

AVIATION WEATHER PRODUCTS Aerodrome Forecast (TAF)

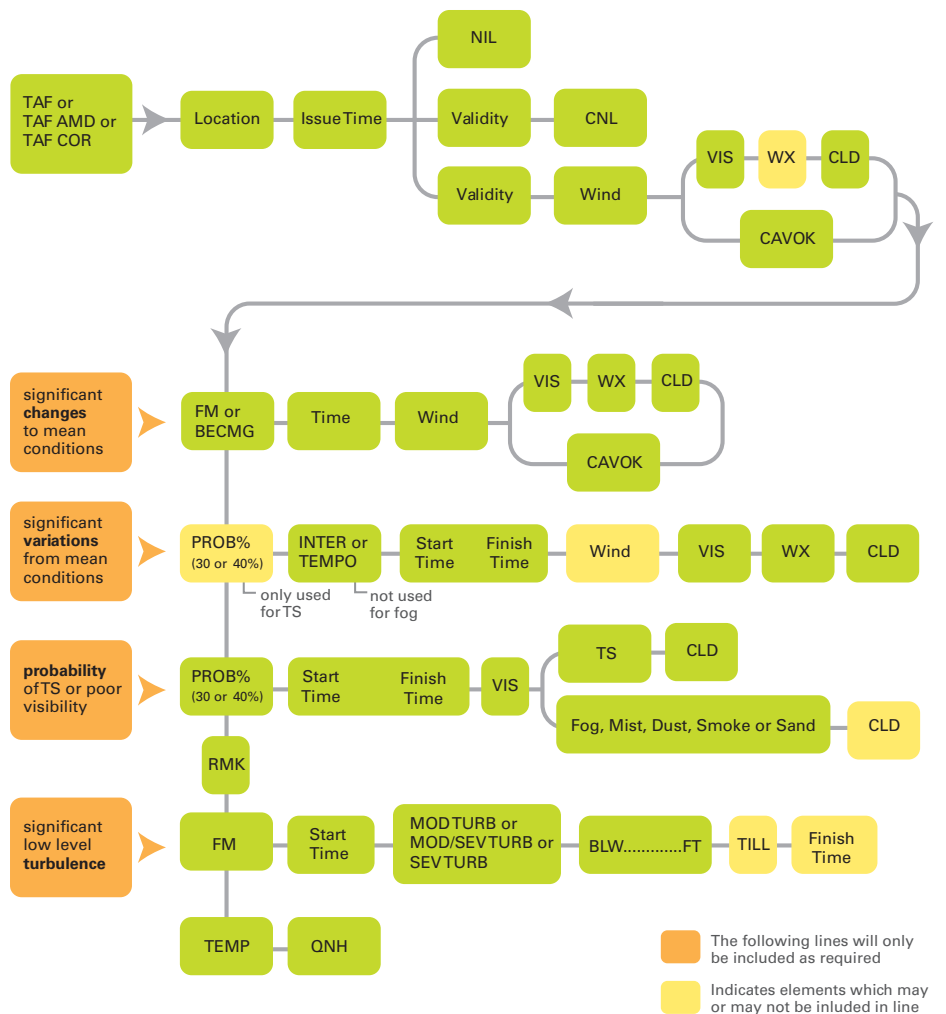
Bureau of Meteorology › Weather Services › Aviation



TAF AMD YMML 292330Z
3000/3106 14008KT 9999
NSW SCT030
FM301100 14003KT 3000 HZ
BKN009
PROB40 3017/3023 0400 FG
RMK
T 14 15 17 14 Q 1016 1014
1013 1014

A TAF is a coded statement of meteorological conditions expected at an aerodrome and within a radius of five nautical miles of the aerodrome reference point.

The format of an Australian TAF is as follows:



Explanation of TAF Elements

Identifier

TAF	Aerodrome Forecast
TAF AMD	Amended Aerodrome Forecast
TAF COR	Corrected Aerodrome Forecast
TAF .. CNL	Cancelled Aerodrome Forecast
TAF .. NIL	Aerodrome Forecast will not be issued
PROVTAF	Provisional Aerodrome Forecast



Australian Government
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Code	Weather Descriptor
MI	shallow
BC	patches
PR	partial
DR	drifting
BL	blowing
SH	showers
FZ	freezing
TS	thunderstorm

Code	Weather Phenomena
DZ	drizzle
RA	rain
GR	hail
SN	snow
SG	snow grains
DU	dust
SA	sand
SS	sandstorm
DS	duststorm
GS	small hail/snow pellets
FG	fog
BR	mist
FU	smoke
HZ	haze
PO	dust devil
SQ	squall
FC	funnel cloud
VA	volcanic ash
IC	ice crystals
PL	ice pellets

Prefix	Weather Intensity
+	Heavy
no prefix	Moderate
-	Light

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
SKC	sky clear

Code	Cloud Type
CB	Cumulonimbus
TCU	Towering Cumulus

Location

The location is given by either an ICAO location indicator or an approved Airservices Australia abbreviation.

