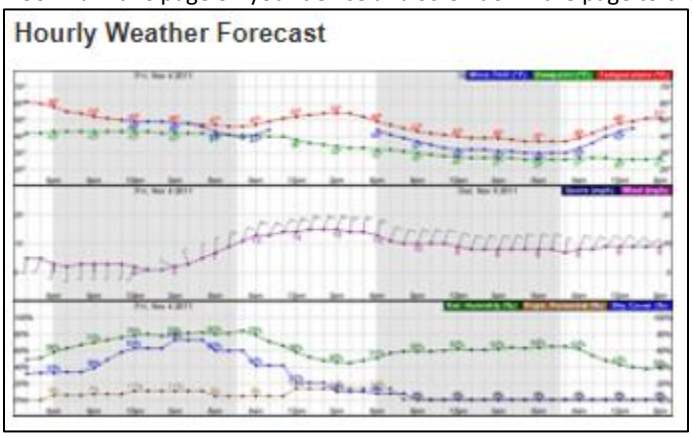
PRESCRIBED FIRE WEATHER INFO USER'S GUIDE

The following online resources have been known to be useful for interpreting weather forecasts leading up to and following the use of prescribed fire. This is not an inclusive list. Please share helpful resources with brief instructions with the Missouri Prescribed Fire Council at moprescribedfire@gmail.com

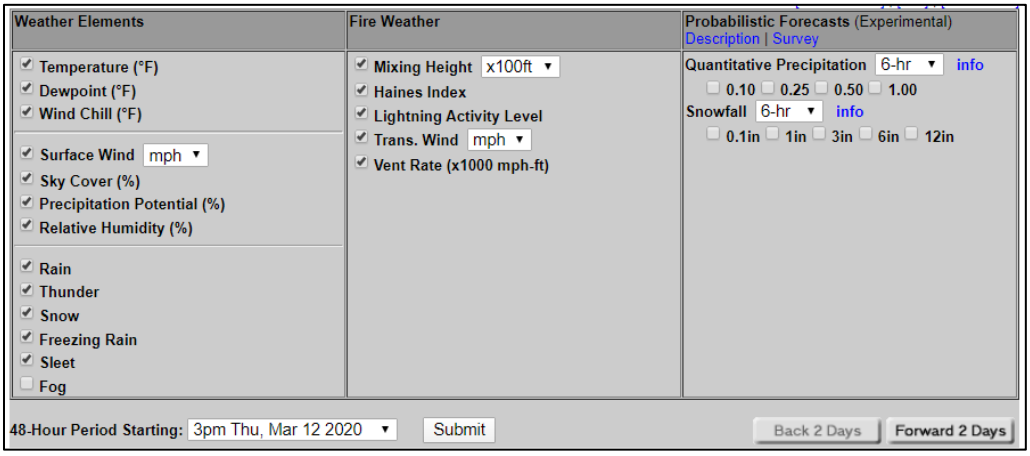
National Weather Service Hourly Weather Forecast (6 day window)

1. NOAA home page - **weather.gov**
   Type in "City, State" or Zip Code, click ***Go***, which takes you to the 7-day forecast. You can also point & click on map.

2. Bookmark this page on your device and scroll down the page to click the ***Hourly Weather Forecast*** graph.

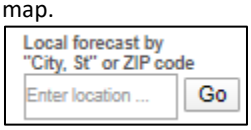


3. **NOAA Hourly Weather Forecast Graph.** At top, select the weather features you want by checking the boxes on or off. Recommended features to select are Temperature, Wind, Relative Humidity, Sky Cover, Rain, Thunder, and Precipitation Potential. Some weather stations include Mixing Height, Haines Index, Lightning Activity Level, Transport Wind Speed, Ventilation Rate. Click on ***Submit*** and it creates your customized graph. The first page shows 48 hours from the current time. The forecast can be advanced up to 6 days by clicking ***Forward 2 Days*****.** These graphs are useful for tracking weather conditions up to 6 days before you plan to burn and the conditions to expect in the days after the burn.

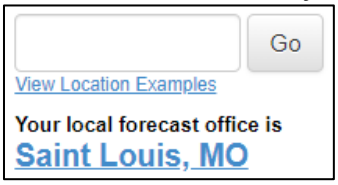


National Weather Service Routine Fire Weather Forecast (1.5 day window)

1. NOAA home page - **weather.gov**
   Type in "City, State" or Zip Code, click ***Go***, which takes you to the 7-day forecast. You can also point & click on map.



