Meteorological Terminal Air Report (METAR)

DEFINITION

METAR is a format for reporting weather information. A METAR weather report is predominantly used by aircraft pilots, and by meteorologists, who use aggregated METAR information to assist in weather forecasting. Raw METAR is the most common format in the world for the transmission of observational weather data.

METAR Coding Name

METAR code at all times in this order:
Place:
Date and Time:
Wind:
Visibility:
Weather :
Clouds:
Temperature:
Pressure:

Place

The ICAO code of the airport which has issued the report.

International Civil Aviation Organization (**ICAO**)

Ex: ICAO: VIDP (Indira Gandhi International Airport)

ICAO Code: VOHS (Rajiv Gandhi International Airport)

Date and Time

This consists of a six-number code followed by the letter Z. The first two indicate the date of the METAR code, while the next four indicate the time at which it was published. The letter “Z” indicates that the time is “Zulu”; that is to say, corresponding to the Greenwich Meridian, known as Coordinated Universal Time (UTC).

Ex: 261050Z.

- Day = 26
- Time= 10 hours 50 minutes

Z = Zulu

Wind

- The METAR code provides the direction of the wind relative to true north, as well as the average wind speed expressed in knots.

Ex: 24019KT

- Wind direction: 240 degrees true
- speed: 19 kts

Note:

- VRB05KT = variable/5 kts;
- 00000 = CALM.

Visibility

Indicates the horizontal visibility expressed in metres.

Ex. 0600 = 600 meters;

- 8000 = 8 km

Note:

- A visibility greater than 10 km is indicated by 9999.
- 0000 less than 50m
- If the visibility is less than 2000 m, the existing RVR should be indicated.

Weather Phenomena

- The existence or non-existence of significant weather phenomena are indicated with the following acronyms (see table):

- = slight	+ = Heavy	BC = Patches	BL = Blowing
BR = Mist	DR = Low Drifting	DS = Dust Storm	DU = Widespread Dust
DZ = Drizzle	FG = Fog	FC = Funnel Cloud (e.g., Tornado)	FU = Smoke
FZ = Freezing	GR = Hail	GS = Small Hail	HZ = Haze
IC = Ice Crystals	MI = Shallow	PL = Ice Pellets	PO = Dust Devils
RA = Rain	SA = Sand	SG = Snow Grains	SH = Shower
SN = Snow	SQ = Squall	SS = Sandstorm	TS = Thunderstorm
VA = Volcanic Ash	VC = In the vicinity (nearby)	UP = Unidentified Precipitation	RE = Recent

Ex. - IC = Slight Ice Crystals

- + SS = Heavy Sandstorm

Clouds

The METAR code indicates the cloud cover expressed in ‘oktas’ of sky occupied by cloud, and indicating the height of the cloud ceiling. To this end, the sky over the airport is divided into eight sections and, depending on how many eighths of sky are covered, the following information is given:

FEW – 1 to 2 oktas of cloud cover.
SCT (Scattered) – 3 to 4 oktas of cloud cover.
BKN (Broken) – 5 to 7 oktas of cloud cover.
OVC (Overcast) – 8 oktas of cloud cover (completely overcast).

- The height of the cloud layer (cloud ceiling) is shown in hundreds of feet (ft), just as flight altitude is measured.
- If there are no clouds or significant weather phenomena and if visibility is at 10 km or greater, the acronym **CAVOK (Ceiling and Visibility OK)** is used.

Temperature

- This consists of a four-number code. The first two numbers indicate the temperature at the airport, and the remaining two indicate dew point temperature, both expressed in degrees Celsius.

Ex: 10/07

- 10°C = Temperature
- 7°C = Dew point

Pressure

- This consists of a Q followed by a number (usually four digits) that indicates the airport's existing QNH, that is to say, the pressure at sea level deduced from the pressure existing at the airport, expressed in hectopascals.
- Lastly, if the key "NOSIG" appears after the METAR, this indicates that no significant changes in weather conditions are expected in the two hours following the publication of the METAR.

QNH

- QNH is detailed to the nearest whole hectopascal (equivalent to a millibar).
- Ex: Q1013 = QNH 1013 Hectopascal.

AUTO

- The optional code word AUTO indicates that the report was produced using automatic observation system information.

Ex: VOHS 180700Z 250003KT CAVOK 12/08 Q1030 NOSIG

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