

## Fire Prescription Planner

The Fire Prescription Planner, probably our most used tool for prescribed burning, can be accessed easily via the link in the left menu section. When you first come to the page (Step 1), you will see a list of variables with blank fields for “Lower” and “Upper” Limits (you can fill in whichever fields you wish) and a 16-sector wind direction compass (you can select which sectors to include in your prescription).

Variable	Lower Limit	Upper Limit
Air Temperature (F)	<input type="text"/>	<input type="text"/>
Relative Humidity (%)	<input type="text"/>	<input type="text"/>
Wind Speed (mph)	<input type="text"/>	<input type="text"/>
1-hr Precipitation (inches)	<input type="text"/>	<input type="text"/>
Heat Index [heat stress] (F)	<input type="text"/>	<input type="text"/>
Dispersion Conditions	<input type="text"/>	<input type="text"/>

Wind Direction

\*\* Click on the sectors you wish to prescribe \*\*

To fill in any field, just click on the open box of the variable field you wish and type in a number.

For “Dispersion Conditions” click on the pull down menu and select the dispersion category you wish for your lower limit (or upper):

Dispersion Conditions

Excellent

Good

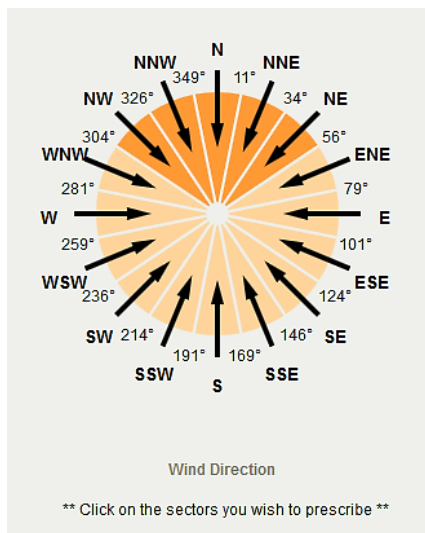
Moderately Good

Moderately Poor

Poor

Very Poor

For wind direction click on the sector(s) you wish to prescribe. The selected sectors will show up in brighter orange colors. To delete the chosen sector(s), just click on them again.



At the top of the table, there are two elements of interest. One is “Use Conditions for Beginning Burners” (enclosed in orange). Clicking this will fill in the table with values we deem safe for those with little experience in prescribed burning (see image below).

OK-FIRE
Fire Prescription Planner

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Use Conditions for Beginning Burners
Reset Values

Variable	Lower Limit	Upper Limit
Air Temperature (F)	<input type="text" value="35"/>	<input type="text"/>
Relative Humidity (%)	<input type="text" value="40"/>	<input type="text" value="80"/>
Wind Speed (mph)	<input type="text" value="4"/>	<input type="text" value="15"/>
1-hr Precipitation (inches)	<input type="text"/>	<input type="text" value="0.00"/>
Heat Index [heat stress] (F)	<input type="text"/>	<input type="text" value="104"/>
Dispersion Conditions	<input type="text" value="Moderately Good"/>	<input type="text"/>

Wind Direction

\*\* Click on the sectors you wish to prescribe \*\*

The second is “Reset Values” (enclosed in blue above). Hitting it will delete ALL of the entered fields resulting in blank boxes and no selected wind direction sectors.

At the bottom of this table are other useful features. You can select a different station than the PRIMARY one (from the home page) by clicking on the Mesonet station name on the leftmost side of the black bar. The next field “Show” allows you to specify over what length of the forecast (84 hours max) you wish to have your prescription searched. The default is “Next 84 Hours”.

Energy Release Component (BTU/ft2)

KBDI (0-800)

Stillwater Show: Next 84 Hours  Include All Non-Prescribed Variables  Save Settings as Default

Following that are two boxes which can be checked or unchecked. The topmost one, “Include All Non-Prescribed Variables” allows the user to specify whether ALL non-prescribed variables will be included in the final forecast table. The next box, if checked, allows the user to SAVE the prescription (“Settings”) for future use.

