

SFT SPECIFICATIONS DOCUMENT NOVEMBER 1, 2009

State Forecast Table Product Specifications Document (product category SFT)

1. General specifications

1.1 Content. The SFT will be a tabular seven-day forecast for selected locations across a state or a defined area.

1.2 Table Header. The SFT table header will immediately follow the product header and will consist of eight columns and three rows. The first row will contain the word "FCST" for each forecast period. The second and third rows include the forecast periods and dates (month/day) in columns two through seven (bolded text is included in forecasts as shown).

(Morning)	FCST	FCST	FCST	FCST	FCST	FCST	FCST
	TODAY	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
	MMMDD	MMMDD	MMMDD	MMMDD	MMMDD	MMMDD	MMMDD

(Evening)	FCST						
	TOMORROW	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
	MMMDD						

1.3 One-word Daytime Forecast. The first row under each city identified in the table will contain a one-word predominant daytime forecast (up to 7 characters) for each period. Daytime is defined as 6 a.m. to 6 p.m. local time. A list of valid weather abbreviations is found below.

SUNNY	DRZL (drizzle)
CLEAR	RAIN
FAIR	RNSNOW (mixed precipitation)
PTCLDY (partly cloudy)	SNOW
MOCLDY (mostly cloudy)	SNOSHWR (snow showers)
CLOUDY	FLRRYS (snow flurries)
VRYHOT (very hot or hot/humid)	BLZZRD (blizzard)
VRYCLD (very cold/wind chill)	BLGSNO (blowing snow)
FOGGY	SHWRS (showers)
HAZE	TSTRMS (thunderstorms)
SMOKE	SLEET
DUST	FZRAIN (freezing rain)
WINDY	FZDRZL (freezing drizzle)

1.4 Temperature. The second row (i.e., beneath the significant weather row) under each city identified in the table will contain maximum and minimum temperatures in degrees Fahrenheit. For locations other than Alaska Region, maximum temperatures are valid for the period from 7:00 a.m. to 7:00 p.m. local standard time. Minimum temperatures are valid for the period from 7:00 p.m. to 8:00 a.m. local standard time. In the Alaska Region, daytime is defined as 0500-2000 Local Standard Time, and overnight is defined as 1700-1100 Local Standard Time. This takes into account the extended/decreased hours of daylight in the region

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For morning SFT issuances, the first column only contains a maximum temperature for the current day. Subsequent columns list an early morning LO followed by an afternoon HI for each day. For afternoon SFT issuances, the first column lists the LO and HI temperature for the following day. The LO temperature depicted in the first column is the overnight minimum temperature forecast (normally occurring during the following morning). Similar to the morning forecast issuance, subsequent columns depict an early morning LO followed by an afternoon HI for each day through Day 7.

Mon Morning Issuance	MON /87	TUE 66/88	WED 70/89	THU 68/80	FRI 64/81	SAT 66/84	SUN 63/81
Mon Evening Issuance	TUE 66/89	WED 71/90	THU 69/82	FRI 65/81	SAT 67/86	SUN 63/83	MON 60/79

1.5 Probability of Precipitation. The third row (i.e., beneath the daytime temperature) under each city identified in the table will contain the probability of precipitation (POP) for the nighttime (6 p.m. - 6 a.m. local time) and daytime (6 a.m. to 6 p.m. local time) periods for each of the days. The possible POP categories are: 00, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100. The POP should be formatted as shown below.

Format: ###/### ###/### ###/###
Entry: 00/20 80/100 100/00

1.6 Geographical Regions. The SFT formatter will produce city/location identifications and associated geographical regions. The database tables can be modified to change the geographical region names for the SFT.

...STATE/REGION...
CITY

2. Forecast Database Sampling

Data used to construct the SFT are sampled using a variety of statistical techniques on several gridded elements. The SFT elements are determined as follows:

Maximum and Minimum Temperatures.

- Sampled using a 12 hour day or night period for 14 periods.
- MaxT and MinT analyzed using a standard deviation Min Max technique (For the edit area evaluated, it eliminates temperature values greater than 1.00 standard deviation above and below the mean, and then reports the Maximum (minimum) value. For edit areas which are only one grid point, it will report the value for that grid point.

Probability of Precipitation (PoP).

- Sampled using a 12 hour day or night period for 14 periods from 00Z to 12Z and 12Z to 00Z.

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- Uses a Max PoP technique (reports the maximum floating PoP value over the 12 h time period) to ensure that the SFT contains the maximum PoP value rather than an average.
- Reported as "0" if PoP is 0%.
- Rounded to nearest 10% from 10% to 100%.

QPF.

- Sampled using 24 hour periods, for 7 days from midnight to midnight
- Uses the minMax Sum technique. (Time-weighted min/max/average of the multiple QPF grids overlapping the time range. This will determine the min/max for the edit area then compute the average for that grid. Multiple grids are summed for the time range desired.)

Weather Code.

- Sampled using 12 hour daytime period for 7 days from 0600 to 1800 Local Time
- MaxT, MinT, PoP, Wx, Sky and Wind are all sampled using the following techniques...
 - MaxT and MinT Statistics: stdDevMinMax (see above)
 - PoP Statistics: Max PoP (see above)
 - Wx Statistics: Dominant
 - Sky Statistics: Average
 - Wind Statistics: Vector Average
- The formatter then prioritize weather types reported in the one word forecast section of the SFT based on the list below. The first statement that is satisfied is used for the weather code.
 - Blizzard
 - Thunderstorms
 - Rain/Snow
 - Snow
 - Freezing Rain
 - Sleet
 - Very Hot
 - Very Cold
 - Rain
 - Snow Showers
 - Showers
 - Freezing Drizzle
 - Blowing Snow
 - Windy
 - Drizzle
 - Flurries
 - Foggy
 - Dust
 - Haze
 - Smoke
 - Various cloud conditions
 - Fair