

Weather Map Symbols

A In the upper left, the temperature is plotted in Fahrenheit. In this example, the temperature is 77°F.

D On the second row, the far left number is the visibility in miles. In this example, the visibility is 5 miles.

H The number at the lower left is the dew point temperature. The dew point temperature is the temperature the air would have to cool to become saturated, or in other words reach a relative humidity of 100%.

B Along the center, the cloud types are indicated. The top symbol is the high-level cloud type followed by the mid-level cloud type. The lowest symbol represents low-level cloud over a number which tells the height of the base of that cloud (in hundreds of feet) In this example, the high level cloud is Cirrus, the mid-level cloud is Altostratus and the low-level clouds is a cumulonimbus with a base height of 2000 feet.

Ci	Dense Ci from Cb	Ci invading sky	Cs above 45°; not overcast	Overcast Cs	Cs not overcast; not increasing	Cc
AS	Dense AS a/o NS	Ac Standing Lenticularis	Ac from Cu	Ac with AS / NS	Ac congestus	Ac of chaotic sky
Cu	Moderate Cu	Sc from Cu	Sc NOT from Cu	St	Cu ans Sc different heights	Cb w/anvil

C At the upper right is the atmospheric pressure reduced to mean sea level in millibars (mb) to the nearest tenth with the leading 9 or 10 omitted. In this case the pressure would be 999.8 mb. If the pressure was plotted as 024 it would be 1002.4 mb. When trying to determine whether to add a 9 or 10 use the number that will give you a value closest to 1000 mb.

E Next to the visibility is the present weather symbol. There 95 symbols which represent the weather that is either presently occurring or has ended within the previous hour. In this example, a light rain shower was occurring at the time of the observation.

F The circle symbol in the center represents the amount of total cloud cover reported in eighths. This cloud cover includes all low, middle, and high level clouds.

No Clouds	1/8th	2/8th	3/8th	4/8th	5/8th	6/8th	7/8th	8/8th	Obscured Sky

I The lower right area is reserved for the past weather, which is the most significant weather that has occurred within the past six hours excluding the most recent hour.

n/a	Clear or Few Clouds (not plotted)
n/a	Partly cloudy (scattered) or variable sky (not plotted)
n/a	Cloudy (broken) or overcast (not plotted)
S	Sandstorm or dust storm, or drifting or blowing snow
≡	Fog, or smoke, or thick dust haze
●	Drizzle
●	Rain
*	Snow, or rain and snow mixed, or ice pellets (sleet)
▽	Shower(s)
K	Thunderstorm, with or without precipitation

J These lines indicate wind direction and speed rounded to the nearest 5 knots. The longest line, extending from the sky cover plot, points in the direction FROM which that wind is blowing. Thus, in this case, the wind is blowing FROM the southeast. The shorter lines, called barbs, indicate the wind speed in knots (kt). The speed of the wind is determined by the barbs. Each long barb represents 10 kt with short barbs representing 5 kt. A pennant is used to represent each 50 kt. In this example, one short barb and one long barb means the wind speed is 15 kt.

	Calm wind
	5 knots
	15 knots
	20 knots
	25 knots
	55 knots

Cold Front - a zone separating two air masses, of which the cooler, denser mass is advancing and replacing the warmer.

Warm Front - a transition zone between a mass of warm air and the cold air it is replacing.

Occluded Front - a composite of two fronts, formed as a cold front overtakes a warm or quasi-stationary front. Two types of occlusions can form depending on the relative coldness of the air behind the cold front to the air ahead of the warm or stationary front. A cold occlusion results when the coldest air is behind the cold front and a warm occlusion results when the coldest air is ahead of the warm front.

Stationary Front - a front between warm and cold air masses that is moving very slowly or not at all.

Trough - No temperature difference across boundary

Dry Line - a boundary separating moist and dry air masses. It typically lies north-south across the central and southern high Plains states during the spring and early summer, where it separates moist air from the Gulf of Mexico (to the east) and dry desert air from the southwestern states (to the west).

Squall Line - a line of active thunderstorms, either continuous or with breaks, including contiguous precipitation areas resulting from the existence of the thunderstorms.

G This number and symbol tell how much the pressure has changed (in tenths of millibars) in the past three hours and the trend in the change of the pressure during that same period. In this example, the pressure was steady then fell (LOWER) becoming 0.3 millibars LOWER than it was three hours ago.

	Rising, then steady, or rising, then rising more slowly
	Rising steadily, or unsteadily
	Falling or steady, then rising, or rising, then rising more quickly
	Steady, same as 3 hours ago
	Falling, then rising, same or lower than 3 hours ago
	Falling, then steady, or falling, then falling more slowly
	Falling steadily, or unsteadily
	Steady or rising, then falling, or falling, then falling more quickly