Issue Time

The issue time of the TAF is expressed in a six-figure group followed by the code letter Z, e.g. 202230Z gives an issue time of 2230 on the 20th day of the month UTC.

Validity

The period of validity is given in the format ddhh/ddhh, where dd is day of the month and hh is hour UTC, e.g. 2100/2206, which gives a 30 hour validity period from 0000 on the 21st to 0600 on the 22nd UTC. Note that 00 is used to indicate periods of validity beginning at 0000 UTC; and 24 is used to indicate periods of validity ending at 2400 UTC.

Wind

The wind direction is given in degrees True, rounded to the nearest 10 degrees. A variable wind direction is given as VRB (used when the forecasting of a mean wind direction is not possible).

The wind speed is given in knots (KT).

The maximum wind gust is included, after the letter G, if it is expected to exceed the mean by 10 knots or more, e.g. 28020G30KT gives a wind direction of 280° True, with a mean speed of 20 knots, and a maximum gust of 30 knots.

Visibility

The horizontal visibility is given in metres in increments of 50 metres when visibility is forecast to be less than 800 metres; in increments of 100 metres when forecast to be 800 metres or more but less than 5,000 metres; and in increments of 1,000 metres when forecast to be 5,000 or more but less than 10,000 metres. Visibility is always given in a four figure group: e.g. 500 metres is given as 0500. Forecast visibilities of 10 kilometres or more are given as 9999. Visibility is not given when CAVOK is forecast.

Weather

Forecast weather is expressed using the abbreviations in the tables on the left.

Intensity is indicated for precipitation, duststorms, sandstorms and funnel clouds (tornadoes and water spouts). In these cases, the weather group is prefixed by - for light and + for heavy; moderate intensity has no prefix, e.g. +TSRA means thunderstorm with heavy rain; DZ means moderate drizzle; -RA means light rain.

After a change group, if the weather ceases to be significant, the weather group is replaced by NSW (nil significant weather) or CAVOK if appropriate.

Cloud

Cloud information is restricted to cloud with a base below 5000 feet or the highest 25 nautical mile minimum sector altitude, whichever is greater, and cumulonimbus (CB) and towering cumulus (TCU) at any height. It is given from the lowest to the highest layers in accordance with the following rules:

- 1st group: the lowest layer regardless of amount
- 2nd group: the next layer covering more than 2 oktas
- 3rd group: the next higher layer covering more than 4 oktas
- Extra group for cumulonimbus when forecast but not at any of the layer heights given above.

Cloud amount is given using the following abbreviations in the table on the left. Cloud height is given as a three-figure group in hundreds of feet above the aerodrome, e.g. cloud at 700 feet above the aerodrome is shown as 007.

Cloud type is identified only for CB and TCU, e.g. FEW030CB.

CAVOK

The abbreviation CAVOK (Cloud And Visibility and weather OK) is used when the following conditions are forecast simultaneously:

- Visibility is 10 kilometres or more
- No cloud below 5000 feet or below the highest 25 nautical mile minimum sector altitude whichever is the higher; and no cumulonimbus at any height
- No weather of significance, i.e. none of the weather listed in the weather table

Significant Changes and Variations (FM, BECMG, INTER, TEMPO)

Significant changes and variations will be included when the changes and variations are expected to satisfy amendment criteria. It should be noted that these changes relate to improvements as well as deteriorations.

The term **FM** is used when one set of prevailing weather conditions is expected to rapidly change to a different set of prevailing weather conditions. The indicator is the beginning of a self-contained forecast, with the new conditions applying until the end period of the forecast or until the commencement time of another FM or BECMG group.

The term **BECMG** is used when one set of prevailing weather conditions is expected to change, during the given period, to a different set of prevailing weather conditions. The indicator is the beginning of a self-contained forecast, with the new conditions applying until the end period of the forecast, or until the commencement time of another BECMG or FM group.

Following any change group (FM or BECMG) there will be information on wind, visibility, weather and cloud; except when CAVOK is given or when fog is forecast.

Following any change group (FM or BECMG) when there is nil significant weather forecast the abbreviation NSW is used; and the abbreviation SKC will be used when the sky is forecast to be clear.

The terms **TEMPO** and **INTER** are used to indicate significant temporary or intermittent variations from the prevailing conditions previously given in the TAF. TEMPO is used for periods of 30 minutes or more but less than 60 minutes. INTER is used for periods less than 30 minutes.

