METAR /TAF Abbreviations / Cloud Types

A	Hail
ABM	Abeam
ABV	Above
AC	Altocumulus
ACCAS	Altocumulus castellanus
ACCUM	Altocumulate
ACLD	Above clouds
ACSL	Standing lenticular altocumulus
ACTV	Active
ACYC	Anticyclonic
ADDN	Addition
ADRNDCK	Adirondack
ADVCTN	Advection
ADVY	Advisory
AFDK	After Dark
AFT	After
AFTN	Afternoon
AGL	Above Ground Level
AGN	Again
AHD	Ahead
AIREP	Air Report
AIRMET	Airmen's Meteorological Info
ALF	Aloft
ALG	Along
ALGHNY	Allegheny
ALQDS	All quadrants
ALSTG	Altimeter setting
ALTA	Alberta
ALUTN	Alleutian
AMD	Amended forecast
AMDT	Amendment

AMOS	Automatic Meteorological observing system
AMS	Air mass
ANLYS	Analysis
AO1	Automated observation with no precip discriminator (rain/snow)
AO2	Automated observation with precip discriminator (rain/snow)
AOA	At or above
AOB	At or below
AP	Anomalous propagation
APCH	Approach
APRNT	Apparent
AS	Altostratus
ASOS	Automated surface observing system
ATLC	Atlantic
ATTM	At this time
AURBO	Aurora Borealis
AUTOB	Automatic weather reporting system
AWOS	Automatic weather observing system
B	Beginning of precipitation (time in minutes (wx reports only)
BACLIN	Baroclinic prognosis
BATROP	Barotropic or barotropic prognosis
BC	British Columbia
BCFG	Fog patches
BCKG	Backing
BCM(G)	Become (becoming)
BD	Blowing dust (wx reports only)
BFDK	Before dark
BINOVC	Breaks in overcast

BKN	Broken
BLDUP	Build up
BLKHLS	Black Hills
BLO	Below
BN	Blowing sand (wx reports only)
BNDRY	Boundary
BOVC	Base of overcast
BRAF	Braking action fair
BRAG	Braking action good
BRAN	Braking action nil
BRAP	Braking action poor
BRF	Brief
BRKSHR	Berkshire
BS	Blowing snow (wx reports only)
BTWN	Between
BY	Blowing spray (wx reports only)
CA	Clear above (PIREP only)
CAN	Canada
CARIB	Caribbean
CASCDS	Cascades
CAVOK	Ceiling and visibility OK
CAVU	Ceiling and visibility unlimited
CB	Cumulonimbus
CBMAM	Cumulonimbus mammatus
CC	Cirrocumulus
CCSL	Standing lenticular cirrocumulus
CDFNT	Cold Front
CFP	Cold front passage
CHC	Chance
CHSPK	Chesapeake
CIG	Ceiling

CLD	Cloud
CLR	Clear
CAS	Clear and smooth
CNL	Cancel
CNDN	Canadian
CNTRL	Central
CNVG	Converge
CNVTV	Convective
CONT-DVD	Continental Divide
CONTRAILS	Condensation trails
CS	Cirrostratus
CST	Coast
CTGY	Category
CTSKLS	Catskills
CU	Cumulus
CUF	Cumuliform
CUFRA	Cumulus fractus
CYC	Cyclonic
CYCLGN	Cyclogenesis
D	Dust (wx reports only)
DABRK	Daybreak
DALGT	Daylight
DCAVU	Clear or scattered cloud and vis greater than 10, remainder or report missing (wx reports only)
DCR	Decreased
DIAM	Diameter
DKTS	Dakotas
DMSH	Diminish
DNS	Dense
DNSLP	Downslope

