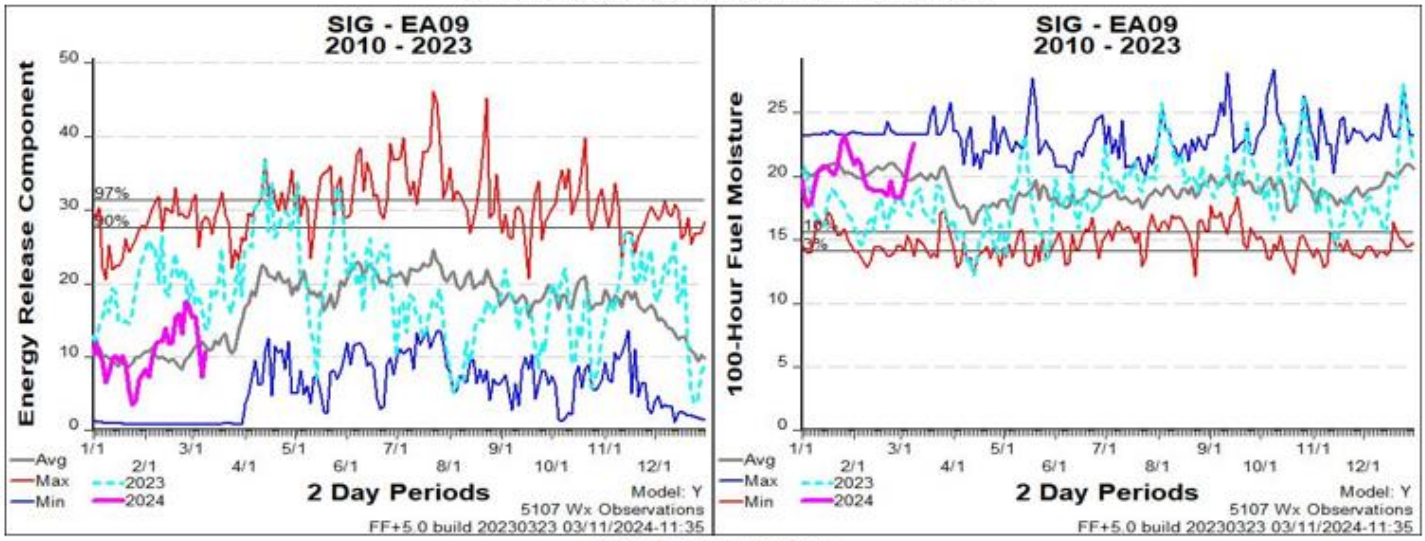
EA08 - Southern LP of Michigan

Key RAWS included: Midewin, Bailly, Baldwin



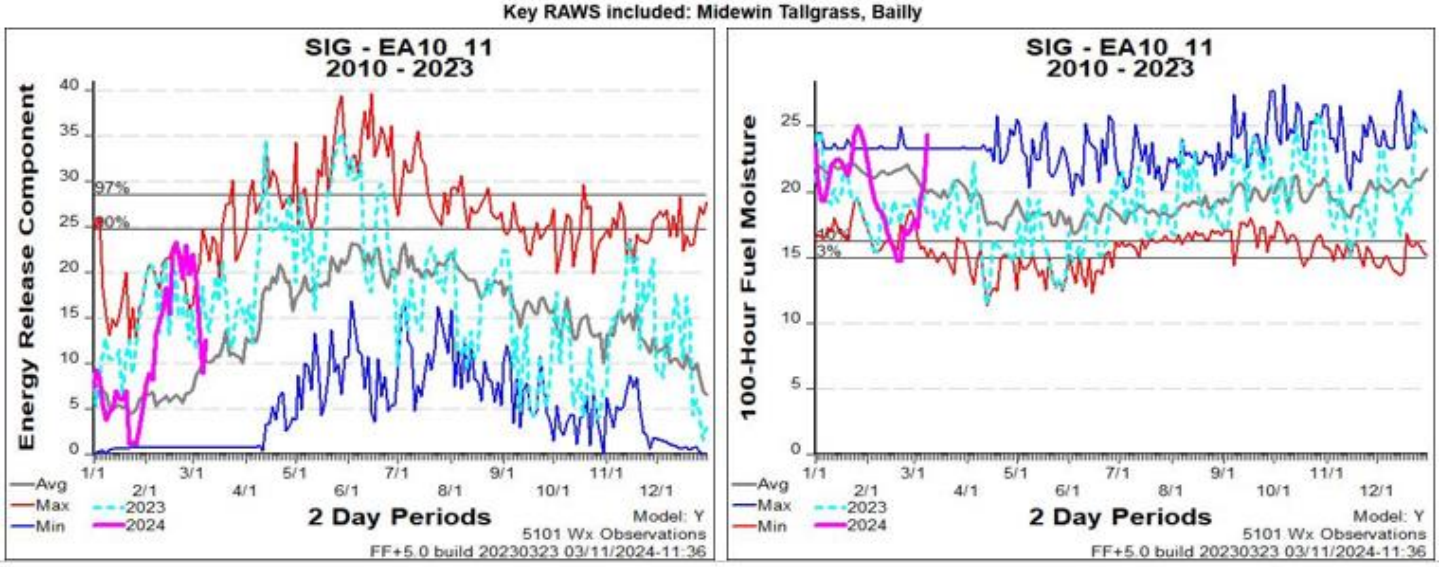
EA09 - Iowa/Northern Missouri

