Fire Weather
Planning Forecast

User's Guide to Decoding the FWF

What are the Fire Weather Planning Forecasts?

The Fire Weather Planning Forecast (FWF) is a table that displays the forecasted weather parameters the next 2 days. Specific fire weather parameters are only included in the first three periods of the forecast Below is a sample FWF, along with a description of each parameter's code (*blue colored numbers*).

(1) Fire Weather Planning Forecast for East Tennessee...Southwest
Virginia...and Extreme Southwest North Carolina
National Weather Service Morristown TN
249 AM EDT Sat Apr 17 2021

(2) .DISCUSSION...

There will be a few light showers around today as an upper air
disturbance moves through. Drier and cooler conditions continue on
Sunday through early next week.

(3) TNZ071-180800-
Northwest Blount-
Including the cities of Happy Valley, Maryville, and Alcoa
249 AM EDT Sat Apr 17 2021

		Today	Tonight	Sun
(4)	Cloud cover	Mcldy	Pcldy	Pcldy
(5)	Temp (24h trend)	61-66 (+1)	43-48 (0)	63-68
(6)	RH % (24h trend)	40-45 (+9)	86-91 (+18)	32-37
(7)	20ft Wind-AM(mph)	LGT/VAR		LGT/VAR
	20ft Wind-PM(mph)	W 6	LGT/VAR	LGT/VAR
(8)	Precip type	Showers	None	None
(9)	Chance precip (%)	20	0	0
(10)	Precip duration	1		
(11)	Precip begin	8 AM		
(12)	Precip end		2 AM	Continuing
(13)	Precip amount	0.02	0.00	0.00
(14)	LAL	1	1	1
(15)	LASI/Haines	4		6
(16)	Max mix hgt(ft-MSL)	5900		7700
	Max mix hgt(ft-AGL)*	4800		6600
(17)	Transport wnd (mph)	W 10		NW 6
(18)	Vent Rate (mph-ft)	48000		39600
(19)	Category Day	3		3
(20)	Dispersion	42 Gen good		31 Fair
(21)	Max LVORI	3		4
(22)	33ft wind-AM(mph)	LGT/VAR		N 5
	33ft wind-PM(mph)	W 8	LGT/VAR	N 5
(23)	Remarks...None.			

(24) .SUNDAY NIGHT...Partly cloudy. Lows in the 40s. Light winds.
.MONDAY...Sunny. Highs in the mid 60s to lower 70s. West winds
less than 10 mph.
.MONDAY NIGHT...Mostly clear. Lows in the 40s. Light winds
becoming southeast less than 10 mph after midnight.
.TUESDAY...Partly cloudy. Slight chance of showers. Highs near
70. Southwest winds up to 10 mph.
.WEDNESDAY...Partly cloudy. Cooler. Lows in the mid 30s. Highs in
the 50s. West winds up to 10 mph.
.THURSDAY...Partly cloudy. Lows in the lower 40s. Highs in the
upper 50s to mid 60s. South winds less than 10 mph.
.FRIDAY...Mostly cloudy. Chance of showers. Lows around 50. Highs
in the mid 60s to lower 70s. Southeast winds up to 10 mph.

Key to Decoding the FWF:

(1)   **Product Name** Issuing office information and issuance date/time in local time.

(2)   **Discussion** A brief discussion detailing the weather expected over the next several days. At times, brief fire weather information may be included as conditions permit.

(3)   **Product Location** The forecast location including zone name, along with selected locations within the zone.

(4)   **CLOUD Cover**. This is the sky coverage at the indicated hour. Clouds are available in 3-hour intervals out 60 hours. Clouds are divided into 5 categories:

PFW Cloud Code	Commonly Called	% Sky in Cloud Cover
CL	Clear or Sunny	0%-6%
FW	Few	7%-31%
SC	Scattered	32%-69%
Mcldy	Mostly Cloudy	70%-75%
B2	Considerable Clouds	76%-94%
OV	Overcast	95%-100%

(5)   **TEMP (24h trend)** The range of temperature (degrees F) expected, usually within +/- 5 degrees. A 24 hour trend is denoted in parenthesis.

(6)   **RH (24h trend)** The relative humidity for the same time period as its corresponding TEMP within +/- 5 degrees. The 24h trend is also indicated in parenthesis.

(7)   **20ft Wind** The wind speed averaged over a 10-minute period and measured 20 feet above the average height of nearby vegetation.