Another feature, before we move to the final prescription forecast table, should be noted. The variable names in the initial table are actually links to pop-up boxes that describe that variable:

### 1-hour Dead Fuel Moisture

The % moisture content on a dry-weight basis of 1-hour dead fuels as calculated by a calibrated version of the Nelson dead fuel moisture model. Calculated values can range from 1% to 85%.

One-hour fuels are the fine dead fuels (< 0.25”) such as grasses which are often involved in the initiation and maintenance of wildland fires and whose moisture contents respond quickly (within minutes) to changing weather conditions. These dead fuels include herbaceous plants, roundwood, and also the uppermost layer of litter on the forest floor.

For prescribed fire, the preferred range of 1-hour dead fuel moisture is from 7 to 20%. Below 7%, spot fires become a problem and above 20% there will be problems in starting and maintaining the fire due to too much moisture in the fine fuels. To understand the influence of 1-hour dead fuel moisture on prescribed burning and wildfire, consult [OK-FIRE Basics for Prescribed Burning](#) and [OK-FIRE Basics for Fire Danger](#).

Note that since the Nelson model calculations are a function of the forecast weather conditions, inaccuracies in the NAM weather forecast will lead to inaccuracies in the 1-hour dead fuel moisture forecast.

Stillwater    Show: **Next 84 Hours**     Show Prescribed Variables Only     Save Settings as Default    **Get Data**

After you have entered the prescription you want, click “Get Data” to get to the final forecast table:

**OK-FIRE** Fire Prescription Planner  
 Latest forecast based on 1 pm CDT 08/28/24 NAM; next 6-hr update expected 11 pm CDT 08/28/24

Fire Prescription Table for Hooker [Print Table](#)

*Disclaimer: This forecast table, as with other OK-FIRE products, is based solely on output from the latest 84-hr NAM forecast. As no weather forecast model is perfect, users are encouraged to check the official forecasts of the National Weather Service for consistency or discrepancies in the weather variable portion of this forecast.*


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DATE / TIME	Criteria Met?	TAIR	RELH	HEAT INDEX	WDIR	WSPD	1hr PRECIP	DISPERSION	1hr DFM	10hr DFM
Wed 8/28/24 11 pm CDT	No	82°F	43%	81°F	SSE	13 mph	0.00 in.	4 (MG)	6%	7%
Thu 8/29/24 12 am CDT	No	80°F	46%	80°F	SSE	13 mph	0.00 in.	4 (MG)	6%	7%
Thu 8/29/24 1 am CDT	No	78°F	49%	78°F	SSE	13 mph	0.00 in.	4 (MG)	7%	7%
Thu 8/29/24 2 am CDT	No	77°F	53%	77°F	SSE	12 mph	0.00 in.	3 (MP)	7%	8%
Thu 8/29/24 3 am CDT	No	76°F	57%	76°F	S	11 mph	0.00 in.	3 (MP)	8%	8%
Thu 8/29/24 4 am CDT	No	75°F	60%	75°F	S	10 mph	0.00 in.	3 (MP)	8%	9%
Thu 8/29/24 5 am CDT	No	74°F	63%	74°F	S	10 mph	0.00 in.	3 (MP)	9%	9%
Thu 8/29/24 6 am CDT	No	73°F	67%	73°F	S	10 mph	0.00 in.	3 (MP)	10%	10%
Thu 8/29/24 7 am CDT	No	72°F	70%	72°F	S	10 mph	0.00 in.	3 (MP)	10%	10%
Thu 8/29/24 8 am CDT	Yes	75°F	64%	75°F	S	11 mph	0.00 in.	4 (MG)	10%	11%
Thu 8/29/24 9 am CDT	Yes	78°F	59%	78°F	S	12 mph	0.00 in.	4 (MG)	10%	11%
Thu 8/29/24 10 am CDT	Yes	82°F	53%	83°F	S	14 mph	0.00 in.	4 (MG)	9%	10%
Thu 8/29/24 11 am CDT	Yes	84°F	49%	85°F	S	14 mph	0.00 in.	4 (MG)	8%	10%
Thu 8/29/24 12 pm CDT	No	86°F	46%	87°F	S	14 mph	0.00 in.	4 (MG)	7%	9%
Thu 8/29/24 1 pm CDT	No	88°F	42%	89°F	S	14 mph	0.00 in.	4 (MG)	6%	9%
Thu 8/29/24 2 pm CDT	No	89°F	40%	90°F	S	14 mph	0.01 in.	4 (MG)	85%	10%