Key RAWS included: Desoto, Neal Smith, Chillicothe, Ashland



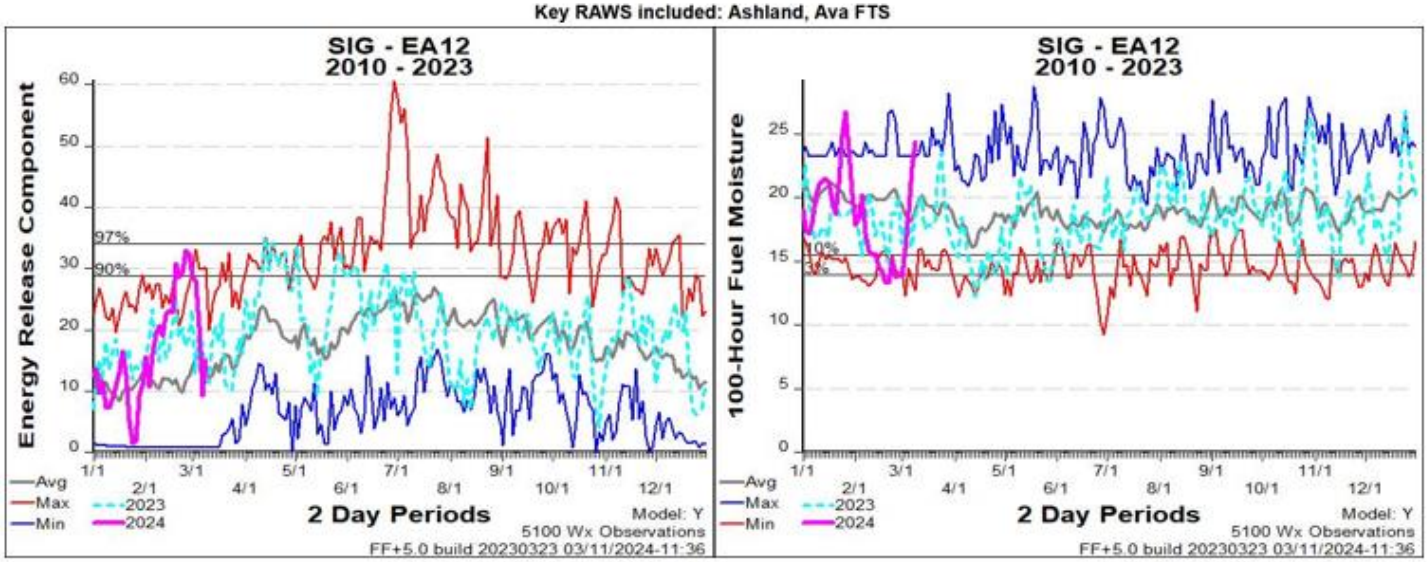
EA11 - Northern Indiana

Key RAWS included: Midewin Tallgrass, Bailly



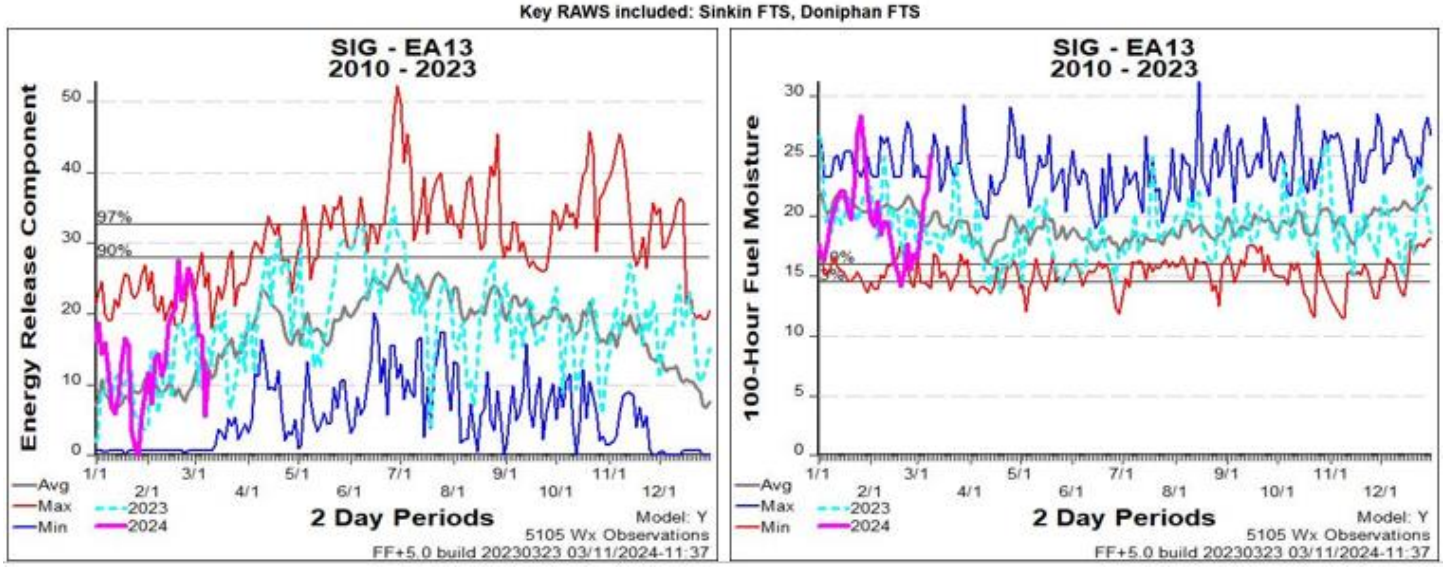
EA12 - Southwestern Missouri

