

NOAA Weather Data / Imagery Legends and Definitions

Flight Category definitions

Flight Category	Ceiling		Visibility
Low Instrument Flight Rules LIFR * (magenta sky symbol)	Below 500 feet AGL	and/or	less than 1 mile
Instrument Flight Rules IFR (red sky symbol)	500 to below 1,000 feet AGL	and/or	1 mile to less than 3 miles
Marginal Visual Flight Rules MVFR (blue sky symbol)	1,000 to 3,000 feet AGL	and/or	3 to 5 miles
Visual Flight Rules VFR + (green sky symbol)	greater than 3,000 feet AGL	and/or	greater than 5 miles
*By definition, IFR is ceiling less than 1,000 feet AGL and/or visibility less than 3 miles while LIFR is a sub-category of IFR. +By definition, VFR is ceiling greater than or equal to 3,000 feet AGL and visibility greater than or equal to 5 miles while MVFR is a sub-category of VFR.			

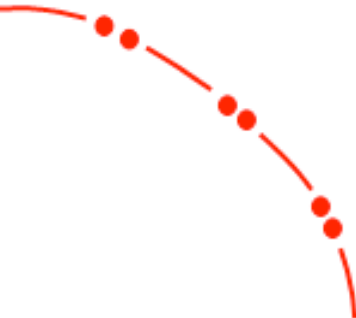
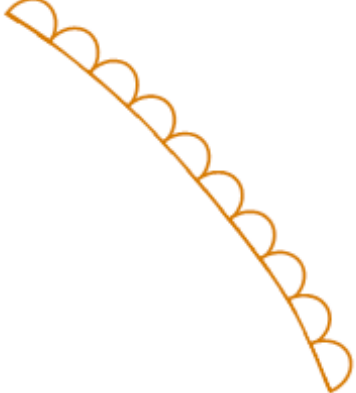
Cloud coverage symbols

M □ ○ ⊙ ◐ ◑ ● ⊗
missing CLR SKC FEW SCT BKN OVC OVX

Automated stations report "CLR" when clouds may exist above 12,000 feet so a square is used to represent this uncertainty whereas an unfilled circle is used for "SKC" which a human reports the sky is completely clear overhead. The abbreviation "OVX" is unofficial but ADDS uses it here to indicate the sky is obscured which is the case when a METAR reports vertical visibility and no cloud information.

Surface Fronts and Boundaries

	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.

	Stationary Front - a front between warm and cold air masses that is moving very slowly or not at all.
	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.
	Trough - an elongated area of relatively low atmospheric pressure; the opposite of a ridge. On WPC's surface analyses, this feature is also used to depict outflow boundaries.
	Squall Line - a line of active thunderstorms, either continuous or with breaks, including contiguous precipitation areas resulting from the existence of the thunderstorms.
	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).
	Tropical Wave - a trough or cyclonic curvature maximum in the trade wind easterlies.

	Frontogenesis - the initial formation of a surface front or frontal zone, depicted on WPC's surface analysis and forecast charts as a dashed line with the graphical representation of the developing frontal type (the blue triangle for cold fronts, the red semicircle for warm fronts, etc...) drawn on each segment.
	Frontolysis - the dissipation or weakening of a front, depicted as a dashed line with the graphical representation of the weakening frontal type drawn on every other segment.

Precipitation Areas and Symbols

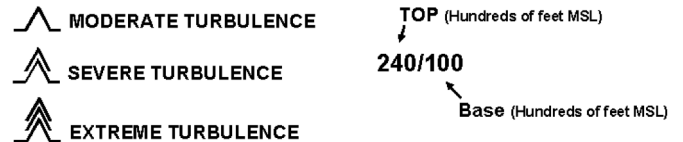
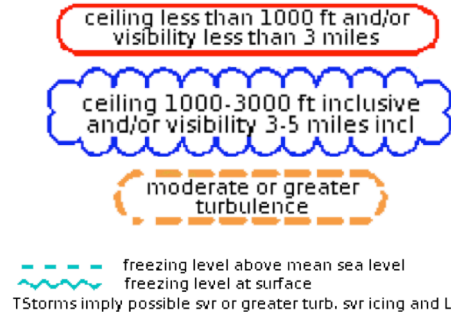
Areas of precipitation expected at the valid time of the forecast are outlined in green. Shading within these lines, or lack of shading, indicates the expected coverage (not intensity) of precipitation. The symbols on the right are the most common ones found on short range forecasts that represent categories (and in some cases intensities) of precipitation. In forecast areas where the form of the precipitation is expected to vary, two symbols will be depicted and separated by a slash (/). For instance, rain showers and thundershowers are often combined in regions where convection is forecast.

