

KEY TO DECODING THE U.S> METAR OBSERVATION REPORT

Example METAR Report

METAR KABC 121755Z AUTO 21016G24KT 180V240 1SM R11/P6000FT -RA BR BKN015
 0VC025 06/04 A2990 RMK A02 PK WND 20032/25 WSHFT 1715 VIS 3/4V1 1/2 VIS 3/4
 RWY11 RAB07 CIG 013V017 CIG 017 RWY11 PRESFR SLP125 POOO3 60009 T00640036
 10066 21012 58033 TSNO \$

KEY TO DECODING A METAR REPORT		
METAR	TYPE OF REPORT	METAR: hourly (scheduled) report; SPECI: special (unscheduled) report.
KABC	ICAO STATION (location) IDENTIFIER	Four character ICAO location identifier.
121755Z	DATE/TIME group	All dates and times in UTC using a 24-hour clock; two-digit date and four-digit time; always appended with Z to indicate UTC.
AUTO	REPORT MODIFIER	AUTO : Indicates a fully automated report with no human intervention. It is removed when an observer logs on to the system. COR : Indicates a corrected observation. No modifier indicates human observer or automated system with human logged on for oversight functions.
21016G24KT 180V240	WIND DIRECTION AND SPEED	Direction in tens of degrees from true north (first three digits); next two digits: speed in whole knots; if needed, include character as: G usts (character) followed by maximum observed speed; always appended with KT to indicate knots; 00000KT for calm; if direction varies by 60° or more and speed greater than 6 knots, a V ariable wind direction group is reported, otherwise omitted. If wind direction is variable and speed 6 knots or less, replace wind direction with VRB followed by wind speed in knots. Observing and Coding Wind for additional information.
1SM	VISIBILITY	Prevailing visibility in statute miles and fractions with space between whole miles and fractions; always appended with SM to indicate statute miles; values <1/4SM reported as M1/4SM.>See Observing and Coding Visibility for additional information.
R11/P6000FT	RUNWAY VISUAL RANGE	A 10-minute RVR evaluation value in hundreds of feet is reported if prevailing visibility is < or = 1 mile or RVR < or = 6000 feet ; always appended with FT to indicate feet; value prefixed with M or P to indicate value is lower or higher than the reportable RVR value. See Observing and Coding Runway Visual Range for additional information.

<p style="text-align: center;">-RA BR</p>	<p style="text-align: center;">WEATHER PHENOMENA</p>	<p>Present weather:</p> <table border="1" style="width: 100%;"> <tr> <td colspan="4">QUALIFIER</td> </tr> <tr> <td colspan="4">Intensity or Proximity</td> </tr> <tr> <td style="width: 25%;">- Light</td> <td style="width: 25%;">"no sign" Moderate</td> <td colspan="2" style="width: 50%;">+ Heavy</td> </tr> <tr> <td colspan="4">VC Vicinity: but not at aerodrome; in U.S. METAR, between 5SM and 10SM of the point(s) of observation.</td> </tr> <tr> <td colspan="4">Descriptor</td> </tr> <tr> <td>MI Shallow BL Blowing</td> <td>BC Patches SH showers</td> <td>PR Partial DR Drifting</td> <td>TS Thunderstorm FZ Freezing</td> </tr> <tr> <td colspan="4">WEATHER PHENOMENA</td> </tr> <tr> <td colspan="4">Precipitation</td> </tr> <tr> <td>DZ Drizzle IC Ice Crystals UP Unknown in automated observations</td> <td>RA Rain PE Ice pellets</td> <td>SN Snow GR Hail</td> <td>SG Snow grains GS Small hail/ snow pellets</td> </tr> <tr> <td colspan="4">Obscuration</td> </tr> <tr> <td>BR Mist (< or = 5/8SM) SA Sand</td> <td>FU Smoke HZ Haze</td> <td>VA Volcanic Ash PY Spray</td> <td>DU Widespread Dust</td> </tr> <tr> <td colspan="4">Other</td> </tr> <tr> <td>SQ Squall FC Funnel Cloud</td> <td>SS Sandstorm +FC Tornado/ Waterspout</td> <td>DS Duststorm</td> <td>PO Well developed dust/sand whirls</td> </tr> <tr> <td colspan="4"> <p>See Observing and Coding Present Weather Group for additional information.</p> </td> </tr> </table>	QUALIFIER				Intensity or Proximity				- Light	"no sign" Moderate	+ Heavy		VC Vicinity: but not at aerodrome; in U.S. METAR, between 5SM and 10SM of the point(s) of observation.				Descriptor				MI Shallow BL Blowing	BC Patches SH showers	PR Partial DR Drifting	TS Thunderstorm FZ Freezing	WEATHER PHENOMENA				Precipitation				DZ Drizzle IC Ice Crystals UP Unknown in automated observations	RA Rain PE Ice pellets	SN Snow GR Hail	SG Snow grains GS Small hail/ snow pellets	Obscuration				BR Mist (< or = 5/8SM) SA Sand	FU Smoke HZ Haze	VA Volcanic Ash PY Spray	DU Widespread Dust	Other				SQ Squall FC Funnel Cloud	SS Sandstorm +FC Tornado/ Waterspout	DS Duststorm	PO Well developed dust/sand whirls	<p>See Observing and Coding Present Weather Group for additional information.</p>			
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<p style="text-align: center;">BKN015 OVC025</p>	<p style="text-align: center;">SKY CONDITION</p>	<p>Cloud amount and height: CLR (In automated METAR reports only, no clouds detected below 12000 feet.); SKy Clear 0/8; FEW 1/8-2/8; SCattered 3/8-4/8; BoKeN 5/8-7/8; OVercast 8/8; 3-digit height of base in hundreds of feet; followed by Towering CUmulus or CumulonimBus if present. For an observed sky: Vertical Visibility followed by vertical veisibility in hundreds of feet into the obscuration, example: VV004. More than 1 layer may be reported.</p> <p>See Observing and Coding Sky Conditions for additional information.</p>																																																								