DNSTRM	Downstream
DP	Deep
DPNG	Deepening
DPTH	Depth
DRFT	Drift
DRZL	Drizzle
DSIPT	Dissipate
DSNT	Distant
DTRT	Deteriorate
DRG	During
DWNDFTS	Downdrafts
DWPNT	Dew point
E	Ending of precipitation (time in minutes)(wx reports only)
E	Equatorial (air mass)
E	Estimated (wx reports only)
ELNGT	Elongate
EMBDD	Embedded
ENRT	Enroute
ENTR	Entire
ERY	Early
EVE	Evening
EXCP	Except
EXPC	Expect
EXTRM	Extreme
F	Fog (wx reports only)
FA	Area Forecast
FAH	Farenheit
FAX	Facsimile
FIBI	Filed but impracticable to transmit
FINO	Wx report will not be filed for transmission

FLG	Falling
FLRY	Flurry
FNT	Front
FNTGNS	Frontogenesis
FNTLYS	Frontolysis
FORNN	Forenoon
FRMG	Forming
FROPA	Frontal passage
FRST	Frost
FRZ	Freeze
FRZLVL	Freezing level
FRZN	Frozen
FZRANO	Freezing rain sensor not operating
FT	Terminal Forecast
G	Gusts reaching (knots)(wx reports only)
GF	Ground fog (wx reports only)
GFDEP	Ground fog estimated (feet) deep
GICG	Glaze icing
GLFALSK	Gulf of Alaska
GLFCAL	Gulf of California
CLFMEX	Gulf of Mexico
GLFSTLAWR	Gulf of St. Lawrence
GNDFG	Ground Fog
GRAD	Gradient
GRTLKS	Great Lakes
GSTS	Gusts
GSTY	Gusty
H	Haze (wx reports only)
HCVIS	High clouds visible
HDEP	Haze layer estimated (feet) deep
HDSVLY	Hudson Valley

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HI	High
HLSTO	Hailstones
HLYR	Haze layer aloft
HURCN	Hurricane
HVY	Heavy
IC	Ice crystal
ICG	Icing
ICGIC	Icing in clouds
ICGICIP	Icing in clouds and precipitation
ICGIP	Icing in precipitation
IF	Ice fog
IFR	Instrument flight rules
INCR	Increase
INDC	Indicate
INDEF	Indefinite
INLD	Inland
INSTBY	Instability
INTR	Interior
INTR-MTRGN	Inter-mountain region
INTS	Intense
INTST	Intensity
INVRN	Inversion
IOVC	In overcast
IP	Ice pellets (wx reports only)
IR	Ice on runway
JTSTR	Jetstream
K	Smoke
KDEP	Smoke layer estimated (feet) deep
KLYR	Smoke layer aloft
KOCTY	Smoke over city
L	Drizzle (wx reports only)

LABRDR	Labrador
LFT	Lift
LGT	Light
LIFR	Low IFR (wx reports only)
LK	Lake
LSR	Loose snow on runway
LST	Local Standard Time
LTGCA	Lightning cloud to air
LTGCC	Lightning cloud to cloud
LTGCCCG	Lightning cloud to cloud, cloud to ground
LTGCG	Lightning cloud to ground
LTGCW	Lightning cloud to water
LTGIC	Lightning in clouds
LTLCG	Little change
LTNG	Lightning
LYR	Layer or layered or layers
M	Measured ceiling (wx reports only)
M	Missing (wx reports only)
MAN	Manitoba
MDT	Moderate
METAR	Scheduled aviation observation
MEX	Mexico
MHKVLY	Mohawk Valley
MIDN	Midnight
MIFG	Patches of shallow fog not deeper than 2 meters
MLTLVL	Melting level
MNLD	Mainland
MOGR	Moderate or greater
MOV	Move
MRGL	Marginal
MRNG	Morning

MRTM	Maritime
MSTLY	Mostly
MTN	Mountain
MVFR	Marginal VFR
NB	New Brunswick
NEW ENG	New England
NFLD	Newfoundland
NGT	Night
NOSPL	No special observations taken (wx reports only)
NS	Nimbostratus
NS	Nova Scotia
NVA	Negative vorticity advection
OBS	Observation
OBSC	Obscure
OCFNT	Occluded front
OCLD	Occlude
OCLN	Occlusion
OFP	Occluded frontal passage
OFSHR	Offshore
OMTNS	Over mountains
ONSHR	On shore
ONT	Ontario
ORGPHC	Orographic
OTAS	On top and smooth
OTLK	Outlook
OVC	Overcast
OVR	Over
PAC	Pacific
PCPN	Precipitation
PDW	Priority Delayed Weather
PEN	Peninsula

