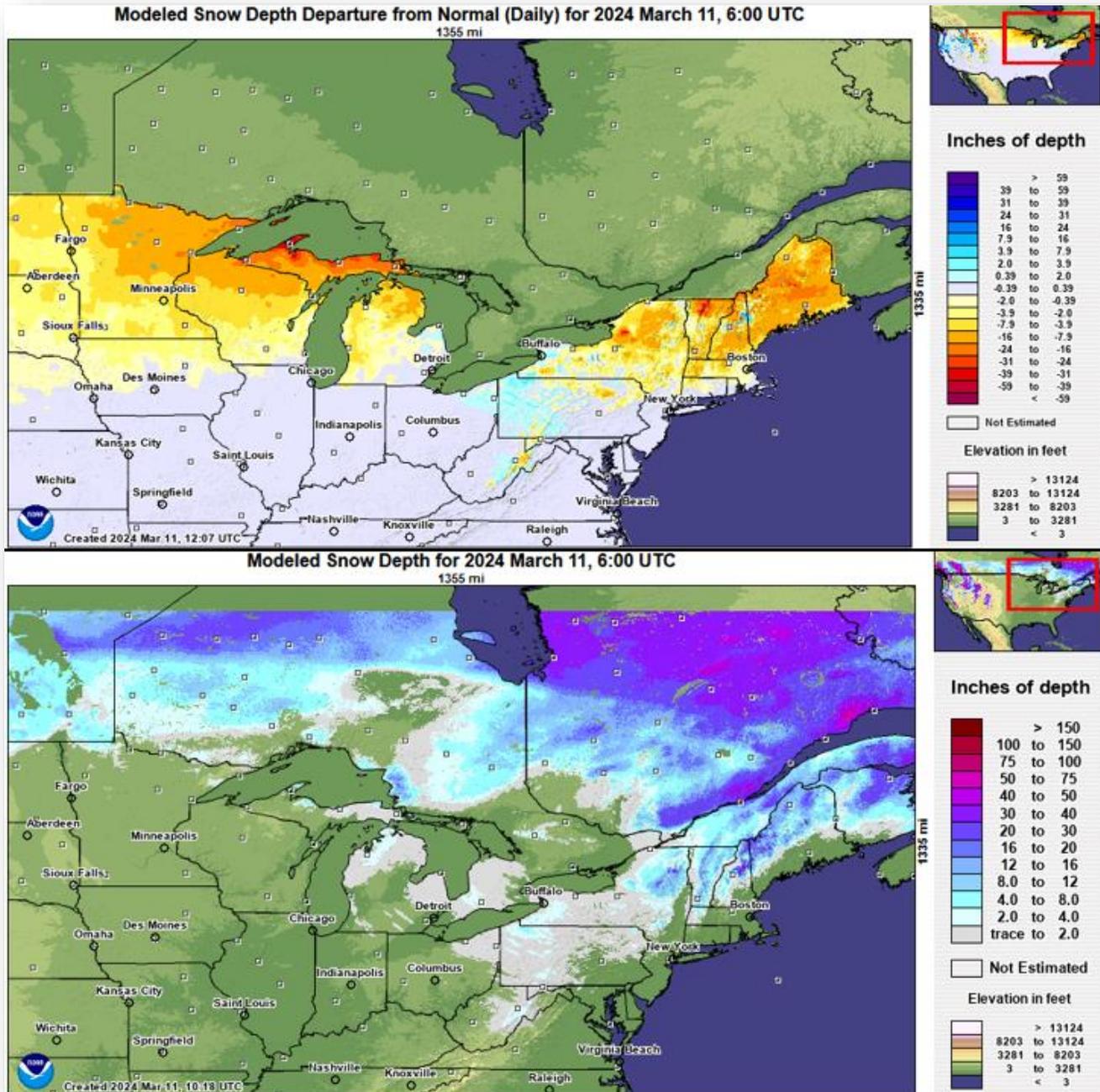


# Eastern Area Spring Wildfire Risk Rapid Assessment March-April 2024



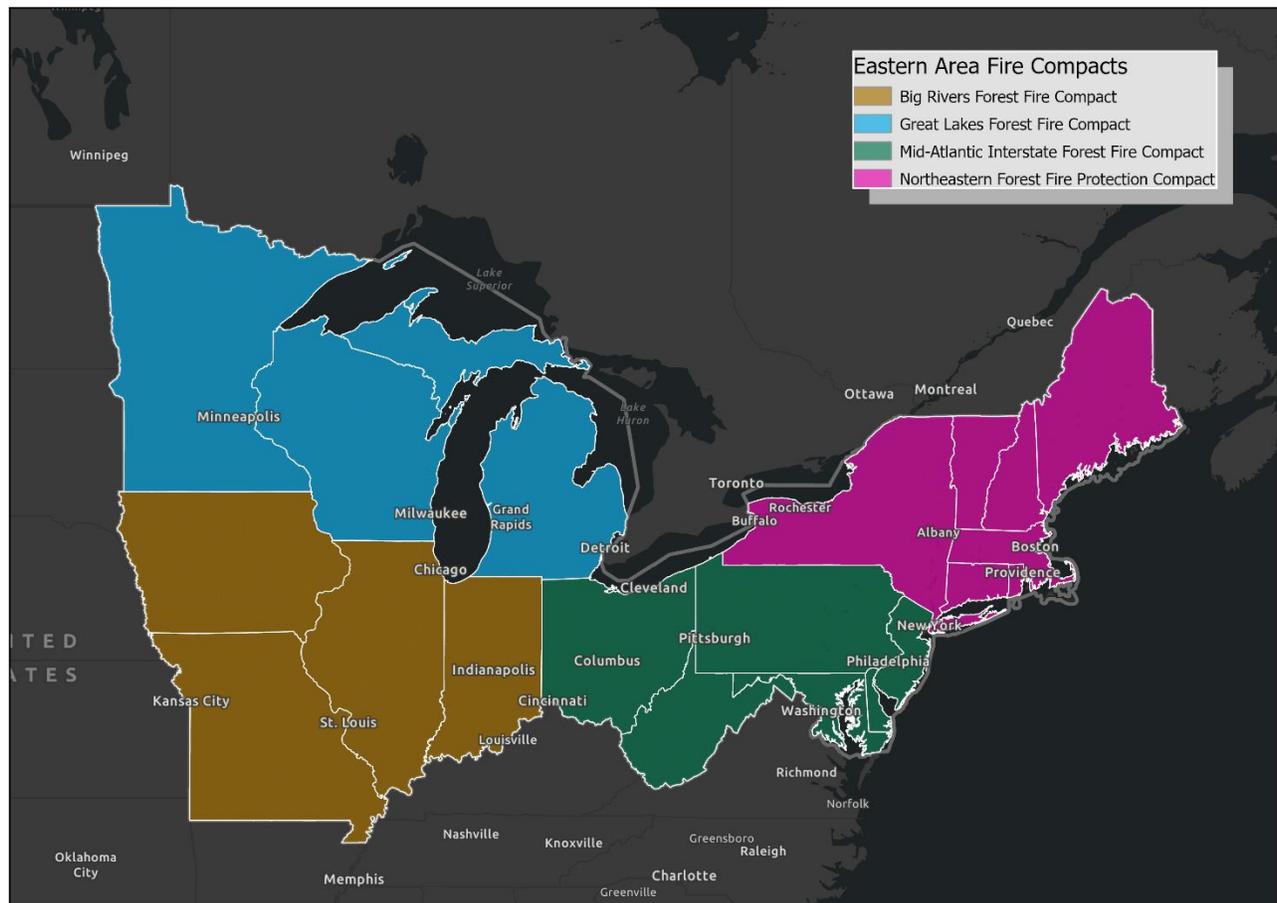
## Part A. Executive Summary

In response to a 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 spring's fire environment. Drought conditions are being further exacerbated by far below normal snowpack throughout most of 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.