06/04	TEMPERATURE/DEW POINT	Each is reported in whole degrees Celsius using two digits; values are separated by a solidus (/); sub-zero values are prefixed with an M (minus). See Observing and Coding Temperature and Dew Point for additional information.
A2990	ALTIMETER	Altimeter setting (in U.S. reports) is always prefixed with an A indicating inches of mercury; reported using four digits: tens, units, tenths, and hundredths. See Observing and Coding Pressure for additional information.
The following groups are reported in the Remarks section of the METAR report		
RMK	REMARKS IDENTIFIER	Remarks includes clarifying or augmenting data concerning elements in the body of the METAR, additive coded data and maintenance data.
TORNADO, FUNNEL CLOUD or WATERSPOUT	TORNADIC ACTIVITY	Augmented; report should include TORNADO, FUNNEL CLOUD or WATERSPOUT, time (after the hour) of beginning/end, location, movement; e.g., TORNADO B25 N MOVE E See Observing and Coding Remarks for additional information.
AO2	TYPE OF AUTOMATED STATION	AO1; automated station without a precipitation discriminator. AO2; automated station with precipitation discriminator. See Observing and Coding Remarks for additional information.
PK WND 20032/25	PEAK WIND	PK WND dddff(F)/(hh)mm; direction in tens of degrees, speed in whole knots, time in minutes after the hour. Only minutes after the hour is included if the hour can be inferred from the report. See Observing and Coding Remarks for additional information.
WSHFT 1715	WIND SHIFT	WSHFT followed by hours and minutes of occurrence. The term FROPA may be entered after the time if it is reasonably certain that the wind shift was a result of a frontal passage. See Observing and Coding Remarks for additional information and here for wind definitions .
Not on this report	TOWER OR SURFACE VISIBILITY	TWR VIS vvvvv: visibility reported by tower personnel, e.g., TWR VIS 2; SFC VIS vvvvv: visibility reported by ASOS or observer. See Observing and Coding Remarks for additional information and here for visibility criteria and definitions .
VIS 3/4V1 1/2	VARIABLE PREVAILING VISIBILITY	VIS $v_n v_n v_n v_n v_n V_x x_x x_x x_x$; reported if prevailing visibility is <3 statute miles and variable.>See Observing and Coding Remarks for additional information and here for visibility criteria and definitions .
VIS 3/4 RWY11	VISIBILITY AT SECOND LOCATION	VIS vvvvv(LOC); reported if different than the reported prevailing visibility in the body of the report. See Observing and Coding Remarks for additional information and here for visibility criteria and definitions .