	"BROKEN" LIGHT RAIN COVERAGE = 50-100%				Rain (light, moderate, heavy)
	"SCATTERED" LIGHT SNOW COVERAGE = 30-50%				Snow (light, moderate, heavy)
	DASHED LINE SEPARATES AREAS OF SNOW FROM OTHER PRECIPITATION TYPES (RAIN, FREEZING RAIN, SLEET)				Thunder (with rain, snow, no precipitation)
				Shower (rain, snow)	
				Drizzle	
				Freezing rain, Freezing drizzle	
				Ice pellets/Sleet	

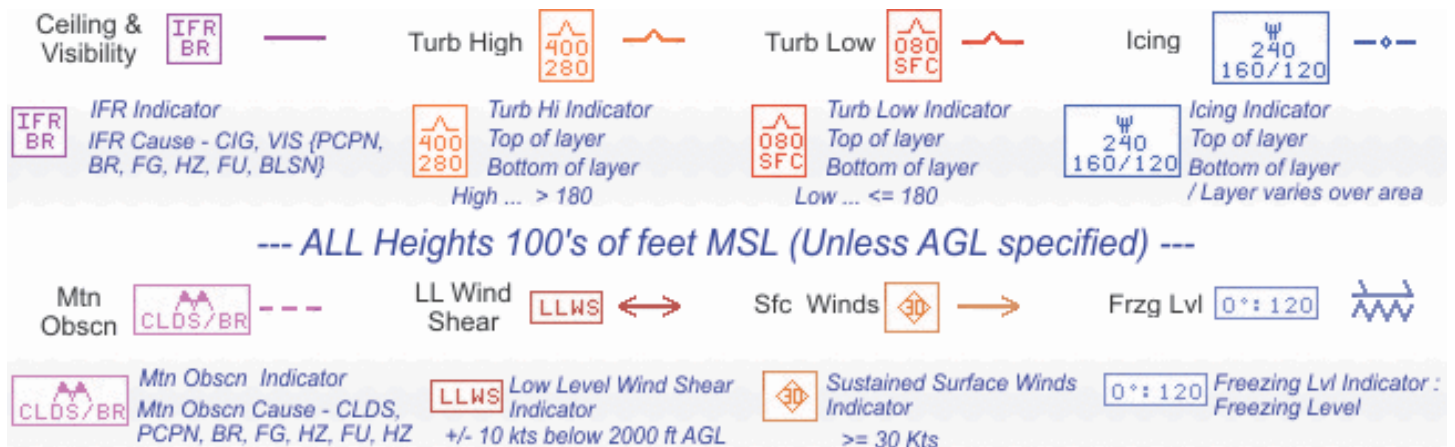
Low Level Outlook SIGWX Charts

The forecast domain covers the 48 contiguous states, southern Canada and the coastal waters for altitudes below 24,000 ft. Low altitude Significant Weather charts are issued four times daily and are valid at fixed times: 0000, 0600, 1200, and 1800 UTC. Each 4 panel chart is divided on the left and right into 12 and 24 hour forecast intervals (based on the current ETA model available). The upper two panels (SIG WX PROGS) depict freezing levels, turbulence, and low cloud ceilings and/or restrictions to visibility (shown as contoured areas of MVFR and IFR conditions). The lower two panels (SFC PROGS) are provided by the Weather Prediction Center (WPC) and consist of graphical displays of fronts and precipitation areas.

Flight planning only. See TAFs for specific terminal forecast.