2. Click on the link to ***Your local forecast office*.**



3. Scroll down to the bottom of the page, under **Forecasts**, click on "***Fire Weather", "Fire Weather Forecast"*** or ***"Fire"*** link.

   OR follow these links for your office's routine fire weather forecast and bookmark it on your device:
   - Kansas City, MO
   - Memphis, TN
   - Paducah, KY
   - Quad Cities, IA
   - Springfield, MO **OR** Click on your county on the map here
   - St. Louis, MO **OR** Click on your county on the map here

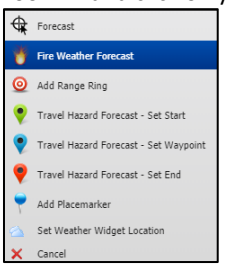
4. Scrolling down shows the fire weather forecasts for groupings of counties that give additional weather details including **mixing heights** and **ventilation rates**. For smoke management and good smoke dispersal on the day of your burn, **Mixing Heights** should be 1600 feet or higher and **Ventilation Rates** should be 6,000 cubic meters or more.

National Weather Service Enhanced Data Display (Experimental program in progress)

Use these instructions to access both NWS Hourly Weather Forecast and Routine Fire Weather Forecast, however, these program features are subject to change. The mobile version is not as user-friendly. For more information to use this tool see the .pdf document "Online_Tools_for_Weather_Information_SFE_Fact_Sheet_2018-7" on the MPFC website.

1. Visit National Weather Service Enhanced Data Display (preview.weather.gov/edd/)

2. Zoom in and click on your approximate site and select ***"Fire Weather Forecast"***



3. Use the tabs to cycle between the ***"Fire Weather Forecast"*** and ***"Hourly Weather Forecast"*** graph.

University of Utah Department of Atmospheric Services

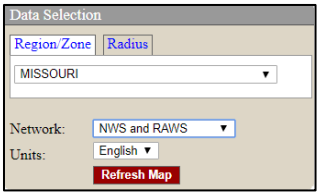
Access National Weather Service (NWS) stations and Remote Automated Weather Stations (RAWS) to view current weather variables including relative humidity (RH), wind speed and direction, temperature, etc.

1. Visit MesoWest home page - mesowest.utah.edu

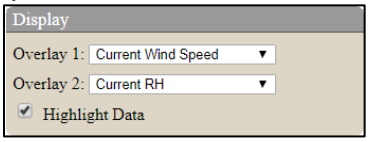
2. Click Missouri on the map and then bookmark the page for MesoWest

3. In the menu on the left **Region/Zone** tab gives you the state of Missouri **OR** select the **Radius** tab and a distance range, and then click within an approximate location of your site.

4. Click the **Network** dropdown and select ***NWS and RAWS*** and then click ***Refresh Map***



5. In the **Display** dropdown select the two weather variables to display at each station such as ***Current Wind Speed*** and ***Current RH***



The wind barbs help visualize the locations of frontal boundaries and how the wind direction is shifting across the landscape. For example, a north wind displayed as:

6. Click on a weather station to access current data

7. You can also access historical data for a station the day a burn was conducted to save those data by selecting ***Time Options*** and entering the date and time of the burn.

US Forest Service Wildland Fire Assessment System Dead Fuel Moisture

1. Check moisture content of dead fuels by going to **wfas.net**.

2. In the menu on the left, under **Moisture/Drought** heading, click on ***Dead Fuel Moisture*** and bookmark the page. Check 10-h, 100-h, and 1000-h fuels by clicking on ***US48*** links under **Current Conditions** and **Forecast** columns.

- **10-Hour Fuels.** These are dead fuels ¼ - 1 inch in diameter (twigs & small branches), moisture content of 9% or higher is preferred. Moisture content below 7% may pose risk to conducting a prescribed burn safely.
- **100-Hour Fuels** are 1 - 3 inches in diameter (branches, limbs, small dead trees), moisture content should be 12% or higher.
- **1,000-Hour Fuels** are larger than 3 inches in diameter (larger limbs, dead trees, logs), moisture content should be 12% or higher.

Interpret the fuel moisture conditions for your location on the map using the legend within the graphics.