Key RAWS included: Ashland, Ava FTS



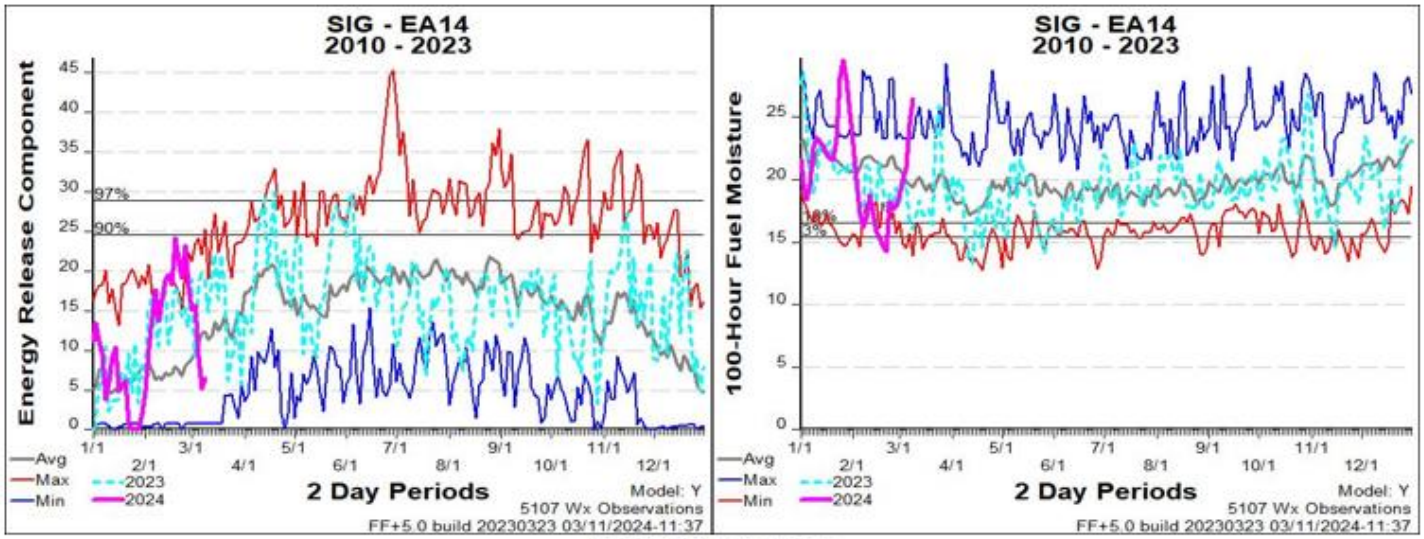
EA13 - Southeastern Missouri

Key RAWS included: Sinkin FTS, Doniphan FTS



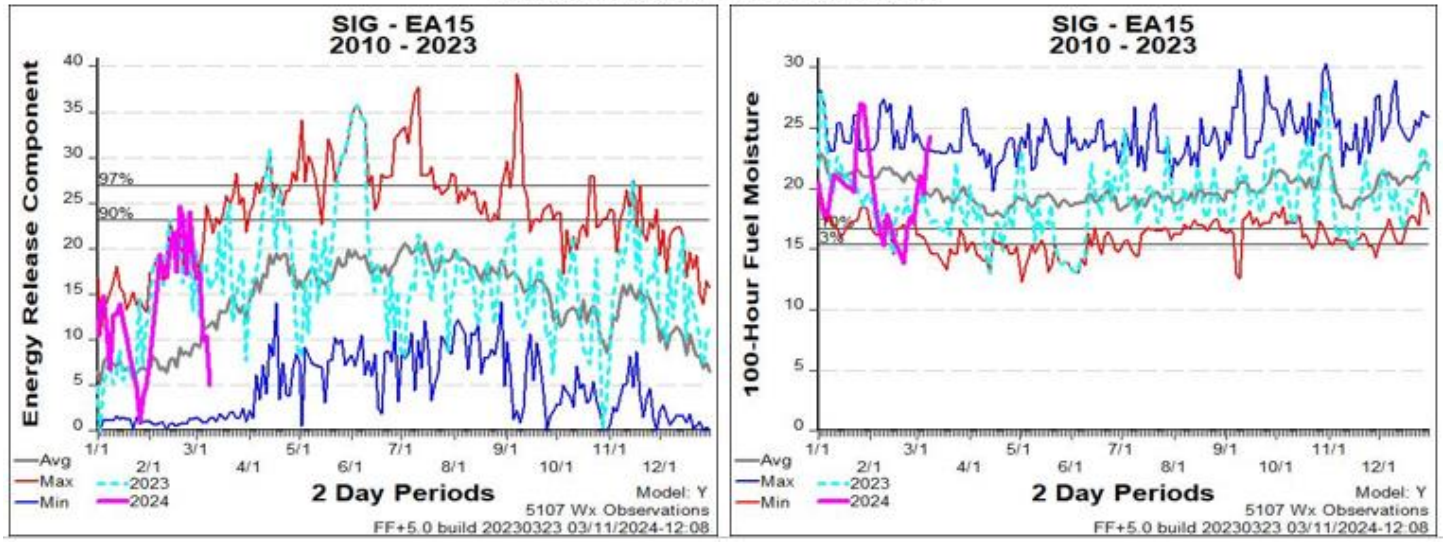
