

METAR/TAF LIST OF ABBREVIATIONS AND ACRONYMS

\$	maintenance check indicator	-	light intensity
+	heavy intensity	/	indicator that visual range data follows; separator between temperature and dew point data.
ACC	altocumulus castellanus	ACFT MSHP	aircraft mishap
ACSL	altocumulus standing lenticular cloud	AO1	automated station without precipitation discriminator
AO2	automated station with precipitation discriminator	ALP	airport location point
APCH	approach	APRNT	apparent
APRX	approximately	ATCT	airport traffic control tower
AUTO	fully automated report	B	began
BC	patches	BKN	broken
BL	blowing	BR	mist
C	center (with reference to runway designation)	CA	cloud-air lightning
CB	cumulonimbus cloud	CBMAM	cumulonimbus mammatus cloud
CC	cloud-cloud lightning	CCSL	cirrocumulus standing lenticular cloud
cd	candela	CG	cloud-ground lightning
CHI	cloud-height indicator	CHINO	sky condition at secondary location not available
CIG	ceiling	CLR	clear
CONS	continuous	COR	correction to a previously disseminated observation
DOC	Department of Commerce	DOD	Department of Defense
DOT	Department of Transportation	DR	low drifting
DS	duststorm	DSIPTG	dissipating
DSNT	distant	DU	widespread dust
		DVR	dispatch visual range
DZ	drizzle	E	east, ended, estimated ceiling (SAO)
FAA	Federal Aviation Administration	FC	funnel cloud
FEW	few clouds	FG	fog
FIBI	filed but impracticable to transmit	FIRST	first observation after a break in coverage at manual station
FMH-1	Federal Meteorological Handbook No.1, <i>Surface Weather Observations & Reports (METAR)</i>	FMH2	Federal Meteorological Handbook No.2, <i>Surface Synoptic Codes</i>

FRQ	frequent	FROPA	frontal passage
FT	feet	FU	smoke
FZ	freezing	FZRANO	freezing rain sensor not available
G	gust	GR	hail
GS	small hail and/or snow pellets	HLSTO	HLSTO hailstone
HZ	haze	IC	ice crystals, in-cloud lightning
ICAO	International Civil Aviation Organization	INCRG	increasing
INTMT	intermittent	KT	KNOTS
L	left (with reference to runway designation)	LAST	last observation before a break in coverage at a manual station
LST	Local Standard Time	LTG	lightning
LWR	lower	M	minus, less than
max	maximum	METAR	routine weather report provided at fixed intervals
MI	shallow	min	minimum
MOV	moved/moving/movement	MT	mountains
N	north	N/A	not applicable
NCDC	National Climatic Data Center	NE	northeast
NOS	National Ocean Survey	NOSPECI	no SPECI reports are taken at the station
NOTAM	Notice to Airmen	NW	northwest
NWS	National Weather Service	OCNL	occasional
OFCM	Office of the Federal Coordinator for Meteorology	OHD	overhead
OVC	overcast	OVR	over
P	indicates greater than the highest reportable value	PCPN	precipitation
PL	ice pellets	PK WND	peak wind
PNO	precipitation amount not available	PO	dust/sand whirls (dust devils)
PRES	pressure	PR	partial
PRESFR	pressure falling rapidly	PRESRR	pressure rising rapidly
PWINO	precipitation identifier sensor not available	PY	spray
R	right (with reference to runway designation), runway	RA	rain
RTD	Routine Delayed (late) observation	RV	reportable value
RVR	Runway Visual Range	RVRNO	RVR system values not available
RY	runway	S	snow, south
SA	sand	SCSL	stratocumulus standing lenticular cloud

