



TAF3 Implementation Frequently Asked Questions

TAF3 Implementation at a glance

- The key recommendation from the Bureau of Meteorology's (Bureau) 2016 Trend Forecast (TTF) Review was for a three-hourly updated and responsive aerodrome forecast (TAF3) to replace the current Trend Forecast service (TTF).
- The proposed date to cease the TTF service and implement the TAF3 service is 5 November 2020.
- An expert working group comprised of members from a wide range of aviation industry groups and agencies– the TAF3 Implementation Working Group (TIWG) – has been established to oversee this implementation and maximise awareness of the changes.
- Other forecast and warning services provided by the Bureau to the aviation community and the public will continue unchanged.
- The aviation meteorological service provided by the Bureau operates under ICAO regulations and complies with the Bureau's quality management systems which requires continuous review of services.
- Trends are not mandatory for an international airport under ICAO rules. The Australian TTF code is not compliant with ICAO formats.
- The proposed TAF3 exceeds ICAO's standards and recommended practices (SARPs) for an aerodrome forecast.
- The civil airports affected by this change are Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast, Cairns, Canberra, Darwin and Hobart. Defence aerodromes which now have a TTF service will also be affected by this change.

For information regarding flight rules, please refer to the Civil Aviation Safety Authority.

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Key Messages

The Bureau operates in a dynamic environment. It must review its operations on a regular basis to meet the changing needs of the aviation industry, whilst maintaining core functions that provide environmental intelligence to the Australian community. In doing so, the Trend Review focused on delivering resilience and sustainability for Australia's aviation forecast codes and major airport observation networks.

The review process and its implementation could not be achieved without extensive consultation with aviation stakeholders. The implementation of the review recommendations is being conducted through the TAF3 Implementation Working Group (TIWG) that has broad stakeholder representation.

The implementation of the TAF3 service will result in improved services and safety for aviation stakeholders because:

- **It is a simpler system.** There will be a single accurate forecast available for the aerodrome which is well known to local & international operators.
- **It eliminates any potential ambiguity between the TAF and TTF.** Understanding the precedence between the two different forecasts would no longer be required.
- **It will eliminate alignment issues.** These are currently periods when TAF & TTF are not well aligned due to the TAF being amended up to an hour after TTF. In the new paradigm, the TAF would be amended immediately as required.
- **Australia will exceed ICAO requirements** by providing METARs every half hour, SPECIs as required and a TAF issued **at least** three hourly.
- **The TAF issued routinely every 3 hours will be extended to Gold Coast and Hobart Airports.** These busy airports currently have no TTF service.
- **The TAF issued routinely every 3 hours will operate 24/7 at Darwin and Canberra** where there is currently no overnight TTF service.

Frequently Asked Questions

1. Why was the Trend Review undertaken?

The Bureau of Meteorology began a review of its Trend Forecast services for the aviation industry in 2012, in response to:

- requests from the aviation industry for the Bureau to review its Trend Forecast services and investigate feasible alternative options; and
- a requirement to meet International Civil Aviation Organization (ICAO) standards.

The final review report was released in October 2016 with the key recommendation being that a three-hourly updated and responsive aerodrome forecast (TAF3) replace the trend forecast (TTF).

2. Which airports are affected by the implementation of TAF3?

TAF3 will be provided by the Bureau, 24 hours a day 7 days a week at the ten busiest airports in Australia. These include those currently receiving the TTF service – Sydney, Melbourne, Brisbane, Perth, Adelaide, Cairns, Canberra and Darwin as well as Gold Coast and Hobart.

Additionally, TAF3 will be provided at the following Defence bases when staffed by qualified aviation meteorologists: Williamtown, Nowra, Tindal, Amberley, Oakey, Townsville, Pearce and East Sale. Details of routine TAF3 availability at Defence bases will be published in the ERSA; when there is a variation to these hours a NOTAM will be issued.

3. Why conduct a review of the TTF service that seems to be operating effectively?

- The TTF format is unique to Australia. This unique code form presents international operators with difficulties interpreting this Australian format and understanding the product's precedence over the Aerodrome Forecast (TAF). Additionally, as TTF is not ICAO-compliant it will not be possible to disseminate the TTF format to international users via the new ICAO communications network, known as ATS Message Handling System (AMHS), as required by ICAO in 2020.
- Although the TTF and TAF are forecasts for the same aerodrome, they convey different information concerning the probability and timing of meteorological phenomena.
- During periods of marginal, deteriorating and/or fluctuating weather, special reports of surface meteorological information at an aerodrome (SPECI) can be issued many times in an hour. Each SPECI requires a TTF to be considered and appended to the observation, which can result in excessive workloads on forecasters and impact on their other duties, even though the forecast policy may not have changed. Tests have indicated that automated observations tend to make this situation worse with even more frequent SPECI observations issued than the current manual system.
- Gold Coast airport is the sixth busiest in Australia and has no TTF service, even though the aviation industry has indicated a desire for one. The cost associated with TTF services has prevented its provision at other locations.

4. What is a TAF3?

At present, a TAF is issued routinely every six hours and amended when standard amendment criteria are met.

A TAF3 is a TAF issued routinely every three hours, pro-actively reviewed every hour by the responsible aviation forecaster and will be amended when standard amendment criteria are met.

Amendments within the first 3 hours of TAF validity are currently masked by changes in the TTF. The TAF3 will become the primary forecast in the first 3 hours and be amended to provide similar responsiveness to the TTF.