EA14 - Southern Illinois and Indiana

Key RAWS included: Dixon Springs, Hardin Ridge, Tipsaw Lake



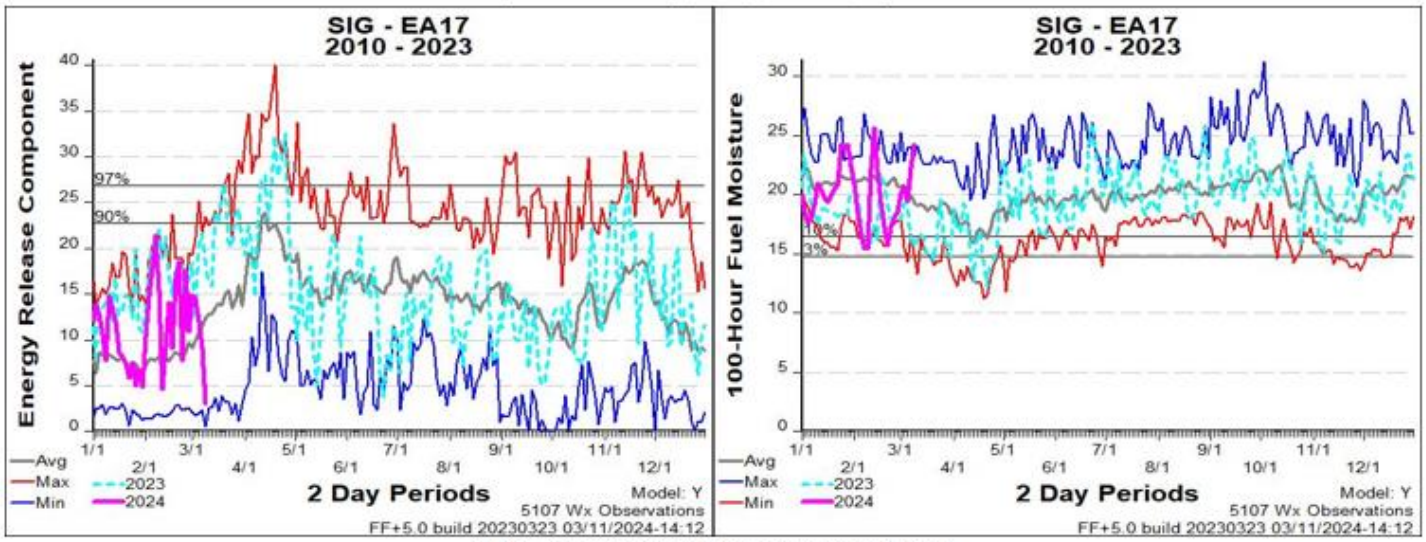
EA15 - Northwestern Ohio

Key RAWS included: Chillicothe and Tomlinson Run