PGTSND	Puget Sound
PIBAL	Pilot balloon observation
PK WND	Peak wind (wx report only)
PNHDL	Panhandle
PNO	Rain gauge not operating
PPINA	Radar weather report not available or omitted
PPINE	Radar weather report no echoes observed
PPINO	Radar weather report equipment inoperative due to breakdown
PPIOK	Radar weather report equipment operation resumed
PPIOM	Radar weather report equipment inoperative due to maintenance
PRBLTY	Probability
PRESFR	Pressure falling rapidly
PRESRR	Pressure rising rapidly
PRJMP	Pressure jump (wx reports only)
PROG	Prognosis or prognostic
PSR	Packed snow on runway
PTCHY	Patchy
PTLY	Partly
PVA	Positive vorticity advection
PWINO	Precipitaion identifier information not available (wx reports only)
Q	Squall (wx reports only)
QSTNRY	Quasistationary
QUE	Quebec
R	Rain (wx reports only)
RADAT	Radiosonde observation data
RAOB	Radiosonde observation
RCKY	Rocky Mountains
RDG	Ridge

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RGD	Ragged
RHINO	Radar echo height information not available
RHINO	Radar range height indicator not operating on scan
RIOGD	Rio Grande
RNFL	Rainfall
ROBEPS	Radar operating below prescribed standard
RPD	Rapid
RSG	Rising
RUF	Rough
RVRNO	Runway visual range missing
RW	Rain shower (wx reports only)
S	Snow (wx reports only)
SASK	Saskatchewan
SAWRN	Supplementary Aviation Weather Reporting System
SC	Stratocumulus
SCSL	Stratocumulus standing lenticular
SCT	Scattered
SELS	Severe local storms
SFERICS	Atmospherics
SG	Snow grains (wx reports only)
SHFT	Shift (wx reports only)
SHLW	Shallow
SHWR	Shower
SIERNEV	Sierra Nevada
SIR	Snow and ice on runway
SPECI	Unscheduled aviation observation
SLF	Sea level pressure
SLPNO	Sea level pressure not available
SNINCR	Snow increasing rapidly
TCU	Towering cumulus
TDA	Today

TDWR	Terminal Doppler Weather Radar
TEMP	Temperature
THDR	Thunder
THRU	Through
THRUT	Throughout
THSD	Thousand
TIL	Until
TMW	Tomorrow
TNGT	Tonight
TOP	Cloud top
TOVC	Top of overcast
TPG	Topping
TROF	Trough
TROP	Tropopause
TRPCL	Tropical
TRRN	Terrain
TSHWR	Thundershower
TSNO	Lightning sensor not available
TSTM	Thunderstorm
TURB	Turbulence
TURBC	Turbulence
TWD	Toward
TWR	Tower
TWRG	Towering
TYPH	Typhoon
U	Intensity unknown (wx reports only)
UA	Routine PIREP
UDDF	Up and down drafts
UNSTBL	Unstable
UNSTDY	Unsteady
UPR	Upper

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UTC	Universal coordinated time
UUA	Urgent PIREP
V	Variable (wx reports only)
VCSH	Showers in vicinity
VCTY	Vicinity
VFR	Visual flight rules
VLY	Valley
VRBL	Variable
VSBY	Visibility
WDLY	Widely
WEA	Weather
WFP	Warm front passage
WK	Weak
WKN	Weaken
WL	Will

WND	Wind
WRM	Warm
WRMFNT	Warm front
WRNG	Warning
WSHFT	Wind shift
WW	Severe weather forecast
WX	Weather
X	Obscured sky condition
XCP	Except
YDA	Yesterday
Z	UTC
ZRNO	Freezing rain information not available (wx reports only)