SCT	scattered	SE	southeast
SFC	surface	SG	snow grains
SH	shower(s)	SKC	sky clear
SLP	sea-level pressure	SLPNO	sea-level pressure not available
SM	statute miles	SN	snow
SNINCR	snow increasing rapidly	SP	snow pellets
SPECI	an unscheduled report taken when certain criteria have been met	SQ	squalls
SS	sandstorm	STN	station
SW	snow shower, southwest	TCU	towering cumulus
TS	thunderstorm	TSNO	thunderstorm information not available
TWR	tower	UNKN	unknown
UP	unknown precipitation	UTC	Coordinated Universal Time
V	variable	VA	volcanic ash
VC	in the vicinity	VIS	visibility
VISNO	visibility at secondary location not available	VR	visual range
VRB	variable	VV	vertical visibility
W	west	WG/SO	Working Group for Surface Observations
WMO	World Meteorological Organization	WND	wind
WSHFT	wind shift	Z	zulu, i.e., Coordinated Universal Time

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APPENDIX C

Content of ASOS-Generated METAR

A Quick Reference Guide

KEY TO DECODE AN ASOS (METAR) OBSERVATION

METAR KABC 121755Z AUTO 21016G24KT 180V240 1SM R11/P6000FT -RA BR BKN015 OVC025 06/04 A2990
 RMK AO2 PK WND 20032/25 WSHFT 1715 VIS 3/4V1 1/2 VIS 3/4 RWY11 RAB07 CIG 013V017 CIG 017 RWY11 PRESFR
 SLP125 P0003 60009 T00640036 10066 21012 58033 TSNO \$

TYPE OF REPORT	METAR: hourly (scheduled) report; SPECI: special (unscheduled) report.	METAR
STATION IDENTIFIER	Four alphabetic characters; ICAO location identifier.	KABC
DATE/TIME	All dates and times in UTC using a 24-hour clock; two-digit date and four-digit time; always appended with <u>Z</u> to indicate UTC.	121755Z
REPORT MODIFIER	Fully automated report, no human intervention; removed when observer signed-on.	AUTO
WIND DIRECTION AND SPEED	Direction in tens of degrees from true north (first three digits); next two digits: speed in whole knots; as needed <u>G</u> usts (character) followed by maximum observed speed; always appended with <u>KT</u> to indicate knots; 00000KT for calm; if direction varies by 60° or more a <u>V</u> ariable wind direction group is reported.	21016G24KT 180V240
VISIBILITY	Prevailing visibility in statute miles and fractions (space between whole miles and fractions); always appended with <u>SM</u> to indicate statute miles; values <1/4 reported as M1/4.	1SM
RUNWAY VISUAL RANGE	10-minute RVR value in hundreds of feet; reported if prevailing visibility is ≤ one mile or RVR ≤ 6000 feet; always appended with <u>FT</u> to indicate feet; value prefixed with <u>M</u> or <u>P</u> to indicate value is lower or higher than the reportable RVR value .	R11/P6000FT
WEATHER PHENOMENA	RA: liquid precipitation that does not freeze; SN: frozen precipitation other than hail; UP: precipitation of unknown type; intensity prefixed to precipitation: light (-), moderate (no sign), heavy (+); FG: fog; FZFG: freezing fog (temperature below 0°C); BR: mist; HZ: haze; SQ: squall; maximum of three groups reported; augmented by observer: FC (funnel cloud/tornado/waterspout); TS (thunderstorm); GR (hail); GS (small hail; <1/4 inch); FZRA (intensity; freezing rain); VA (volcanic ash).	-RA BR
SKY CONDITION	Cloud amount and height: CLR (no clouds detected below 12000 feet); FEW (few); SCT (scattered); BKN (broken); OVC (overcast); followed by 3-digit height in hundreds of feet; or vertical visibility (<u>VV</u>) followed by height for indefinite ceiling.	BKN015 OVC025
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 <u>M</u> (minus).	06/04
ALTIMETER	Altimeter always prefixed with an <u>A</u> indicating inches of mercury; reported using four digits: tens, units, tenths, and hundredths.	A2990