(8)   **Precip Type** The type of precipitation expected for the corresponding time period

(9)   Chance Precip (%)

PFW Type Code	Common Descriptor	Probability of Precipitation
S	Slight Chance	20%
C	Chance	30%-50%
L	Likely	60%-70%
O	Occasional or Periods	80%-100%
D	None used	80%-100%

(10)   Precip Duration The expected duration of precipitation in hours for the corresponding time period.

(11)   Precip Begin The beginning time for expected precipitation if precipitation is expected.

(12)   Precip End The ending time for expected precipitation if precipitation is expected.

(13)   Precip Amount Amount of precipitation expected in inches for the corresponding time period.

(14)   LAL Lightning Activity Level. This parameter describes the amount of lightning expected. LAL is forecast at 3-hour intervals out to 60 hours.

LAL Number	Clouds, Precipitation and Lightning Activity
1	No thunderstorms.
2	Cumulus clouds are common, but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the rating area. The clouds mostly produce virga, but light rain will occasionally reach the ground.
3	Swelling and towering cumulus cover less than 2/10 of the sky. Light to moderate rain will reach the ground, and lightning is infrequent.
4	Swelling cumulus and towering cumulus cover 2-3/10 of the sky. Thunder-storms are scattered, but more than three must occur within the observation area. Moderate rain is commonly produced, and lightning is frequent.
5	Towering cumulus and thunderstorms are numerous. Rain is moderate to heavy, and lightning is frequent and intense.
6	Same as #3 but dry (little or no rain reaching the ground).

(15) **HAINES** Haines Index. Describes the instability and dryness of the atmosphere and addresses the potential for rapid forest fire growth. HAINES INDEX is forecast only during daylight hours and is listed as the maximum HAINES index.

HAINES INDEX	Rapid Fire Growth
Less than 4	Very Low Potential
4	Low Potential
5	Medium Potential
6	High Potential

(16) **MAX MIX HGT** Maximum Mixing Height. The height to which the atmosphere mixes vertically, in feet above ground level. MIX HGT is forecast only during daytime hours.

(17) **Transport Wnd** Transport Wind Speed The average speed of the wind from the surface to the mixing height

(18) **Vent Rate** Maximum ventilation rate forecasts represent the peak values for the day between mid morning to late evening in mph-ft

(19) **Category Day** Category Day for Smoke Management is defined as Mixing Height multiplied by the Transport Wind

CD Number	CD Value	CD Ventiliation Rate Guidline
1	<14,500	No Burn
2	14,500 – 29,000	No burn until Inversion has listed
3	29,000 – 58,000	58,000 Daytime only
4	58,000 – 117,000	117,000 Anytime
5	>117,000	Excellent smoke dispersion

(20) **Dispersion** Atmospheric Dispersion Index. A measure of dispersions based on mixing height, stability, and wind.

ADI	Character of Dispersion
Greater than 100	Very Good: but may indirectly indicate hazardous conditions.
61-100	Good: typical case burning weather values are in this range.
41-60	Generally Good: climatological afternoon values in most inland forested areas of the US fall within this range.
21-40	Fair: stagnation may be indicated if accompanied by persistent low wind speeds.
13-20	Generally Poor: stagnation, if persistent, although better than average for a night value.
7-12	Poor: stagnant at day, but near or above average at night.
1-6	Very poor: very frequent at night; represents the majority of nights in many locations.

(21) **MAX LVORI** Low Visibility Occurrence Risk Index. A measure of the potential for thick fog based on, dispersion and relative humidity.

LVORI	Accidents with Fog or Smoke Reported
1	Lowest proportion of accidents with smoke and/or fog reported
2	Physical or statistical reasons for not including in category 1
3	Higher proportion of accidents than category 1, by about 30% to 50%
4	Significantly higher than category 1, by a factor of 2.
5	Significantly higher than category 1, by a factor of 3 to 10.
6	Significantly higher than category 1, by a factor of 10 to 20.
7	Significantly higher than category 1, by a factor of 20 to 40.
8	Significantly higher than category 1, by a factor of 40 to 75.
9	Significantly higher than category 1, by a factor of 75 to 125.
10	Significantly higher than category 1, by a factor of 150.

(22) **33 ft. Wind** The wind speed averaged over a 10-minute period and measured 10 meters (33 feet)

(23) **Remarks** A remarks section where important information will be listed related to the indices included above.

(24) **Zone Forecast** An extended forecast for the specified zone that includes temperature, sky cover, winds, and weather if expected.