WEATHER REPORT DECODING

METAR ***TAF***

METAR (Meteorological Aerodrome Report)

Examples:

```
KMEM 230853Z AUTO 18014G18KT 10SM CLR 16/M02 A3008 RMK AO2 SLP117
     T01561022 TSNO $
KLAX 161550Z COR 11004KT 2 1/2SM HZ BKN011 BKN015 19/16 A2993 RMK AO2
     SLP134 VIS SW-NW 1 1/2 FG BNK SW-NW T01890156
KEWR 160128Z 18008KT 2 1/2SM R04R/4500VP6000FT RA BR SCT008
     BKN022 OVC038 22/21 A3001 RMK AO2 RAB20E51 SCT008 V BKN P0008
KBIL 162256Z 29017G27KT 10SM FEW070 SCT085 BKN110 M02/M02 A2961
     RMK AO2 PK WND 29027/2250 WSHFT 2241 SLP205 70033 T10171022
     11006 21017 53016
KGTF 170322Z 33014KT 1 3/4SM -SN BR OVC005 A2991 RMK AO2 RAE17SNB17 P0004
KGTF 170253Z 33013KT 3SM -RA OVC005 02/02 A2990 RMK AO2 TWR
     VIS 3 SFC VIS 8 CIG 003V007 SLP147 P0000 60011 T00220017 51035
KABQ 100156Z 32010KT 280V340 10SM TS FEW033 BKN075CB OVC100 19/14
     A2999 RMK AO2 TSB09RAB09E56 SLP085 FREQ LTGCCCGIC OHD TS OHD
     MOV NE MTN TOP OBSCD NE P0002 T01940144
SVVA 171100Z 00000KT 9999 FEW016 BKN250 21/19 Q1013 NOSIG
```

KMEM	4-letter ICAO location indicator
230853	Date and Time of observation followed by Z (Zulu)
AUTO	Included if METAR is from an automatic, e.g. ASOS station
COR	Correction to observation (CCA for Canada)
18014G18	Wind direction in tens of degrees, VRB means variable; if direction +/- 60 deg, wind shown as 180V260 Wind speed in knots, meters per second, or kilometers per hour Wind gusts in knots, meters per second, or kilometers per hour
9999 **10SM**	Visibility in meters Visibility in statute miles (U.S.)
R04R4500VP6000FT	Runway 4R RVR Runway visual range in meters (feet for the U.S.) Range value may be followed by a trend (D - down, U - up, N - no change, V - variable) for non-U.S. stations
RA	Weather and/or obstruction to visibility (see table)

SCT008CB	Cloud cover - SKC (sky clear) or CLR (clear below 12,000 feet for automatic stations), FEW (1-2 octas), SCT (3-4 octas), BKN (5-7 octas), or OVC (8 octas) 3-digit cloud height in hundreds of feet; obscured sky given as VV (vertical visibility), height in hundreds of feet; unknown height reported as ///; more than one layer may be reported Cloud type, TCU (towering cumulus), CB (cumulonimbus), CBMAM (cb mammatus)
16	Temperature in degrees Celsius
M02	Dew point in degrees Celsius
Q1016 **A3008**	Altimeter setting (mb or hP) Altimeter setting (in Hg)(U.S. only)
RMK	Remarks consisting of recent operationally significant weather as well as additive and automated maintenance data (mainly used in the U.S. and Canada) See table below.
=	Denotes end of report