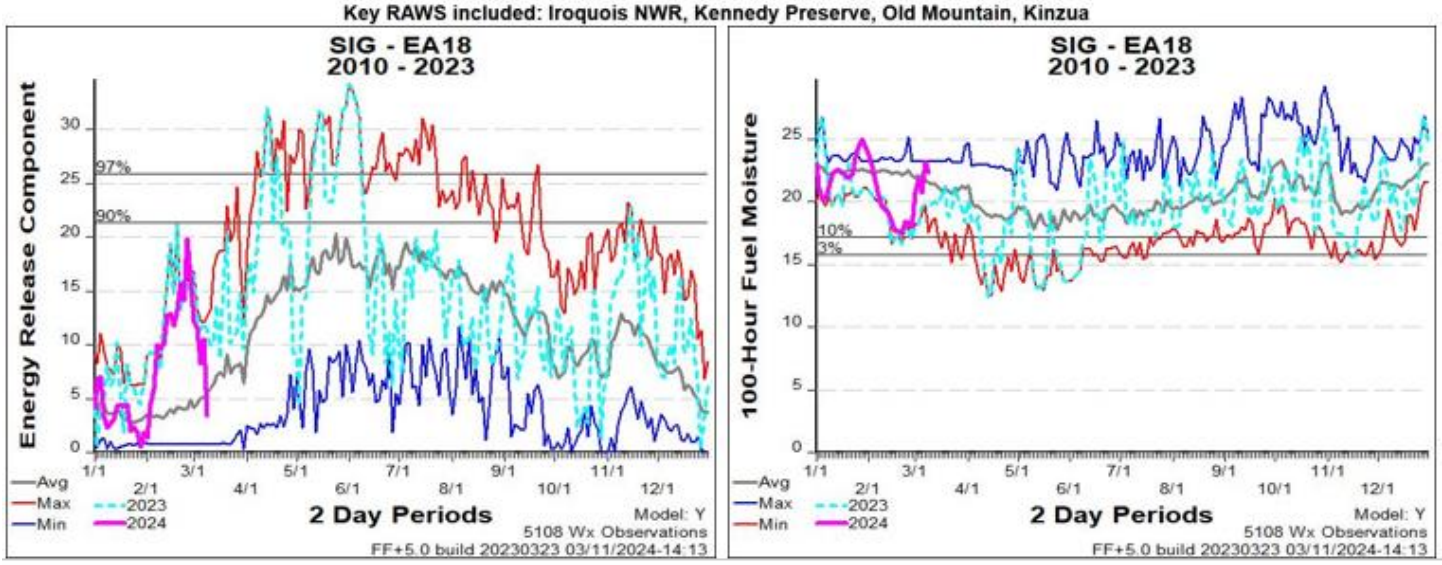
EA17 - Eastern West Virginia

Key RAWS included: Upper Tract, Grand View, Pipestem



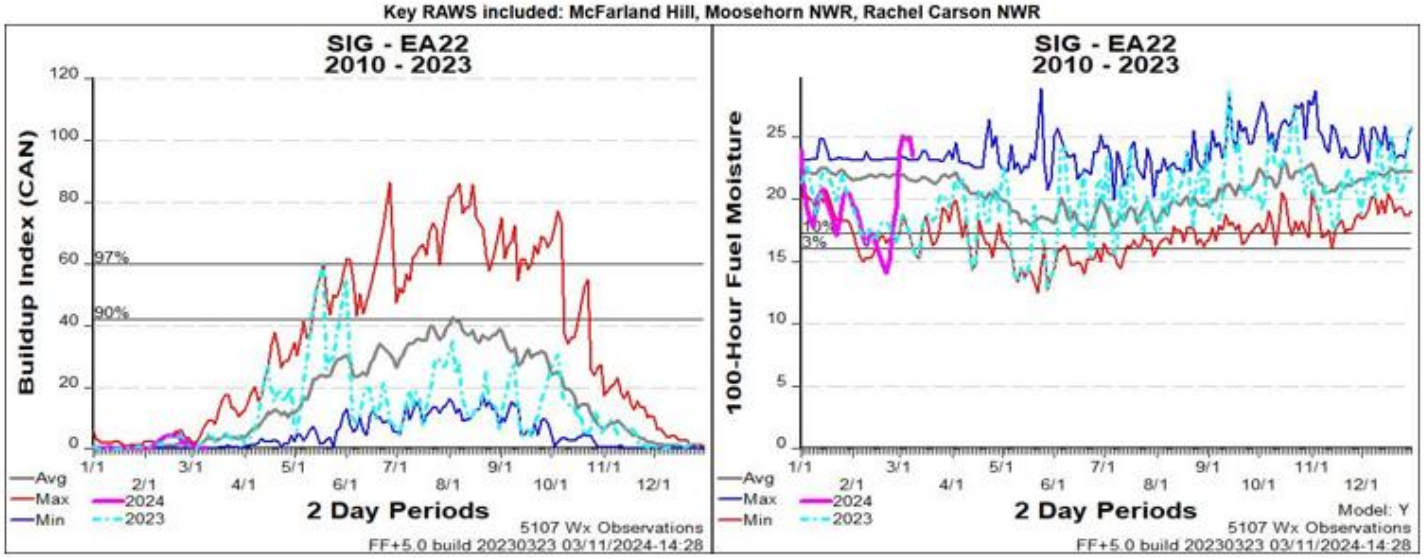
EA18 - NW Pennsylvania, Western New York

