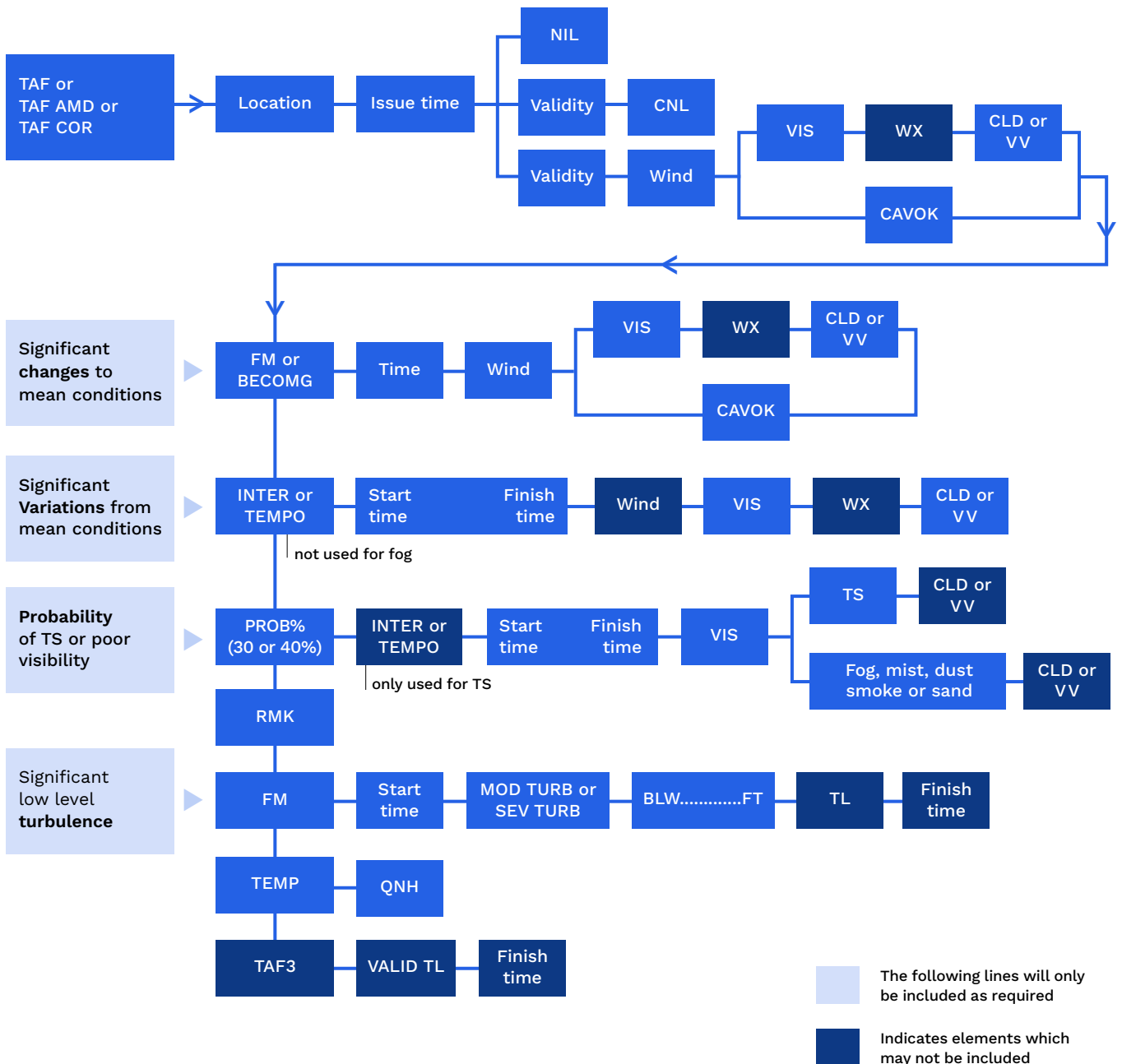


Aerodrome forecast (TAF and TAF3)

A TAF is a coded statement of meteorological conditions expected at an aerodrome and within a radius of 8 kilometres of the aerodrome reference point.

The format of an Australian TAF is as follows:



TAF3

The TAF3 is formatted the same as a traditional aerodrome forecast (TAF) and is issued routinely every 3 hours.