Not on this report	LIGHTNING	(FREQUENCY) LTG (LOCATION); when detected the frequency and location is reported, e.g., FRQ LTG NE, meaning frequent lightning to northeast of station. See Observing and Coding Remarks for additional information.
RAB07	BEGINNING AND ENDING OF PRECIPITATION AND THUNDERSTORMS	w'w'B(hh)mmE(hh)mm; TSB(hh)mmE(hh)mm, where w'w' is the present weather precipitation contraction, B indicates began, E indicates ended; (hh) indicates the hour the phenomena began or ended and can be omitted if the hour can be inferred from the report, mm indicates the minutes after the hour the phenomenon began or ended. See Observing and Coding Remarks for additional information.
Not on this report	VIRGA	Augmented to report by human observer; indicates precipitation not reaching the ground is observed. See Observing and Coding Remarks for additional information.
CIG 013V017	VARIABLE CEILING	CIG $h_n h_n h_n V h_x h_x h_x$; reported if the ceiling in the body of the report is < 3000 feet and variable. See Observing and Coding Remarks for additional information.
CIG 017 RWY11	CEILING HEIGHT AT SECOND LOCATION	CIG hhh[LOC]; Ceiling height reported if secondary ceilometer site ceiling value is different than the ceiling height in the body of the report. See Observing and Coding Remarks for additional information and here for sky condition criteria and definitions .
PRESFR	PRESSURE RISING OR FALLING RAPIDLY	PRESRR or PRESFR; pressure rising or falling rapidly at time of observation. See Observing and Coding Remarks for additional information and here for pressure criteria and definitions .
SLP125	SEA LEVEL PRESSURE	SLPppp; sea level pressure reported for ppp in tens, units, and tenths of hPa. See Observing and Coding Remarks for additional information and here for pressure criteria and definitions .
P0003	HOURLY PRECIPITATION AMOUNT	Prrrr; in tens, units, tenths and hundredths of an inch since last regular hourly METAR. A trace is reported as P0000. See Observing and Coding Remarks for additional information.
60009	3- AND 6-HOUR PRECIPITATION AMOUNT	6RRRR; precipitation amount, including water equivalent, to nearest 0.01 inches for past 6 hours reported in 00, 06, 12, and 18 UTC observations and for past 3 hours in 03, 09, 15, and 21 UTC observations. A trace is 60000. See Observing and Coding Remarks for additional information.
Not on this report	24-HOUR PRECIPITATION AMOUNT	7R ₂₄ R ₂₄ R ₂₄ R ₂₄ ; precipitation amount to nearest 0.01 inches for past 24 hours reported in 12 UTC observation; e.g., 70015 indicates 0.15 inches of precipitation for past 24 hours. See Observing and Coding Remarks for additional information.
T00640036	HOURLY TEMPERATURE AND DEW POINT	T _s T _a T _a T _a s _n T _a T _a T _a ; reported to nearest tenth of °C; s _n : 1 if temperature or dew point below 0°C and 0 if temperature/dew point 0°C or higher. See Observing and Coding Remarks for

		additional information.
10066	6-HOUR MAXIMUM TEMPERATURE	1s _n T _x T _x T _x ; maximum temperature for past 6 hours reported to nearest tenth of degree Celsius; reported on 00, 06, 12, 18 UTC reports; s _n = 1 if temperature below 0°C and 0 if temperature 0°C or higher.. See Observing and Coding Remarks for additional information.
21012	6-HOUR MINIMUM TEMPERATURE	2s _n T _n T _n T _n ; minimum temperature for past 6 hours reported to nearest tenth of degree Celsius; reported on 00, 06, 12, 18 UTC reports; s _n = 1 if temperature below 0°C and 0 if temperature 0°C or higher.. See Observing and Coding Remarks for additional information.
Not on this report	24-HOUR MAXIMUM AND MINIMUM TEMPERATURE	4s _n T _x T _x T _x s _n T _n T _n T _n ; maximum temperature for past 6 hours reported to nearest tenth of degree Celsius; reported on midnight local standard time reports; s _n = 1 if temperature below 0°C and 0 if temperature 0°C or higher; e.g., 400461006 indicates a 24-hour maximum temperature of 4.6°C and a 24-hour minimum temperature of -0.6°C. See Observing and Coding Remarks for additional information.
58033	PRESSURE TENDENCY	5appp; the character (a) and amount of change in pressure (ppp) in tenths of hPa for the past 3 hours. See Observing and Coding Remarks for additional information.
TSNO	SENSOR STATUS INDICATORS	RVRNO: RVR missing; PWINO: precipitation identifier information not available; PNO: precipitation amount not available; FZRANO: freezing rain information not available; TSNO: thunderstorm information not available (may indicate augmenting weather observer not logged on); VISNO [LOC] visibility at second location not available, e.g. VISNO RWY06; CHINO [LOC]: (cloud-height- indicator) sky condition at secondary location not available, e.g., CHINO RWY06. See Observing and Coding Remarks for additional information.
\$	MAINTENANCE CHECK INDICATOR	Maintenance is needed on the system. See Observing and Coding Remarks for additional information.

If an element or phenomena does not occur, is missing, or cannot be observed, the corresponding group and space are omitted (body and/or remarks) from that particular report, except for Sea-level Pressure (SLPppp). SLPNO shall be reported in a METAR when the SLP is not available.