REMARKS ON REVERSE SIDE

REMARKS IDENTIFIER: RMK	RMK
TORNADIC ACTIVITY: Augmented; report should include TORNADO, FUNNEL CLOUD, or WATERSPOUT, time begin/end, location, movement; e.g., TORNADO B25 N MOV E.	
TYPE OF AUTOMATED STATION: AO2; automated station with precipitation discriminator.	AO2
PEAK WIND: PK WND dddff(f)/(hh)mm; direction in tens of degrees, speed in whole knots, and time.	PK WND 20032/25
WIND SHIFT: WSHFT (hh)mm	WSHFT 1715
TOWER OR SURFACE VISIBILITY: TWR VIS vvvvv: visibility reported by tower personnel, e.g., TWR VIS 2; SFC VIS vvvvv: visibility reported by ASOS, e.g., SFC VIS 2.	
VARIABLE PREVAILING VISIBILITY: VIS v _n v _n v _n v _n V _v v _x v _x v _x ; reported if prevailing visibility is < 3 miles and variable.	VIS 3/4V1 1/2
VISIBILITY AT SECOND LOCATION: VIS vvvvv [LOC]; reported if different than the reported prevailing visibility in body of report.	VIS 3/4 RWY11
LIGHTNING: [FREQ] LTG [LOC]; when detected the frequency and location is reported, e.g., FRQ LTG NE.	
BEGINNING AND ENDING OF PRECIPITATION AND THUNDERSTORMS: w'w'B(hh)mmE(hh)mm; TSB(hh)mmE(hh)mm	RAB07
VIRGA: Augmented; precipitation not reaching the ground, e.g., VIRGA.	
VARIABLE CEILING HEIGHT: CIG h _n h _n h _n V _h xh _x h _x ; reported if ceiling in body of report is < 3000 feet and variable.	CIG 013V017
CEILING HEIGHT AT SECOND LOCATION: CIG hhh [LOC]; Ceiling height reported if secondary ceilometer site is different than the ceiling height in the body of the report.	CIG 017 RWY11
PRESSURE RISING OR FALLING RAPIDLY: PRESRR or PRESFR; pressure rising or falling rapidly at time of observation.	PRESFR
SEA-LEVEL PRESSURE: SLPppp; tens, units, and tenths of SLP in hPa.	SLP125
HOURLY PRECIPITATION AMOUNT: Prrrr; in .01 inches since last METAR; a trace is P0000.	P0003
3- AND 6-HOUR PRECIPITATION AMOUNT: 6RRRR; precipitation amount in .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.	60009
24-HOUR PRECIPITATION AMOUNT: 7R ₂₄ R ₂₄ R ₂₄ R ₂₄ ; precipitation amount in .01 inches for past 24 hours reported in 12 UTC observation, e.g., 70015.	
HOURLY TEMPERATURE AND DEW POINT: T _s _n T _a T _a T _a T _a s _n T _a T _a T _a ; tenth of degree Celsius; s _n : 1 if temperature below 0°C and 0 if temperature 0°C or higher.	T00640036
6-HOUR MAXIMUM TEMPERATURE: 1s _n T _x T _x T _x ; tenth of degree Celsius; 00, 06, 12, 18 UTC; s _n : 1 if temperature below 0°C and 0 if temperature 0°C or higher.	10066
6-HOUR MINIMUM TEMPERATURE: 2s _n T _n T _n T _n ; tenth of degree Celsius; 00, 06, 12, 18 UTC; s _n : 1 if temperature below 0°C and 0 if temperature 0°C or higher.	21012
24-HOUR MAXIMUM AND MINIMUM TEMPERATURE: 4s _n T _x T _x T _x s _n T _n T _n T _n ; tenth of degree Celsius; reported at midnight local standard time; 1 if temperature below 0°C and 0 if temperature 0°C or higher, e.g., 400461006.	
PRESSURE TENDENCY: 5app; the character (a) and change in pressure (ppp; tenths of hPa) the past 3 hours.	58033
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; VISNO [LOC]: visibility at secondary location not available, e.g., VISNO RWY06; CHINO [LOC]: (cloud-height-indicator) sky condition at secondary location not available, e.g., CHINO RWY06.	TSNO
MAINTENANCE CHECK INDICATOR: Maintenance needed on the system.	\$
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.	

