Australian Government
Bureau of Meteorology

Aviation Weather Services

TAF & TTF METAR/SPECI Reference Card

This reference card contains selected TAF & TTF METAR /SPECI information to help users gain a better understanding of aerodrome forecasts and reports.

TAF (Aerodrome Forecast) is a statement of meteorological conditions expected for the specified period of time in the airspace within 5 nautical miles of the aerodrome reference point.

METAR (Meteorological Aerodrome Report) is a routine aerodrome weather report issued at fixed time intervals, usually half-hourly.

SPECI (Special Meteorological Report) is a special aerodrome weather report issued only when meteorological parameters meet specific criteria.

TTF (Trend Forecast) is a three hour trend forecast appended to some METAR/SPECI. It supersedes the TAF for its period of validity.

Sample TAF & TTF METAR

TAF YMML 171655Z 1718/1824
20005KT 9999 -SHRA SCT020 SCT040
FM180100 11010KT 9999 -SHRA FEW030 SCT050
INTER 1723/1802 3000 SHRA BKN012
INTER 1812/1824 3000 SHRA BKN010
RMK
T 22 27 27 28 Q 1013 1013 1013 1012

TTF METAR YBBN 171800Z 19005KT 150V220 9999
FEW025 22/15 Q1013
RMK RF00.0/001.0
INTER 1900/2100 3000 SHRA BKN012

Elements of TAF and TTF METAR/SPECI

AUTO will be included when a METAR/SPECI contains only automated observations.

Wind is given in the format DDDSSKT where DDD is the mean direction in degrees True rounded to the nearest 10 degrees and SS is the mean speed in knots (KT).

The maximum gust will be given after the letter G if it is forecast or observed to exceed the mean by 10 knots or more, e.g. 33028G40KT gives a mean wind direction of 330 degrees True, with a mean speed of 28 knots and a maximum gust of 40 knots.

At selected aerodromes, an additional wind variation group may also be included in METAR/SPECI when the wind direction varies by sixty degrees or more during the sampling period used for the wind report. In the example above, 150V220 indicates that the wind has varied between 150 and 220.

Visibility is given in metres, in a four-figure group (e.g. 0500 = 500m, 2000 = 2000m) with 9999 being used to indicate visibility of 10 kilometres or more.

In METAR/SPECI, two groups may be reported when visibility is not the same in different directions; the prevailing visibility first, then the minimum visibility and its direction (using one of the eight points of the compass) from the observing station, e.g. 8000 2000NE.

Air temperature (and dewpoint temperature in METAR/SPECI) are given in degrees Celsius in a two-digit group, rounded to the nearest whole degree. Negative values are preceded by M (minus), e.g. M03. In TAF, air temperature values are preceded by the letter T. In METAR/SPECI, the air temperature and dewpoint temperatures are given in the format TT/T_dT_d, where T is the air temperature and T_d is the dewpoint temperature, e.g. 22/15.

QNH is given in hectopascals in a four figure group, e.g. 1008, or 0998. QNH values are preceded by the letter Q. QNH values in METAR/SPECI are rounded down to the whole hectopascal.

TAF **issue time** and METAR/SPECI **report time** is given in the format DDHHMMZ. In the TAF example above, 171655Z indicates an issue time of 1655 UTC on the 17th day of the month.

A TAF is normally issued one to two hours prior to the start of the validity period.

Validity period for a TAF is given in the format DDHH/DDHH, e.g. 1718/1824 indicates a validity of thirty hours from 1800 UTC on the 17th.

Did You Know?

In TAF, the four temperature and QNH values are point forecasts for HH, HH+3, HH+6 and HH+9 where HH is the commencement of the TAF validity.

Users should use a linear interpolation to determine the forecast value between these points.

Cloud Information

Code	Cloud Amount
FEW	Few (1 to 2 oktas)
SCT	Scattered (3 to 4 oktas)
BKN	Broken (5 to 7 oktas)
OVC	Overcast (8 oktas)
NSC	Nil Significant cloud
NCD	Nil cloud detected (in AUTO reports only)

Cloud amount is forecast or reported using the abbreviations above.

Cloud information in TAF and METAR/SPECI is given in the order of lowest to highest in accordance with the following rules:

1st group is the lowest layer regardless of amount. **2nd group** is the next layer covering more than two eighths of sky. **3rd group** is the next layer covering more than 4 eighths of sky.

Extra groups - cumulonimbus (CB) and towering cumulus (TCU) when not included in the above.

Cloud type is not given except for CB and TCU.

Weather Information

Prefix	Intensity
+	Heavy
no prefix	Moderate
–	Light
Code	**Descriptor**
BC	Patches
BL	Blowing
DR	Drifting
FZ	Freezing
MI	Shallow
PR	Partial
SH	Showers
TS	Thunderstorm
Code	**Phenomenon**
BR	Mist
DU	Dust
DS	Duststorm
DZ	Drizzle
FC	Funnel cloud
FG	Fog
FU	Smoke
GR	Hail
GS	Small hail/snow pellets
HZ	Haze
IC	Ice crystals
PL	Ice pellets
PO	Dust devil
RA	Rain
SA	Sand
SG	Snow grains
SN	Snow
SQ	Squall
SS	Sandstorm
VA	Volcanic ash
UP	Unidentified precipitation

Weather is included in a forecast or report using the abbreviations in the table at left. Examples are:

BCFG for fog patches.
SHRA for moderate showers of rain.

Intensity is indicated for precipitation, dust storms, sandstorms and funnel clouds (tornados and water spouts), by prefixing the weather groups as shown in these examples:

+TSRA for thunderstorm with heavy rain showers.
DZ for moderate drizzle.
-RA for light rain.

Common Abbreviations

BECMG Becoming

CAVOK Cloud and visibility and weather ok

FM From

INTER Intermittent variations – periods < 30 mins in a hour

MOD Moderate

PROB30 30% chance for forecast conditions to occur

PROB40 40% chance for forecast conditions to occur

RMK (remark) in TAF precedes information on temperatures and QNH, and turbulence if forecast

SEV Severe

TEMPO Temporary variations – periods of 30 mins to < 60 mins

Z Appended at the end of issue and validity times to signify UTC (Coordinated Universal Time)

More abbreviations can be found in AIP

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The information in this publication is provided for reference only to assist in the interpretation of TAF, TTF METAR/SPECI. Comprehensive educational resources can be found at **www.bom.gov.au/aviation/knowledge-centre**. For flight planning purposes, users should refer to Airservices Australia's Aeronautical Information Publications (AIP).