TAF (Terminal Aerodrome Forecast)
FedEx Terminal Forecast (FT)

```
Examples:
KPIT 091720Z 091818 22020KT 3SM -SHRA BKN020CB
     FM2000 30015G25KT 1SM SHRA OVC15CB PROB40 2022 1/2SM TSRA
      OVC008CB
     FM2300 27008KT 5SM -SHRA BKN020 OVC040 WS010/30020KT
      TEMPO 0407 0000KT 1SM -RA BR
     FM1000 22010KT 5SM -SHRA OVC020 BECMG 1315 20010KT 7SM NSW SKC=
EWR FT FEDEX  2900Z-2912Z 290046Z ABV 2000/3 OCNL 6 BKN
    3SM -SHRA BR,  VCTS 1215
    02Z 6 OVC OCNL 4 BKN 2SM -RA BR
    04Z 4 OVC 3SM BR OCNL 11/2SM -RA BR
    06Z 5 OVC 3SM BR
    08Z 12 BKN 3SM BR
    10Z -X 2SM BR * =
```

KPIT **EWR**	Station identifier. The TAF code uses ICAO 4-letter station identifiers. FedEx forecasts use 3-letter identifiers
FT FEDEX AMD01	FedEx weather department terminal forecast, amendment 1

091720Z	Issuance time. 2-digit Date and and 4-digit zulu Time.
091818 **2900Z-2912Z**	Valid date and time. '091818' means a 24 hour forecast valid from 1800Z on the 9th until 1800Z the following day. Valid from the 29th 0000Z to 1200Z (FedEx)
22020KT **1215**	Wind. First 3 digits mean true north direction (nearest 10 deg) or VRB for variable. The next two digits mean speed and unit (KT for knots, KMH for kilometers per hour, or MPS for meters per second). Wind gust, as needed, is given as a 2-digit maximum speed. 00000KT is given for calm. If wind direction varies 60 degrees or more, variability is appended, e.g. 180V260. In FedEx forecast, direction is 2-digit, velocity is always in knots.
3SM	Visibility. In the U.S., prevailing visibility is given in statue miles and fractions (SM). Outside the U.S., 4-digit sector visibility in meters is given and as required, differing in value with direction.
-SHRA	Weather. Weather and/or obstruction to visibility given in code (see table below).
BKN020CB **12 BKN**	Cloud amount. Cloud amount is given as SKC (sky clear), FEW (1-2 octas), SCT (3-4 octas), BKN (5-7 octas), or OVC (8 octas). The cloud height is given in hundreds of feet. Clouds types reported are either TCU (towering cumulus) or CB (cumulonimbus). An obscured sky is reported as VV (vertical visibility) with height in hundreds of feet. (FedEx forecast uses X for sky obscured, or -X for partially obscured.) An unknown height is reported as ////. More than one layer may be forecasted or reported.
FM2000 **06Z**	Condition start time. Start time of a weather event is given as FM (from) followed by the 4-digit hour and minutes in Zulu time. FedEx forecast use only 2-digit start hour and no FM.
PROB40 2022	Probability. The probability of a weather event occurring is given in percent along with the 2-digit Zulu hour start and end of the event.
TEMPO 0407	Temporary. Temporary changes in weather conditions are given along with the 2-digit Zulu hour start and end of the event. This signals changes to the forecast.
BECMG 1315	Becoming. What condtions will become between the two 2-digit Zulu hours given. This signals changes to a forecast.
WS010/30020KT	Forecast of non-convective low-level wind shear. This group will only be given in the U.S. (following the Cloud group) and Canada (following the wind group).

*	Denotes included on Maintenance/Crew Scheduling IFR alert report
=	Denotes end of report

QUALIFIER		WEATHER PHENOMENA		
Intensity or Proximity 1	**Descriptor 2**	**Precipitation 3**	**Obscuration 4**	**Other 5**
- Light Moderate (see note 2) **+** Heavy **VC** In the vicinity (see note 3)	**MI** Shallow **PR** Partial **BC** Patches **DR** Low Drifting **BL** Blowing **SH** Shower(s) **TS** Thunderstorm **FZ** Freezing	**DZ** Drizzle **RA** Rain **SN** Snow **SG** Snow Grains **IC** Ice Crystals **PL** Ice Pellets **GR** Hail **GS** Small Hail and/or Snow Pellets **UP** Unknown Precipitation	**BR** Mist **FG** Fog **FU** Smoke **VA** Volcanic Ash **DU** Widespread Dust **SA** Sand **HZ** Haze **PY** Spray	**PO** Well- Developed Dust/Sand Whirls **SQ** Squalls **FC** Funnel Cloud Tornado Waterspout (see note 3) **SS** Sandstorm **SS** Duststorm