PROB

The term PROB is used in TAF (it is not used in TTF) if the estimated probability of occurrence is 30 or 40% (probabilities of less than 30% are not given), and is only used with reference to thunderstorms or poor visibility (less than the alternate minimum) resulting from fog, mist, dust, smoke or sand. If the estimated probability of occurrence is equal to or greater than 50%, then reference to PROB is not included. When using PROB with thunderstorms, INTER and TEMPO are also included whenever appropriate to indicate the probable duration. Where PROB is used without one of these, the likely period of occurrence will be deemed to be one hour or more. For example:

PROB30 INTER 1205/1211 5000 -TSRA BKN040CB

indicates a 30% probability of deteriorations of less than 30 minutes due to thunderstorms with light rain between 0500 and 1100 UTC on the 12th.

PROB40 TEMPO 1102/1113 3000 TSRA BKN040CB

indicates a 40% probability of deteriorations of 30 minutes or more but less than 60 minutes due to thunderstorms with moderate rain between 0200 and 1300 UTC on the 11th.

PROB30 1005/1014 1000 +TSRA BKN040CB

indicates a 30% probability of deteriorations of one hour or more due to thunderstorms with heavy rain between 0500 and 1400 UTC on the 10th.



RMK (remarks) precedes information on Turbulence (if forecast), Temperatures and QNH

Turbulence

Special reference is made in TAF to hazardous turbulence, other than that associated with CB and TCU, that may endanger aircraft or adversely affect their safe or efficient operation. The TAF contains information on commencement time (FMddhhmm), the expected intensity (moderate [MOD] or severe [SEV]) and the vertical extent (BLW... FT). TILLddhhmm is used to indicate the cessation of the turbulence when this is expected before the end of the TAF validity.

Air Temperature

Air temperature, preceded by the letter T, is given in whole degrees celsius using two figures. If the temperature is below zero, the value is prefixed by the letter M (minus). Forecasts of air temperature are given at three-hourly intervals, for a maximum of nine hours, from the time of commencement of validity of the forecast. They are given for the times HH, HH+3, HH+6 and HH+9, where HH is the time of the commencement of the TAF validity. They are point forecasts for these times, and users should use linear interpolation to determine the forecast value between these points.

QNH

QNH, preceded by the letter Q, is given in whole hectopascals using four figures. Forecasts of QNH are given at three-hourly intervals, for a maximum of nine hours, from the time of commencement of validity of the forecast. They are given for the times HH, HH+3, HH+6 and HH+9, where HH is the time of the commencement of the TAF validity. They are point forecasts for these times, and users should use linear interpolation to determine the forecast value between these points.

TAF Examples

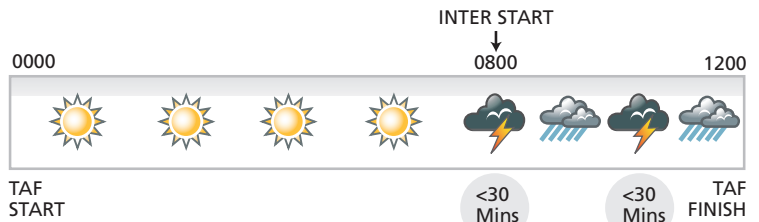
**TAF YMAY 022230Z 0300/0312 35010KT CAVOK
 FM030800 31018KT 9999 SHRA BKN025 OVC100
 INTER 0308/0312 31020G40KT 3000 +TSRA BKN010 SCT040CB
 RMK FM030600 MOD TURB BLW 5000FT
 T 23 24 28 33 Q 1012 1013 1014 1009**



Aerial view of Albury Airport, courtesy of Creative Commons.

FORECAST	DECODE
TAF	Aerodrome Forecast
YMAY	Location indicator for Albury Airport
022230Z	TAF issued at 2230 on the 2nd day of the month UTC
0300/0312	Validity period of TAF is from 0000 to 1200, on the 3rd day of the month UTC
35010KT	Wind will be from the north (350 degrees True) at 10 knots
CAVOK	Cloud, visibility and weather ok
FM030800	Significant changes to the mean conditions are expected to commence from 0800 on the 3rd UTC, and to persist (at least) until the end of the forecast period.
	<div style="text-align: center;"> </div>
	<p style="text-align: center;">TAF START that there will be intermittent variations to the new mean conditions (refer INTER below) TAF FINISH</p>
31018KT	Wind will be from the northwest (310 degrees True) at 18 knots
9999	Visibility will be 10 kilometres or more
SHRA	Weather will be moderate showers of rain
BKN025	Cloud will be broken (5 to 7 oktas) with base at 2500 feet above the

	aerodrome
OVC100	There will also be overcast cloud (8 oktas) with base at 10000 feet
INTER 0308/0312	There will be intermittent (periods of less than 30 minutes) variations to the previously given mean conditions. Period of INTER is 0800 to 1200 on the 3rd UTC