Key RAWS included: Iroquois NWR, Kennedy Preserve, Old Mountain, Kinzua



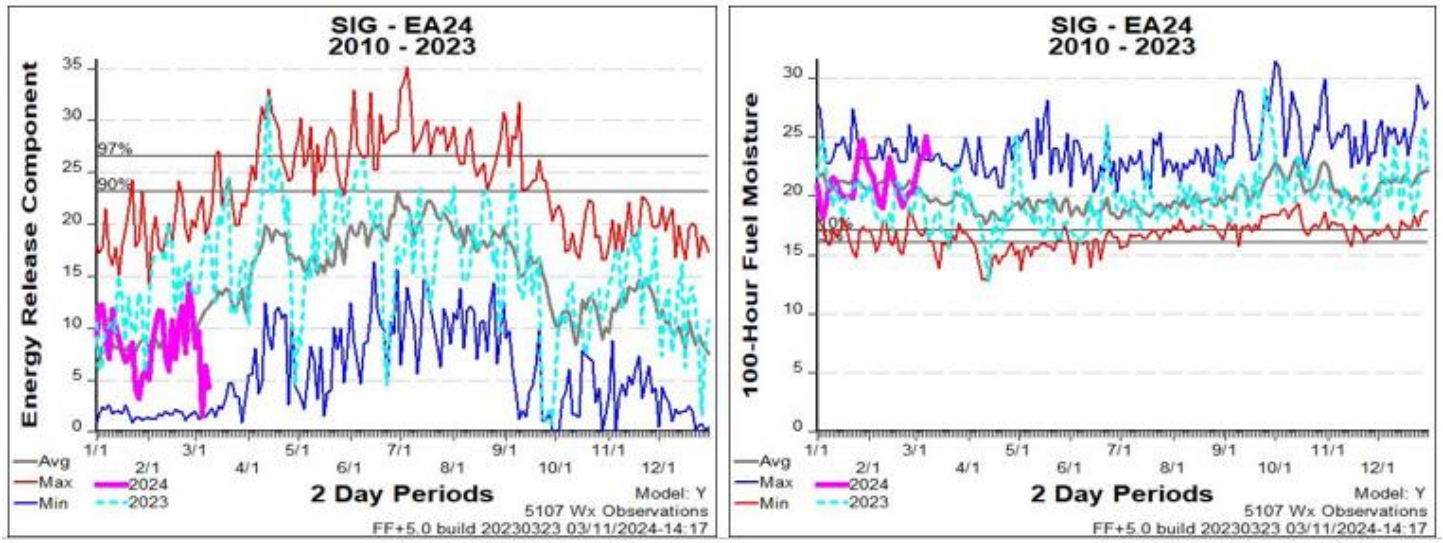
EA22 - Maine, New Hampshire Coast

Key RAWS included: McFarland Hill, Moosehorn NWR, Rachel Carson NWR



EA24 - Southeastern Mid-Atlantic States

Key RAWS included: Green Ridge, Susquehana, Cedarville, Blackwater NWR, Powellville, Woodbine, Jackson, E.B. Forsythe NWR



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Current Manager Observations

Brian Stearns, Forest Fuels Specialist, Huron-Manistee National Forest, 3/1/2024

We are snow off on the southern end of the forest and the rest is close. Inland lake levels still look below average as well as swamps look already drier than normal. The Forest has already had 7 fires in the last 3 weeks. The frost isn't as deep as it normally is this time of year, so we may see soil moisture start to dry out earlier than normal.

Eric Rebitzke, Unit Fire Management Officer, Ottawa and Hiawatha National Forest's, 3/1/2024

Similar conditions to those described on the Huron-Manistee. Pictures below display fuels conditions influencing an early fire in February.

Shelby Majors, Unit Assistant Fire Management Officer, Ottawa and Hiawatha National Forest's, 3/1/2024

Due to the El Nino pattern we stayed above temp and below precip on a whole including several record high temps, warmest months, and lowest snow levels since tracking started in 1973. Lake effect snow was fairly minimal so no real offset there. Lake Ice is at 3% and dropping and majority of the UP is set to see snow off 1 to 1 ½ months ahead of normal from what I see.

Same as Stearns said- we entered that fall still in drought conditions with lakes and wetlands below normal and looking at no significant change in that condition as we come into spring and will likely need to discuss Drought Code (DC) deficit adjustments as GLFF page gets fired up for Spring.

We experienced 1 wildfire (2/25) on FS (South end of Central UP between Stonington Peninsula and Nahma Point) for 2 acres. Across much of the UP we saw snow off for nearly all West and South Aspects starting 2 weeks ago. Looking at starting broadcast burning opportunities as early as next week and realistically have already had a few windows starting last week on the South end of Central UP and East of.
We did pull needle moisture for Stonington Peninsula and had Jack Pine at 108% and Red Pine at 109%. Not sure how that plays out historically as we have not tracked this early in the season.