The table begins with the first full hour after the current time and goes in hourly increments through as many hours of the forecast you have specified. It shows the values of the variables and has color shadings associated with the prescribed variables. If the criteria for a given prescribed variable are met for any hour, that cell is shaded GREEN; if the criteria are not met for that hour, that cell is shaded RED.

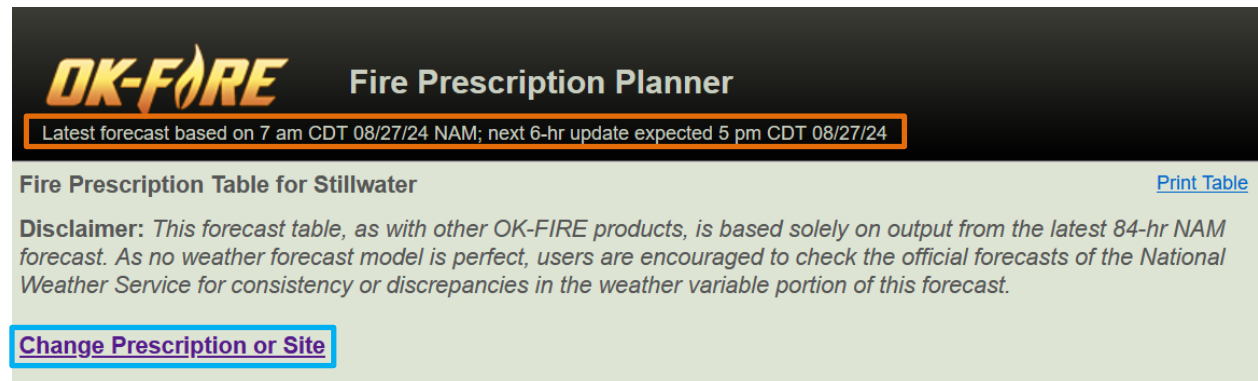
The most important column is the second one, “Criteria Met?”. If ALL your prescribed variables meet your criteria for a given hour, that cell under “Criteria Met?” is shaded BRIGHT GREEN. If one or more of your prescribed variables do NOT meet the criteria for a given hour, that cell under “Criteria Met?” is shaded BRIGHT RED. Thus, you can scroll down through the forecast table to see periods of possible opportunity for your prescribed burn (looking for a continuous grouping of “green hours” of sufficient length for your burn).

It should be mentioned that certain variables of importance always appear in the final forecast table, whether prescribed or not: wind direction, wind speed, and dispersion conditions. Wind direction and wind speed always go together, so even if wind direction is not prescribed, it is important to see which way the wind will be blowing. One can see this in the forecast table on the prior page, where wind direction has not been prescribed but appears in the table (cells appear in alternating white and gray). Dispersion conditions also appear whether prescribed or not, as this variable is critical for smoke dispersion. In addition, as a reminder of poor smoke dispersion conditions, hourly cells in the “Dispersion” column having dispersion conditions VP, P, or MP are shaded in orange when “Dispersion Conditions” is not one of the variables prescribed by the user (see forecast table below).