31020G40KT	Intermittently the wind will be from the northwest (310 degrees True) at 20 knots gusting to 40 knots
3000	Visibility will be 3000 metres
+TSRA	Weather will be thunderstorms with heavy rain
BKN010	Cloud will be broken (5 to 7 oktas) with base at 1000 feet above the aerodrome
SCT040CB	There will also be 3 to 4 oktas of cumulonimbus cloud with base at 4000 feet
RMK	Remarks section follows
FM030600 TURB BLW 5000FT	From 0600 on the 3rd UTC, expect moderate turbulence below 5000 feet
T 23 24 28 33	Forecast air temperatures at 00, 03, 06 and 09 UTC are 23, 24, 28 and 33°
Q 1012 1013 1014 1009	Forecast QNH at 00, 03, 06 and 09 UTC are 1012, 1013, 1014 and 1009hPa.

**TAF COR YMLT 212240Z 2200/2218 31015G28KT 6000 -RA BKN010 OVC100
TEMPO 2209/2218 2000 +TSRA BKN005 SCT040CB
RMK
T 25 21 18 15 Q 1014 1013 1013 1011**

TAF	DECODE
TAF	Aerodrome Forecast
COR	This TAF is a correction to the previously issued TAF
YMLT	Location Indicator for Launceston Airport
212240Z	TAF issued at 2240 on the 21st day of the month UTC
2200/2218	Validity period of TAF is from 0000 until 1800 on the 22nd of the month UTC
31015G28KT	Mean wind is expected to be from 310 degrees True at 15 knots with gusts to 28 knots
6000	Visibility will be 6000 metres
-RA	Weather will be light rain
BKN010	Cloud will be broken (5 to 7 oktas), with base at 1000 feet above the aerodrome
OVC100	There will also be overcast cloud, with base at 10,000 feet above the aerodrome
TEMPO 2209/2218	There will be temporary variations (periods of 30 to 60 minutes), to the previously given mean conditions, during the period 0900 to 1800 on the 22nd.
2000	Visibility will be 2000 metres
+TSRA	Weather will be thunderstorms with heavy rain showers
BKN005	There will be broken (5 to 7 oktas) cloud with base at 500 feet above



Launceston Airport, photo by K Spilling, courtesy of Creative Commons.

the aerodrome

SCT040CB	There will also be scattered (3 to 4 oktas) cumulonimbus cloud with base at 4000 feet above the aerodrome
RMK	Remarks section follows
T 25 21 18 15	Forecast air temperatures at 00, 03, 06 and 09 UTC are 25, 21, 18 and 15°C
Q 1014 1013 1013 1011	Forecast QNH at 00, 03, 06 and 09 UTC are 1014, 1013, 1013 and 1011hPa

**TAF AMD YMML 292330Z 3000/3106 14008KT 9999 NSW SCT030
FM301100 14003KT 3000 HZ BKN009
PROB40 3017/3023 0400 FG
RMK
T 14 15 17 14 Q 1016 1014 1013 1014**



Melbourne Airport, courtesy of Creative Commons.

TAF	DECODE
TAF	Aerodrome Forecast
AMD	This TAF amends the previously issued TAF
YMML	Location indicator for Melbourne Airport
292330Z	TAF issued at 2230 on the 29th day of the month UTC
3000/3106	Validity period of TAF is from 0000 on the 30th until 0600 on the 31st UTC
14008KT	Mean wind is expected to be from the southeast (140 degrees True) at 8 knots
9999	Visibility will be 10 kilometres or more
NSW	There will be nil significant weather
SCT030	Cloud will be scattered (3 to 4 oktas), with base at 3000 feet above the aerodrome
FM301100	Significant new mean conditions are expected from 1100 on the 30th UTC
14003KT	Mean wind is expected to be from 150 degrees True at 3 knots
3000	Visibility will be 3 kilometres
HZ	Weather will be haze
BKN009	Cloud will be broken (5 to 7 oktas), with base at 900 feet above the aerodrome
PROB40	There is a 40% probability of conditions being the following during the 3017/3023 period 1700 to 2300 on the 30th
0400	Visibility of 400 metres
FG	Fog
RMK	Remarks section follows
T 14 15 17 14	Forecast air temperatures at 00, 06, 09 and 12 UTC are 14, 15, 17 and 14°C
Q 1016 1014 1013 1014	Forecast QNH at 00, 06, 09 and 12 UTC are 1016, 1014, 1013 and 1014hPa



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Other brochures produced by the Bureau of Meteorology's aviation weather services program can be found at www.bom.gov.au/aviation/knowledge-centre.

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