Present Weather Symbols

00		Cloud development NOT observed during past hour (not plotted)	01		Clouds generally becoming less developed (not plotted)	02		State of sky on the whole unchanged during past hour (not plotted)	03		Clouds generally forming or developing during past hour (not plotted)	04		Visibility reduced by smoke	05		Haze	06		Widespread dust in the air, not raised by wind at or near station	07		Dust or sand due to wind at or near the station but no dust whirl/sandstorm	08		Well developed dust whirl and/or sand whirl but no dust storm/sandstorm	09		Dust storm or sandstorm within sight or at the station during past hour
10		Mist	11		Patches of shallow fog at station, NOT deeper than 6 feet on land	12		More or less continuous shallow fog at station, NOT deeper than 6 feet	13		Lighting visible, no thunder heard	14		Precipitation within sight, but NOT reaching the ground	15		Precipitation within sight, reaching the surface within 3 miles	16		Squall(s) within sight during past hour	17		Thunder heard, but no precipitation at the station	18		Funnel cloud(s) and/or Tornado(es) during the preceding hour			
20		Drizzle (not freezing) or snow grains, not as shower(s), has ended	21		Rain (not freezing) not falling as shower(s), ended in the past hour	22		Snow not falling as shower(s) ended in the past hour	23		Rain and snow or ice pellets, not as shower(s) ended in the past hour	24		Freezing drizzle or freezing rain, not as shower(s) ended in the past hour	25		Shower(s) of rain ended in the past hour	26		Shower(s) of hail, or rain and hail ended in the past hour	27		Shower(s) of hail, or rain and hail ended in the past hour	28		Fog or ice fog ended in the past hour	29		Thunderstorm (with or without precipitation) ended in the past hour
30		Slight or moderate dust storm or sandstorm (has decreased in past hour)	31		Slight or moderate dust storm/sandstorm (no change during past hour)	32		Slight or moderate dust storm or sandstorm (has begun or increased)	33		Severe dust storm or sandstorm, decreased during the past hour	34		Severe dust storm or sandstorm, has no change during past hour	35		Severe dust storm or sandstorm has begun or increased	36		Slight or moderate drifting snow (generally below eye level)	37		Heavy drifting snow (generally above eye level)	38		Slight or moderate blowing snow (generally above eye level)	39		Heavy blowing snow (generally above eye level)
40		Fog at a distance, but not at the station during the preceding hour	41		Fog in patches	42		Fog, sky visible (has become thinner during preceding hour)	43		Fog, sky obscured (has become thinner during preceding hour)	44		Fog, sky visible (no appreciable change during the past hour)	45		Fog, sky obscured (no appreciable change during the past hour)	46		Fog, sky visible (has begun or has become thicker during past hour)	47		Fog, sky obscured (has begun or has become thicker during past hour)	48		Fog, depositing time ice, sky visible	49		Fog, depositing time ice, or ice fog, sky obscured
50		Drizzle, not freezing, intermittent (slight at time of observation)	51		Drizzle, not freezing, continuous (slight at time of observation)	52		Drizzle, not freezing, intermittent (moderate at time of observation)	53		Drizzle, not freezing, continuous (moderate at time of observation)	54		Drizzle, not freezing, intermittent (heavy at time of observation)	55		Drizzle, not freezing, continuous (heavy at time of observation)	56		Drizzle, freezing, slight	57		Drizzle, freezing, moderate or heavy	58		Drizzle and rain, slight	59		Drizzle and rain, moderate or heavy
60		Rain, not freezing, intermittent (slight at time of observation)	61		Rain, not freezing, continuous (slight at time of observation)	62		Rain, not freezing, intermittent (moderate at time of observation)	63		Rain, not freezing, continuous (moderate at time of observation)	64		Rain, not freezing, intermittent (heavy at time of observation)	65		Rain, not freezing, continuous (heavy at time of observation)	66		Rain, freezing, slight	67		Rain, freezing, moderate or heavy	68		Rain or drizzle and snow, slight	69		Rain or drizzle and snow, moderate or heavy
70		Intermittent fall of snowflakes (slight at time of observation)	71		Continuous fall of snowflakes (slight at time of observation)	72		Intermittent fall of snowflakes (moderate at time of observation)	73		Continuous fall of snowflakes (moderate at time of observation)	74		Intermittent fall of snowflakes (heavy at time of observation)	75		Continuous fall of snowflakes (heavy at time of observation)	76		Ice needles (with or without fog)	77		Snow grains (with or without fog)	78		Isolated star-like snow crystals (with or without fog)	79		Ice pellets (sleet)
80		Rain shower(s), slight	81		Rain shower(s), moderate or heavy	82		Rain shower(s), violent	83		Shower(s) of rain and snow mixed, slight	84		Shower(s) of rain and snow mixed, moderate or heavy	85		Snow shower(s), slight	86		Snow shower(s), moderate or heavy	87		Shower(s) of snow pellets or small hail, slight with or without rain/snow	88		Shower(s) of hail, slight, w/ or w/o rain or rain/snow mixed, no thunder	89		Thunderstorm, heavy, with hail at time of observation
90		Shower(s) of hail, w/ or w/o rain/snow, no thunder, mod. or heavy	91		Thunderstorm during past hour w/ slight rain at time of observation	92		Thunderstorm during past hour w/ current moderate/heavy rain	93		Thunderstorm ended w/ current slight snow, rain/snow mixed, or hail	94		Thunderstorm ended w/ current moderate/heavy snow, rain/snow, or hail	95		Thunderstorm, slight or moderate, w/o hail but w/ rain and/or snow	96		Thunderstorm, slight or moderate, with hail at time of observation	97		Thunderstorm, heavy, w/o hail but with rain and/or snow	98		Thunderstorm combined with dust storm or sandstorm	99		Thunderstorm, heavy, with hail at time of observation