1.	The weather groups shall be constructed by considering columns 1 to 5 in the table above in sequence, i.e. intensity, followed by description, followed by weather phenomena, e.g. heavy rain shower(s) is coded as +SHRA
2.	To denote moderate intensity no entry or symbol is used.
3.	Tornados and waterspouts shall be coded as +FC.

REMARKS	
Automated, Manual, and Plain Language	
AO1, AO2	Type of automated station
PK WND 29027/2250	Peak Wind 290/27 at 2250Z
WSHFT 2241 FROPA	Wind Shift at 2241Z cold front passage
WS010/30020KT	Wind Shear (non-convective) at 1,000 ft 300 deg at 20 kt

TWR VIS 3	Tower Visibility
SFC VIS 8	Surface Visibility
VIS 1/2V2	Variable Prevailing Visibility
VIS SW-NW 1 1/2	Sector Visibility
FRQ LTGICCCCG OHD	Lightning, type direction
RAB20E51	Rain began at 20 ended at 51
TSB09RAB09E56	Thunderstorm began 09 rain began 09 ended 56
TS OHD MOV NE	Thunderstorm location, movement
GR	Hailstone size
VIRGA SW-W	Virga, direction
CIG 003V007	Variable Ceiling Height (300 variable 700)
FU BKN020	Obscurations (>50% of sky obscured by smoke)
SCT008 V BKN	Variable Sky Condition
TCU, CB, ACC, CBMAM	Significant Cloud Types
PRESRR,PRESFR	Pressure Rising/Falling Rapidly
SLP117	Sea-level Pressure (1011.7 mb)
ACFT MSHP	Aircraft mishap
NOSPECI	No SPECI reports taken
SNINCR 2/10	Snow increasing rapidly (2 in last hour/10 in on ground)
Additive Data	
Leading character indicates type of data	

P0008	Hourly Precipitation Amount in hundreths of inches (0.08)
T02170144	Hourly temperature and dew point in tenths degrees C (21.7/14.4)
T10271032	(-2.7/-3.2) 1=minus sign
10272	6-hour maximum temperature in tenths degrees C (27.2)
20211	6-hour minimum temperature in tenths degrees C (21.1)
4/011	Snow depth on the ground in inches
400121023	24-hour max/min temperature in tenths degrees C
52032	3-hour pressure tendency (3.2 mb change) (see table below for 2nd digit code)
60225	3- and 6-hour precipitation amount
70125	24-hour precipitation amount
8/CUACCI	Cloud Types (low, med high level)
933125	Water equivalent of snow on ground (0.01)
98460	Duration of sunshine in minutes
	Automated Maintenance Data
RVRNO, PWINO, PNO, FZRANO, TSNO, VISNO, CHINO	**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.
$	Maintenance check indicator ASOS requires maintenance

Characteristics of Barometer Tendency		
Primary Requirement	**Description**	**Code Figure**
Atmospheric pressure now **HIGHER** than 3 hours ago.	Increasing, then decreasing.	0
	Increasing, then steady, or increasing then increasing more slowly.	1
	Increasing steadily or unsteadily.	2
	Decreasing or steady, then increasing; or increasing then increasing more rapidly.	3
Atmospheric pressure now **SAME** as 3 hours ago.	Increasing, then decreasing.	0
	Steady	4
	Decreasing then increasing.	5
Atmospheric pressure now **LOWER** than 3 hours ago.	Decreasing, then increasing.	5
	Decreasing, then steady, or decreasing then decreasing more slowly.	6
	Decreasing steadily or unsteadily.	7
	Steady or increasing, then decreasing; or decreasing then decreasing more rapidly.	8