 <b>Fire Prescription Planner</b> Latest forecast based on 1 pm CDT 08/28/24 NAM; next 6-hr update expected 11 pm CDT 08/28/24											
Fire Prescription Table for Hooker											<a href="#">Print Table</a>
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<a href="#">Change Prescription or Site</a>											
DATE / TIME	Criteria Met?	TAIR	RELH	HEAT INDEX	WDIR	WSPD	1hr PRECIP	DISPERSION	1hr DFM	10hr DFM	
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Thu 8/29/24 12 am CDT	No	80°F	45%	80°F	SSE	14 mph	0.00 in.	4 (MG)	6%	7%	
Thu 8/29/24 1 am CDT	No	78°F	48%	78°F	S	14 mph	0.00 in.	4 (MG)	7%	7%	
Thu 8/29/24 2 am CDT	No	77°F	51%	77°F	S	14 mph	0.00 in.	3 (MP)	7%	8%	
Thu 8/29/24 3 am CDT	Yes	76°F	55%	76°F	S	13 mph	0.00 in.	3 (MP)	8%	8%	
Thu 8/29/24 4 am CDT	Yes	75°F	58%	75°F	S	12 mph	0.00 in.	3 (MP)	8%	9%	
Thu 8/29/24 5 am CDT	Yes	74°F	63%	74°F	S	12 mph	0.00 in.	3 (MP)	9%	9%	
Thu 8/29/24 6 am CDT	Yes	73°F	67%	73°F	S	11 mph	0.00 in.	3 (MP)	10%	10%	
Thu 8/29/24 7 am CDT	Yes	71°F	72%	71°F	S	10 mph	0.00 in.	3 (MP)	10%	10%	
Thu 8/29/24 8 am CDT	Yes	74°F	67%	74°F	S	12 mph	0.00 in.	4 (MG)	10%	11%	
Thu 8/29/24 9 am CDT	Yes	77°F	63%	77°F	S	13 mph	0.00 in.	4 (MG)	10%	11%	
Thu 8/29/24 10 am CDT	Yes	80°F	58%	82°F	S	14 mph	0.00 in.	4 (MG)	9%	10%	
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Thu 8/29/24 12 pm CDT	No	88°F	46%	89°F	S	15 mph	0.00 in.	4 (MG)	7%	9%	
Thu 8/29/24 1 pm CDT	No	92°F	40%	93°F	S	15 mph	0.00 in.	4 (MG)	6%	9%	
Thu 8/29/24 2 pm CDT	No	92°F	38%	92°F	S	15 mph	0.00 in.	4 (MG)	85%	10%	

If there are one or more forecast hours with heat indices 90°F or above, heat index will also appear in the final forecast table whether prescribed or not, as once the heat index rises to 90°F and above, heat stress becomes increasingly dangerous. Accordingly, as a reminder to be cautious, in the forecast table of the Fire Prescription Planner, hourly cells in the “Heat Index” column having heat indices 90°F or higher are shaded in orange when “Heat Index” is not one of the variables prescribed by the user (see forecast table above).

Finally, please note that the forecast in the Fire Prescription Planner is based solely on the NAM forecast (which may not always be that accurate, especially the further out in the forecast period you go) and that the NAM forecast updates occur every 6 hours. The current forecast being used and expected update time are shown near the top of this final forecast table (see area enclosed in orange):



**OK-FIRE** Fire Prescription Planner

Latest forecast based on 7 am CDT 08/27/24 NAM; next 6-hr update expected 5 pm CDT 08/27/24

Fire Prescription Table for Stillwater [Print Table](#)

**Disclaimer:** *This forecast table, as with other OK-FIRE products, is based solely on output from the latest 84-hr NAM forecast. As no weather forecast model is perfect, users are encouraged to check the official forecasts of the National Weather Service for consistency or discrepancies in the weather variable portion of this forecast.*

[Change Prescription or Site](#)

To go back to change your prescription or even select a different Mesonet site, you can click on “Change Prescription or Site” (enclosed in blue) or just use your browser back button.