SPECI KSNS 190132Z AUTO 26010KT 9SM -RA SCT015 BKN020 OVC038 16/14 A3004 RMK AO2 RAB25 T01610139 PNO

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Code	Explanation
SPECI	Type: SPECI
KSNS	Station ID 4 character ICAO airport identifier
190132Z	Date and Time Day: 19; Time: 01:32 UTC
AUTO	Fully Automated Report
26010KT	Wind Direction and Speed Wind Direction: 260 Speed: 10KT
9SM	Visibility 9 SM.
-RA	Light(-) Rain(RA)
SCT015	Cloud Layer Scattered (SCT) 1,500ft AGL
BKN020	Cloud Layer Broken (BKN) 2,000ft AGL
OVC038	Cloud Layer Overcast (OVC) 3,800ft AGL
16/14	Temperature: 16 °C Dewpoint: 14 °C
A3004	Altimeter setting Air pressure is 30.04 inches of mercury
RMK	Remarks
AO2	Automated station with precipitation discriminator
RAB25	Weather Events Rain (RA) began (B) at 25 minutes past the hour;
T01610139	Temperature and Dewpoint Temperature: 16.1°C Dewpoint: 13.9°C
PNO	Precipitation amount not available

SPECI KSNS 190149Z AUTO 26007KT 9SM FEW014 BKN019 OVC038 16/14 A3004 RMK AO2 RAB25E34 PNO

SPECI KSNS 190149Z AUTO 26007KT 9SM FEW014 BKN019 OVC038 16/14 A3004 RMK AO2 RAB25E34 PNO

Code	Explanation
SPECI	Type: SPECI
KSNS	Station ID 4 character ICAO airport identifier
190149Z	Date and Time Day: 19; Time: 01:49 UTC
AUTO	Fully Automated Report
26007KT	Wind Direction and Speed Wind Direction: 260 Speed: 07KT
9SM	Visibility 9 SM.
FEW014	Cloud Layer Few (FEW) 1,400ft AGL
BKN019	Cloud Layer Broken (BKN) 1,900ft AGL
OVC038	Cloud Layer Overcast (OVC) 3,800ft AGL
16/14	Temperature: 16 °C Dewpoint: 14 °C
A3004	Altimeter setting Air pressure is 30.04 inches of mercury
RMK	Remarks
AO2	Automated station with precipitation discriminator
RAB25E34	Weather Events Rain (RA) began (B) at 25 minutes past the hour; ended (E) at 34 minutes past the hour;
PNO	Precipitation amount not available

METAR KSNS 182353Z AUTO 27011KT 9SM FEW040 SCT049 17/13 A3000 RMK AO2 SLP168 6//// T01720133 10200 20167 51014 PNO

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Code	Explanation
METAR	Type: METAR Meteorological Aerodrome Report
KSNS	Station ID 4 character ICAO airport identifier
182353Z	Date and Time Day: 18; Time: 23:53 UTC
AUTO	Fully Automated Report
27011KT	Wind Direction and Speed Wind Direction: 270 Speed: 11KT
9SM	Visibility 9 SM.
FEW040	Cloud Layer Few (FEW) 4,000ft AGL
SCT049	Cloud Layer Scattered (SCT) 4,900ft AGL
17/13	Temperature: 17 °C Dewpoint: 13 °C
A3000	Altimeter setting Air pressure is 30.00 inches of mercury
RMK	Remarks
AO2	Automated station with precipitation discriminator
SLP168	Sea Level Pressure Pressure is 1016.8 hpa.
6////	Not decoded!
T01720133	Temperature and Dewpoint Temperature: 17.2°C Dewpoint: 13.3°C
10200	6 Hour Max Temperature Maximum temperature in the last 6 hours is 20 °C.
20167	6 Hour Min Temperature Minimum temperature in the last 6 hours is 16.7 °C.
51014	Pressure Trend Amount of change: ↗ 1.4 hpa Pressure: Increasing, then steady, or increasing then increasing more slowly.
PNO	Precipitation amount not available