



## Key to Decoding the PFW:

- (1) **WMO Identification Code** The issuing office identifier and the issuance date/time in UTC.
- (2) **Product Name** Issuing office information and issuance date/time in local time.
- (3) **Point Location** The location for which this PFW has been issued and the date/UTC time the forecast expires.
- (4) **DATE** The forecast date and time groups. Forecast times/dates listed, both in UTC and local time in 3 hour increments.
- (5) **MAX/MIN** Maximum and minimum temperatures. The afternoon issuances will be labeled MIN/MAX. Forecast of maximum and minimum temperatures in degrees F. This is forecast out 7 days. Will be an integer (31 or -5).
- (6) **TEMP** The temperature (degrees F) valid at the indicated hour. TEMP is forecast at 3-hour intervals out to 60 hours, then at 6-hour intervals on to day 7.
- (7) **DEWPT** The dew point temperature (deg F) for the same time periods corresponding to TEMP.
- (8) **MIN/MAX RH** The maximum and minimum relative humidity in the 12 hour time periods in percentages ranging from 0-100%. This is forecast for 7 days.
- (9) **RH** The relative humidity for the same time period as its corresponding TEMP and DEWPT. It is available out to 60 hours.
- (10) **WIND DIR** The forecast wind direction (*from which the wind blows*) at the indicated hour, using the 8 compass points (N, NE, E, SE, S, SW, W, NW). Calm wind will be listed as zeroes (00) in place of a direction. Available in 3-hour intervals out to day 7.
- (11) **WIND DIR DEG** The forecast wind direction (*from which the wind blows*) at the indicated hour, using 2-digit degrees in multiples of ten. (i.e....05 = 50 degrees; 13 = 130 degrees). Calm wind will be listed as zeroes (00) in place of a direction. Available in 3-hour intervals out to 60 hours.
- (12) **WIND SPD** and **WIND GUST** The forecast wind speeds in miles per hour (mph) as the indicated hour. If calm winds are forecast, then zeroes (00) will be listed in place of a speed. Wind Speed is available in 3-hour intervals out to day 7. A WIND GUST row will appear whenever the forecasted wind gusts exceed the sustained wind speed (WIND SPD) by at least 10 mph.
- (13) **CLOUDS**. 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%              |
| B1             | Mostly Cloudy       | 70%-75%              |
| B2             | Considerable Clouds | 76%-94%              |
| OV             | Overcast            | 95%-100%             |

- (14) **CLOUDS (%)**, This is the sky coverage expressed in percentage of the sky covered during the indicated hour. Cloud percentage is available in 3-hour intervals out 60 hours.

- (15) **VSBY** The minimum surface visibility, and if restricted below 7 miles, the obstruction causing the restriction. The value reported is the minimum value for the zone grouping, in order to capture the lowest values. Visibility values of 7 to 10 miles are considered unrestricted.
- (16) **POP 12HR** The probability of precipitation, and is defined as the likelihood (in percent) of a measurable precipitation event (*0.01 inch or more*) at the given point. The 12HR refers to the 12 hour valid time ending at indicated hour. Forecast out to day 7.
- (17) **QPF 12HR** The total amount of liquid precipitation (*in inches*) expected during the 12 hour period ending at the indicated hour.
- (18) **PRECIPITATION** A 3 hour occurrence of rain, snow, and/or showers will be listed under the indicated hour. This gives an indication of the likelihood of the precipitation.

| 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%                     |

When showers and/or thunderstorms are forecast, the following categories may be used:

| PFW Type Code | Common Descriptor | Probability of Precipitation |
|---------------|-------------------|------------------------------|
| IS            | Isolated          | 20% or less                  |
| SC            | Scattered         | 30%-50%                      |
| NM            | Numerous          | 60%-70%                      |
| EX            | None used         | 80%-100%                     |

- (19) **OBVIS** When the surface visibility falls below 7 miles, the obstruction causing the restriction will be listed.

| OBVIS CODE | Definition       |
|------------|------------------|
| F          | Fog              |
| PF         | Patchy Fog       |
| F+         | Dense Fog        |
| H          | Haze             |
| BS         | Blowing Snow     |
| K          | Smoke            |
| BD         | Blowing Dust     |
| AF         | Volcanic Ashfall |

- (20) **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. Thunderstorms 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).   |

- (21) **HAINES** Haines Index. Describes the instability and dryness of the atmosphere and addresses the potential for rapid forest fire growth. HAINES INDEX is forecast at 3-hour intervals out to 60 hours.

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

- (22) **DSI** Davis Stability Index. This is an index of afternoon stability based on the surface to 850 mb temperature lapse rate and categorized from 1 to 4. DSI is included at 24-hr intervals out to 60 hours.

| DSI | SFC to 850 mb Lapse Rate | Stability              |
|-----|--------------------------|------------------------|
| 1   | Less than 10             | Stable                 |
| 2   | 10-14                    | Conditionally Unstable |
| 3   | 15-17                    | Unstable               |
| 4   | Greater than 17          | Absolutely Unstable    |

- (23) **MIX HGT** Mixing Height. The height to which the atmosphere mixes vertically, in feet above ground level. MIX HGT is forecast at 3-hour intervals out to 60 hours.
- (24) **T WIND DIR** Transport Wind Direction. The average direction of the wind from the surface to the mixing height using the 8 compass points (N, NE, E, SE, S, SW, W, NW). T WIND DIR is forecast at 3-hour intervals out to 60 hours.

- (25) **T WIND SPD** Transport Wind Speed. The average speed of the wind from the surface to the mixing height, using 2-digit degrees in multiples of ten. (i.e...05 = 50 degrees; 13 = 130 degrees). T WIND SPD is forecast at 3-hour intervals out to 60 hours.
- (26) **ADI** Atmospheric Dispersion Index. A measure of dispersions based on mixing height, stability, and wind. ADI is forecast at 3-hour intervals out to 60 hours.

| 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.                         |

- (27) **MAX LVORI** Low Visibility Occurrence Risk Index. A measure of the potential for thick fog based on, dispersion and relative humidity. LVORI is forecast at 3-hour intervals out to 60 hours.

| 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.           |

- (28) **STABILITY** Turner-Pasquill Stability Class. Stability as a function of mixing height, wind, and solar radiation. Essential for thick fog based on dispersion and relative humidity. STABILITY is forecast at 3-hour intervals out to 60 hours.

| CLASS | Stability            |
|-------|----------------------|
| A     | Very Unstable.       |
| B     | Moderately Unstable. |
| C     | Slightly Unstable.   |
| D     | Near Neutral.        |
| E     | Slightly Stable.     |
| F     | Moderately Stable.   |

- (29) **CEILING** The height of the lowest layer of clouds causing the sky to be broken or overcast, in feet above the ground. CEILING is forecast at 3-hour intervals out to 60 hours.
- (30) **PRESSURE** The station pressure in inches of mercury. PRESSURE is forecast at 3-hour intervals out to 60 hours.
- (31) **DATE** Forecast date and time groups. Forecast times/dates listed from 60 hours out to day 7, both in UTC and local time in 6 hour increments.
- (32) **AVG CLOUDS** This is the average amount of all clouds during the 6 hour interval ending at the indicated hour from 60 hours to day 7. AVG CLOUDS are divided into 6 categories the same as CLOUDS (13) .

**Updates and Corrections:** The PFW will be updated and corrected when the on-duty forecast team believes the current forecast is not representative, or when format or content errors are detected. When the PFW is updated, all forecast parameters prior to the update time (to the nearest 3-hour period) are removed from the product. Occasionally, a forecast may need a correction. In these instances, the automated PFW product is replaced with the corrected version.