Like all aerodrome forecasts, the TAF3 is kept under continuous weather watch. As a premium service, TAF3 undergoes a scheduled in-depth review every hour; it receives priority, proactive amendments to ensure it contains the latest forecast information.

TAF3 is provided 24/7 at Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast, Canberra, Darwin, Cairns and Hobart airports. The service is also provided at military aerodromes as per the En Route Supplement Australia (ERSA). Any deviations from ERSA published TAF3 service hours will be notified by NOTAM.

Forecasters aim to issue the TAF3 30–60 minutes before the forecast validity period, with a target issue time of 45 minutes prior.

TAF3 characteristics

TAF3 are:

- Issued routinely every 3 hours
- Kept under continuous weather watch, with the responsible aviation meteorologist focusing on the next 5-hours of the:
 - validity and timings of probabilities (PROBs) (updated if necessary)
 - validity and timings of TEMPO/INTERs (updated if necessary)
- Issued with minute granularity for FROM (FM) element
- Provide a forecast valid for 18 to 30 hours
- Have identical code format as a standard TAF
- Are stamped with 'TAF3' in RMKs section for easy identification.

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

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 6-figure group followed by the code letter Z, e.g. 202230Z gives an issue time of 2230 UTC on the 20th day of the month.

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 UTC on the 21st to 0600 on the 22nd.

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 forecasting 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 wind by 10 knots or more, e.g. 28020G30KT gives a wind direction of 280° true, with a mean wind speed of 20 knots, and a maximum wind 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
- 100 metres when forecast to be 800 metres or more but less than 5,000 metres
- 1,000 metres when forecast to be 5,000 metres or more but less than 10 kilometres.

Visibility is always given in a 4-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 given in the tables. If nil significant weather is expected, and CAVOK is not appropriate, then the group is not included (however NSW – nil significant weather – may be used after a change group [FM or BECMG]).

Intensity is indicated for precipitation, dust storms, 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.

Cloud

Cloud information is restricted to cloud with a base below 5,000 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 CB and TCU when forecast but not at any of the layer heights given above.

Cloud amount is given using the abbreviations in the table. Cloud height is given as a 3-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.

Vertical visibility

Information on vertical visibility (**VV**) is provided in the TAF in lieu of cloud information when smoke is obscuring the sky. VV is forecast in hundreds of feet using 3 figures, e.g. 8000 FU VV009 indicates that the surface visibility is 8,000 metres but there is a thick layer of smoke aloft at 900 feet.

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 5,000 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 weathers 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 to describe changes where the weather conditions are expected to reach or pass through specified amendment criteria at a regular or irregular rate and at an unspecified time during the time 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.

Code	Weather descriptor
BC	Patches
BL	Blowing
DR	Drifting
FZ	Freezing
MI	Shallow
PR	Partial
SH	Showers
TS	Thunderstorm
VC	In the vicinity
Code	Weather phenomenon
BR	Mist
DU	Dust
DS	Dust storm
DZ	Drizzle
FC	Funnel cloud
FG	Fog
FU	Smoke
GR	Hail
GS	Small hail/snow pellets
HZ	Haze
NSW	Nil significant weather
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
Code	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
VV*	Vertical visibility
Code	Cloud type
CB	Cumulonimbus
TCU	Towering cumulus

*VV used in lieu of cloud information when smoke is obscuring the sky

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. When CAVOK is not given and there is nil significant weather expected, the abbreviation NSW is used. When CAVOK is not given and nil significant cloud is expected, the abbreviation NSC will be used.

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 a TAF to represent the likelihood of occurrence. PROB is not an indication of forecaster confidence.

PROB is used 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

RMK (remarks) precedes information on turbulence (if forecast), temperatures, QNH and TAF3 (when applicable).