Characteristics:

- Issued routinely every 3 hours;
- Reviewed every hour by the responsible aviation meteorologist, focusing on the next 5-hours of:
 - the validity of probabilities (PROBs);
 - the timings of PROBs (updated if necessary);
 - the validity of TEMPO/INTERs; and
 - the timings of TEMPO/INTERs, (updated if necessary).
- Amended on review and alerts;
- Issued with minute granularity for FROM (FM) element;
- Providing the same 24-30 hour forecast as the current TAF, with this validity updated every 6-hours; and
- Will be identical in code format as the standard TAF.

5. What are the advantages of the TAF3 solution?

The TAF3 service will offer many advantages to aviation stakeholders.

- A simpler system. There will be a single accurate forecast available for the aerodrome which is well known to local & international operators.
- Eliminates any potential ambiguity between the TAF and TTF. Understanding the precedence between the two different forecasts would no longer be required.
- Eliminate alignment issues. These are currently periods when TAF & TTF are not well aligned due to the TAF being amended up to an hour after TTF. In the proposed solution, the TAF would be amended immediately as required.
- Australia will exceed ICAO requirements by providing METARs every half hour, SPECIs as required and a TAF issued at least three hourly.
- TAF issued routinely every three hours will be extended to Gold Coast and Hobart. These busy airports currently have no TTF service.
- TAF issued routinely every three hours will operate 24/7 at Darwin and Canberra where there is currently no overnight service.

6. Will a TAF3 be as accurate as a TTF?

The Bureau is committed to achieving the same high level of meteorological accuracy via the TAF3 product as currently provided through the TTF.

- Forecasters preparing a TAF3 will utilise the same suite of observations (AWS, RADAR and satellite) and prediction information as used in the preparation of a TTF. The Bureau will also adopt identical accuracy standards for the TAF3 product as currently applied to the TTF in the Aeronautical Services Handbook (ASH).
- Currently, the TTF service is considered more accurate as it is a higher priority product and the TAF (at an airport with TTF service) does not have to be amended immediately if the TTF covers a short-term change of forecast.
- The TAF3 will become the primary forecast product delivered by forecasters and amended when the forecast policy changes.
- The underlying meteorological forecast information is the same regardless of the code used to convey the forecast. The forecaster provides the accuracy.
- There will be no reduction in aviation forecasters as an outcome of this change.
- The amount of forecaster time devoted to TTF airports will remain the same for the TAF3. Their time will be more effectively used during periods of fluctuating or marginal weather resulting in improved forecast services.

7. How will TAF3 be available?

TAF3 will be provided by the Bureau, 24 hours a day 7 days a week, at the following major airports: Sydney, Melbourne, Brisbane, Perth, Adelaide, Gold Coast, Canberra, Darwin, Cairns and Hobart.

Additionally, TAF3 will be provided at the following Defence bases when staffed by qualified aviation meteorologists: Williamtown, Nowra, Tindal, Amberley, Oakey, Townsville, Pearce and East Sale. Details of normal TAF3 availability at Defence bases will be published in the ERSA; when there is a variation to these hours a NOTAM will be issued.

In the rare event that the Bureau needs to cease issuing a major airport or Defence TAF3, a NOTAM will be issued to inform users; in which case the service will revert to the provision of a standard TAF.

The TAF3 will be issued from the aviation forecast office 30–60 minutes before the forecast validity period, with a target issue time of 45 minutes.

VOLMET and AERIS will include those elements of the TAF3 that are effective in the first three-hour period commencing with the VOLMET issue time.

8. What will happen to the flight planning rule that removes a time buffer using a TTF?

CASA is a member of the TAF3 Implementation working group. An important task for this group is to follow CASA's Summary for Proposed Change (SPC) process to ensure an appropriate rule change complements the change to the new paradigm. It is understood that some operational efficiencies could be lost if the current rules were to remain unchanged.

9. PROB 30 and PROB 40 TAF forecasts are currently superseded by clear weather TTF. How can the Bureau limit prolonged PROB periods affecting operations?

- Forecasters will use FM groups in the first three hours of the TAF3 to indicate onset and cessation of meteorological phenomena.
- The TAF3 will require amendment immediately when certain criteria are met to create similar responsiveness as the TTF. Currently TAF amendments are delayed because the TTF supersedes the TAF in the first 3 hours.
- During periods of marginal forecast weather conditions the forecaster will look for clear weather periods in the next 3 hours and issue amendments where appropriate.
- Forecasters will be provided with additional training to minimise using PROBs in the first 3 hours.

10. Will the term INTER be ceased in the TAF code?

- The term INTER will continue to be used in all domestic TAFs, however, it remains a coding difference with ICAO Annex 3.

11. How will international operators understand the change to a TAF3?

- Currently, some of the international operators do not use the TTF but all utilise the TAF.
- All international operators understand the ICAO TAF code and should be comfortable using TAF3 which is basically a TAF issued every 3 hours. This is standard practice at major airports in the USA and Canada.
- The term 'INTER' in the domestic TAF will be visible to international operators as 'TEMPO' once software has been developed to translate the code.

12. Defence bases do not have 24 hour TTF coverage. How will the change of TAF regime overnight be conveyed?

TAF3 will be provided at most Defence aerodromes when staffed by qualified aviation meteorologists. Details of TAF3 availability at Defence bases will be published in the ERSA. When there is a variation to these times (such as night flying) a NOTAM will be issued.

Outside these published hours, standard TAF provisions will apply.

For further information on TAF3 please contact webav@bom.gov.au or visit: <http://www.bom.gov.au/aviation/trend-review/>