Eric Martin, Forest Fire Suppression Specialist, Wisconsin Department of Natural Resources, 3/1/2024

In WI we are up to about 90 fires YTD and fuels are available statewide. This is extremely early for all of the state and we continue to experience severe drought conditions in several portions of the landscape and we are seeing those effects in our heavier fuels with mop up. Due to historic lack of snowfall our fine fuels are not compacted and are standing up readily which presents increased fire behavior concerns as compared to most years. Looking at our extended/long term forecasts we are looking to be warmer than normal, of course timely rains can temper concerns but we're gearing up for a prolonged spring season. We staffed all summer and into winter due to our drought conditions and fire occurrence; looking forward, starting several weeks early will pose several challenges and we're posturing for those.

James Barnier, State Fire Supervisor, Wisconsin Department of Natural Resources , 3/1/2024

Wisconsin DNR had 53 fires for 76 acres in the past week. Most of our fires have been in light fuels, wind driven mostly in open areas. Forested fires are challenging to suppress do to heavier fuels igniting requiring more extensive mopup due to the drought conditions across most of Wisconsin.

Mary Whitenack, Fire Management Officer, Great Lakes Fire Management Zone National Park Service, 3/4/2024

This year reminds me of 2012.

I do not believe in my 20+ years here we have ever been able to complete a broadcast burn in February, this year we did. We normally start at the earliest around St. Patrick's Day, or the week after. We are having April consumption on our burns. We have 3 of our 4 prescribed burns complete for the year already.

We had 1000 hrs consuming in our prescribed burns, our water levels seem to be lower in our wetlands so our cattails, frags and grasses are ripping, we are having full consumption in our timber litter, not a lot of mosaics.

We had minimal snow this winter (in all my parks), not much spring rain so far. Over the weekend we had RH's in the low 30's, and yesterday at 5pm our weather station was reading temps in the 70s, RHs in the 30's and eye level winds around 11mph. I have been watching Steve Marien's 3-month forecasts and our weather seems to be trending that way. Drier and warmer.

I talked to the superintendent at Pictured Rocks in January and they had zero snow and he said normally that time of year they have 5'.

Sleeping Bear Dunes NL and Pictured Rocks spent most of last summer in severity and if things continue to trend how they are, we will be there again, possibly St. Croix Riverway in WI as well (it's just such a skinny park along the river it sometimes acts differently than expected and we don't get the higher fire danger).

Shawn Kelley, Fire Ecologist, Midwest Region Bureau of Indian Affairs, 3/4/2024

Some observations from southern Minnesota. We're tallying around 15 total inches of snowfall for this winter and normally we're at about 50 inches of snow on a typical year, for the twin cities anyway. We haven't had snow cover for weeks besides a brief dusting from the last precipitation event and that melted within a day or two. All grassland fuels are vertically arranged due to the lack of snowpack and are receptive to fire. Most lake levels and wetland basins I've see are down, in some cases by several feet showing the effects of on-going drought. There was a fire in Waseca, MN yesterday - about an hour south of the cities - that burned over 1,000 acres and from what I could see most of fuels involved were in an emergent marsh. The black smoke column indicated hybrid cattail, phragmites, or both, as the primary driver of fire spread. I would argue there isn't a representative grassland fuel model of these wetland species due to their invasive nature and how they dominate wetland basins. In a typical precipitation year or on the wetter side, these fuels may not be available for consumption because the basins are full from snowmelt. Regardless, these fuels are all available for consumption and can really challenge suppression resources because of the fireline intensity and lack of equipment that can traverse the lowland terrain.

Jeremy Kolaks, Fire Management Specialist, Hoosier National Forest, 3/4/2024

Though not dry, the Hoosier has been warm. Most lingering drought occurring last fall has been wiped from the maps. Regular shots of moisture have kept fuels in a good place but record setting, or near record setting high

temperatures and high “low” temperatures have drying occurring at rates not seen for some time. Objectives are being met on prescribed burns with about half of the anticipated drying time when compared to “normal” years. Buds are already starting to swell with some red maples already breaking leading us to believe that evapotranspiration demand is contributing to quickened drying of the soil surface and leaf litter. Early green-up is anticipated.

Scott Crist, Fire Management Officer, Shawnee National Forest, 3/4/2024

It has been drier than normal, and we have seen an uptick in wildfires and in size of those fires. In the last two weeks of February we had two fires in hardwoods that got over 50 acres, and assisted VFDs with a few more of similar size. We expect more grass fires that time of year, and timber fires usually don’t get as big.