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). TLddhhmm 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 2 figures. If the temperature is below zero, the value is prefixed by the letter M (minus). Forecasts of air temperature are given at 3-hourly intervals, for a maximum of 9 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

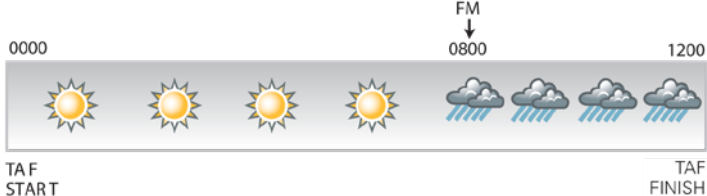
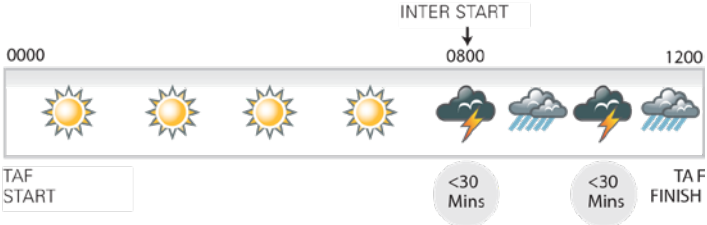
QNH, preceded by the letter Q, is given in whole hectopascals using 4 figures. Forecasts of QNH are given at 3-hourly intervals, for a maximum of 9 hours, from the time of commencement of validity of the forecast. They are given for the times HH, HH+3, HH+6 and HH+9, where HH is the time of the commencement 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.

TAF3

The inclusion of TAF3, following the forecast QNH readings in the RMK section of the TAF, indicates the presence of a TAF3 service. It may also be followed by a VALID TL (till) and time stamp indicating the cessation of the TAF3 service at aerodromes offering a limited service, i.e. TAF3 VALID TL 150600.

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

Forecast	Decode
TAF	Aerodrome forecast
YMAY	Location indicator for Albury Airport
022230Z	TAF issued at 2230 UTC on the 2nd day of the month
0300/0312	Validity period of TAF is from 0000 to 1200 UTC on the 3rd day of the month
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 UTC on the 3rd, and to persist (at least) until the end of the forecast period.
	 <p>Note that there will be intermittent variations to the new mean conditions (refer INTER below)</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 2,500 feet above the aerodrome
OVC100	There will also be overcast cloud (8 oktas) with base at 10,000 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 UTC on the 3rd
	
31020G40KT	Intermittently the wind will be from the northwest (310 degrees true) at 20 knots gusting to 40 knots
3000	Visibility will be 3,000 metres
+TSRA	Weather will be thunderstorms with heavy rain
BKN010	Cloud will be broken (5 to 7 oktas) with base at 1,000 feet above the aerodrome
SCT040CB	There will also be 3 to 4 oktas of cumulonimbus cloud with base at 4,000 feet
RMK	Remarks section follows
FM030600 TURB BLW 5000FT	From 0600 UTC on the 3rd, expect moderate turbulence below 5,000 feet
T 23 24 28 33	Forecast air temperatures at 00, 03, 06 and 09 UTC are 23, 24, 28 and 33°C
Q 1012 1013 1014 1009	Forecast QNH at 00, 03, 06 and 09 UTC are 1012, 1013, 1014 and 1009 hPa

TAF AMD YMML 292330Z 3000/3106 14008KT 9999 SCT030
 FM301100 14003KT 3000 HZ BKN009
 PROB40 3017/3023 0400 FG
 RMK
 T 14 15 17 14 Q 1016 1014 1013 1014
 TAF3

Forecast	Decode
TAF	Aerodrome forecast
AMD	This TAF amends the previously issued TAF
YMML	Location indicator for Melbourne Airport
292230Z	TAF issued at 2230 UTC on the 29th day of the month
3000/3106	Validity period of TAF is from 0000 UTC on the 30th until 0600 UTC on the 31st
14008KT	Mean wind is expected to be from the southeast (140 degrees true) at 8 knots
9999	Visibility will be 10 kilometres or more (nil significant weather is expected, therefore weather group not included)
SCT030	Cloud will be scattered (3 to 4 oktas), with base at 3,000 feet above the aerodrome
FM301100	Significant new mean conditions are expected from 1100 UTC on the 30th
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 period 1700 to 2300 UTC on the 30th
0400	Visibility of 400 metres
FG	Fog
RMK	Remarks section follows
T 14 15 17 14	Forecast air temperatures at 00, 03, 06 and 09 UTC are 14, 15, 17 and 14°C
Q 1016 1014 1013 1014	Forecast QNH at 00, 03, 06 and 09 UTC are 1016, 1014, 1013 and 1014 hPa
TAF3	TAF3 service provided

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