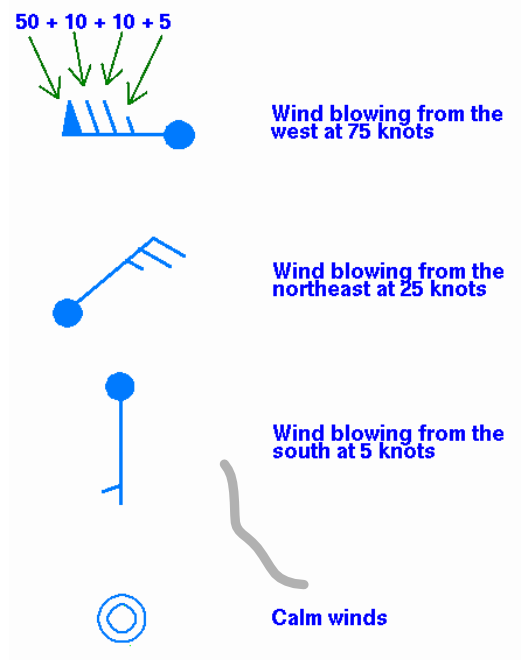


AIRMET/SIGMET



Wind

Wind is plotted in increments of 5 knots (kts). The wind direction is in "true" degrees and is depicted by a stem (line) pointed in the direction from which the wind is blowing. Wind speed is determined by adding the values of the flags (50kts), barbs (10kts), and half-barbs (5kts) found on the stem. If the wind is calm at the time of observation, only a single circle over the station is depicted.



Alaskan Aviation Weather Unit (AAWU) Symbols

	- Cold Front		1032	- High Pressure Center Pressure in millibars
	- Warm Front		988	- Low Pressure Center Pressure in millibars
	- Occluded Front			- Occasional or greater Precipitation
	- Stationary Front			
	- Trough			
	- Ridge			
	- Fog			- Freezing Rain
	- Haze			- Freezing Drizzle
	- Smoke			- Light Icing
	- Drifting Snow			- Moderate Icing
	- Sandstorm			- Severe Icing
	- Drizzle			- Snow
	- Rain			- Ice Crystals
				- Ice Pellets
				- Mixed Rain/Snow
				- Rain Showers
				- Snow Showers
				- Rain/Snow Showers
				- Thunderstorm
				- Light Turbulence
				- Moderate Turbulence
				- Severe Turbulence

Present Weather with METAR text-to-symbol matching

Symbols in gray boxes have no corresponding METAR present weather text.

	0	1	2	3	4	5	6	7	8	9
00	 Cloud development not observed or not observable during past hour	 Clouds generally dissolving or becoming less developed during past hour	 State of sky on the whole unchanged during past hour	 Clouds generally forming or developing during past hour	 FU VA	 HZ	 DU	 SA BLSA VCBLSA BLDU VCBLDU BLPY	 PO VCPO	 VCSS VCDS
10	 BR	 BR	 MIFG	 VCTS	 VIRGA	 VCSH	 VCSH	 TS	 SQ	 FU +FC
20	 BR	 BR	 MIFG	 VCTS	 VIRGA	 VCSH	 VCSH	 VCSH	 SQ	 FU +FC
30	 BR	 BR	 MIFG	 VCTS	 VIRGA	 VCSH	 BLSN VCBLSN	 VCSH	 DRSN	 FU +FC
40	 VCFG	 BCFG	 MIFG	 VCTS	 PRFG	 FG	 VCSH	 VCSH	 FZFG	 FZFG
50	 -DZ	 -DZ	 DZ	 DZ	 +DZ	 +DZ	 -FZDZ	 FZDZ	 DZ RA; -DZ RA; -DZ -RA	 DZ RA; +DZ RA; DZ +RA; DZ
60	 -RA	 -RA	 RA	 RA	 +RA	 +RA	 -FZRA	 FZRA	 -RN -SN; -RA SN; -DZ -SN; -DZ SN	 RA SN; DZ SN; +RA SN; +DZ SN; RA +SN; DZ +SN; +RA +SN; +DZ +SN
70	 -SN	 -SN	 SN	 SN	 +SN	 +SN	 -UP	 SG	 IC	 PL PE SHPL SHPE
80	 -SH -SHRA	 SH +SH SHRA +SHRA	 SHRA +SHRA	 SHRA; SN; -SHSN; RA; -SHRA; -SN; -SHSN; -RA	 SHRA; SN; SHSN; RA; +SHRA; SN; +SHSN; -RA	 -SHSN	 SHSN +SHSN	 -GS -SHGS SHSN +SHSN	 GS; SHGS; +GS; +SHGS SHSN +SHSN	 -GR -SHGR
90	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 TSRA TSSN TSPL	 +TSRA +TSSN +TSPL	 any TS and any SA or DU	 +TSGS +TSGR

Sources

<http://aviationweather.gov/progchart>

http://aviationweather.gov/adds/metars/description/page_no/4

<http://www.wpc.ncep.noaa.gov/html/fntcodes2.shtml>

http://aviationweather.gov/adds/metars/description/page_no/3

<http://www.aviationweather.gov/products/gairmet/>

AVIATION WEATHER SERVICES, Advisory Circular, AC 00-45G, Change 1