Fire behavior hasn’t been off the charts or anything but is clearly surprising people given the number of escaped pvt controlled burns and brush piles we’ve gone to. On our fires I’ve noticed more duff involved in mop up than normal and heavy fuels igniting easier and more burning to ash than you would think with a KBDI less than 100 (and less than 50 much of this time period). Our 1000 hour fuels are reportedly around 19-20%, which is believable, at least according to my mental calibration from before V4. It also seems like the litter bed is drying quicker than normal after we do get rain. I attribute this to getting very light shots of moisture when we get them, warmer than average temps, and long term dryness allowing moisture to soak in deeper/quicker, even though the metrics don’t really shout out “long term dryness.” All that being said, this feels more like an “above average” early spring rather than anything record setting.

Grass has greened up considerably in the last 10 days, and pear and peach trees are blooming. Red maples were seen flowering by 2/21, and even oaks are flowering in some places. So yeah, early green up is happening. I estimate we’re about 3-4 weeks ahead of “normal,” whatever that is.

Brian Jenkins, Fire & Fuels Specialist, Chippewa & Superior National Forests

For the Chippewa and Superior most of the two forests are snow free at this time, which is well ahead of schedule. At this point we have not yet started picking up fires, but the local DNR offices have been starting to see an uptick in initial attacks. A couple of their a bit that were located in the southern and western part of the state burnt over 1000 acres over the weekend in light flashy fuels. If conditions on the forest remain the same, I would expect us to have a busier and longer spring season than average.

Bennie Terrell, Forest Fuels Specialist, Mark Twain National Forest

For Missouri,
Some parts are slowly starting to recover from the winter drought, but there are lingering effects on the duff moistures and 1000hr fuels. The effects on the duff and 1000hr will affect containment of fires. On the positive side, the precipitation that we have received since the beginning of the year has moderated the long term drought. Until full green up and average historical precipitation events occur, we will continue to have wildfires. On elevated fire weather day (hot,dry,windy), you can expect multiples starts and larger extended attack fires.

Joseph Parr, Forestry Technician, Midewin Natlional Tallgrass Prairie

NE Illinois is NE Indiana had a dry limited snow/moisture winter. We briefly where hitting historic lows for 1000hr fuels in Feb, but have since recovered slightly to near normal. Greenup is setting in roughly 3 weeks ahead of schedule with grass and forbs just emerging and brush in early stages of budding. Last week the area seen a uptick in wildfire with burns displaying seasonably uncharacteristic fire behavior with long residence time and 100 and 1000hr fuels being available. That said we expect if thing trend dry again next week to area will likely see above normal activity through the month of April into May. Lastly though the area is only considered "abnormally dry" in spots the whole area is still displaying drought signs with very low water levels and observed drier soil moistures.

Paul Clement, Engine Foreman, Allegheny National Forest

Current situation on the Allegheny….Like many locations we came out of winter a little earlier this year. February is usually an ample snow month, but this year it was not. That said, we don't rely on snow for our moisture, we get plenty of rain which keeps us stable. Springs usually brings measurable precipitation once a week. But if we go 2 weeks without a rain event, our indices react accordingly. We utilize KBDI's for long-term moisture trends. We'll only get excited when we near 200 and we are still single digits right now. It sounds obvious, but the two things that have had the most significant impacts to our wildfire risk, both in severity and intensity, have been Red Flag conditions and drought watch conditions. In 3 of the last 5 years that I've been here, we have had a new "largest fire on forest" That anyone could recall. They were all on Red Flag days. 2020 was a drought watch summer which led into a fall (KBDI 400) environment, that made suppression actions far more difficult than usual.
No fires on forest in 2024, but the adject counties have had 2 new starts in the last week (debris burning). Nothing above normal currently.

Summary: Earlier spring than usual and anticipate an active spring fire season. Fuels and indices are currently normal but our main WF/RX season is mid-April to late May.

Wildfire Risk Assessment Team

Special thanks to the collaboration and support of the Eastern Area Fire Environment Working Team

Eastern Area Fire Environment Working Team

Karyn M Lothrop - Karyn.Lothrop@mass.gov
Bennie Terrell - bennie.terrell@usda.gov
Scott Crist - scott.w.crist@usda.gov
Jeremy Kolaks - Jeremy.kolaks@usda.gov
Travis Verdegan - travis.verdegan@state.mn.us
Eric Martin - eric.martin@wisconsin.gov
Keith Murphy - murphyk1@michigan.gov
Brian Pfister - bpfister@pa.gov
Shawn Kelley - shawn.kelley@bia.gov
John Norton Jensen - jnortonjensen@blm.gov
Jared Culbertson - jared_culbertson@fws.gov
Michael Pagoaga - michael_pagoaga@fws.gov
Sasha Ernst - sasha_ernst@nps.gov
Erin Yeoman - erin_yeoman@nps.gov
Allan Hepworth - allan.hepworth@usda.gov

EACG Liaison

Brendan Neylon - brendan.p.neylon@usda.gov

EACG Meteorologist

Stephen Marien - smarien@nps.gov