



# Graphical Area Forecast (GAF)

Bureau of Meteorology » Aviation Meteorological Services



The Bureau is moving towards implementing ICAO Annex 3 specifications for Area Forecasts.

## Introduction

The Bureau of Meteorology currently produces Area Forecasts (ARFORs) for 28 areas across Australia. These ARFORs are provided in a text format and consist of an overview detailing the general meteorological situation followed by sections giving more detailed forecasts of various meteorological parameters.

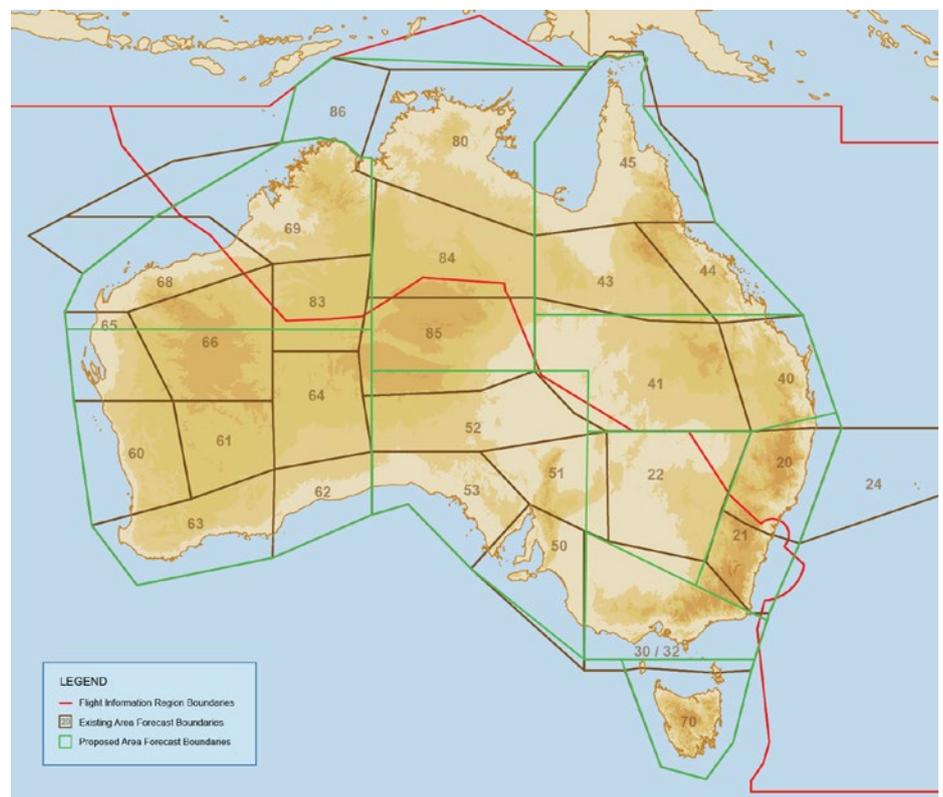
The format of Australian ARFORs does not comply with ICAO Annex 3 specifications. In addition, the aviation industry has provided feedback that they would prefer Area Forecasts in a graphical format. In order to align the format with international best practice and to meet industry needs, the Bureau has progressed work in reviewing the requirements to support the implementation of Graphical Area Forecasts (GAF).

## Key changes

Some details of the GAF are still not finalised and the format of GAF is subject to change. The GAF will be introduced on **9 November 2017**.

### Changes to Area Forecast boundaries

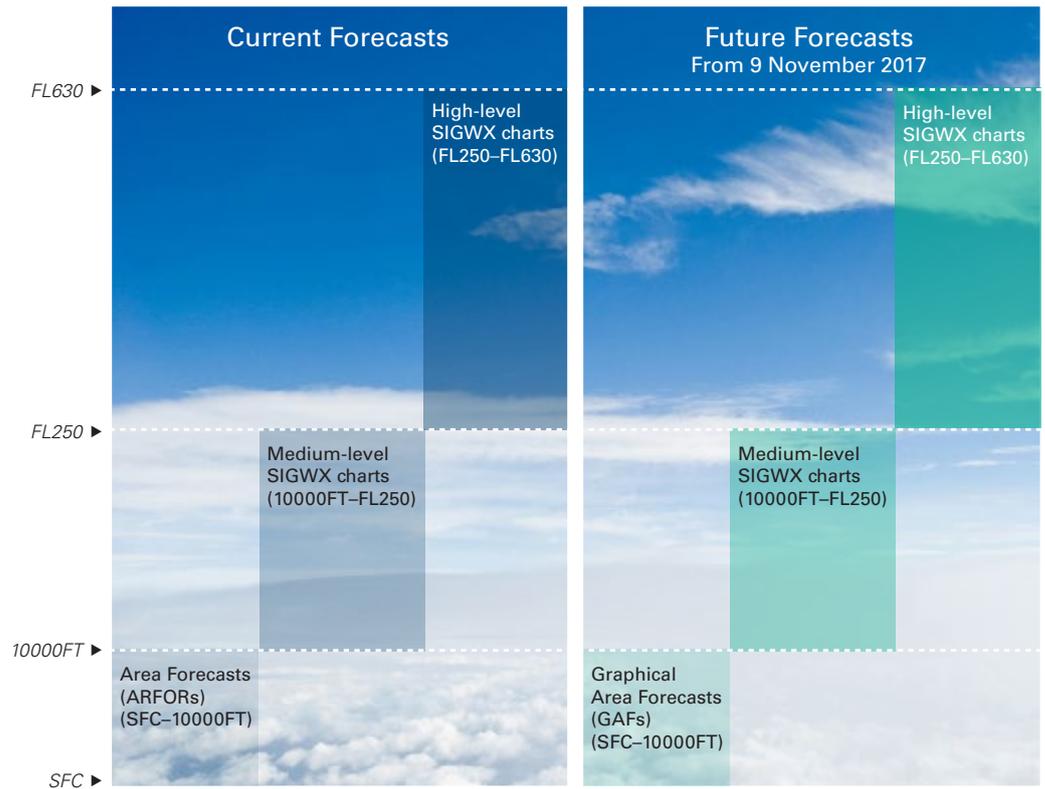
GAFs will be produced for 10 areas across Australia (green boundaries) compared to 28 areas currently (brown boundaries). GAF areas will be given names, for example, NSW-E, NSW-W, NT, QLD-N, QLD-S, SA, TAS, VIC, WA-S, WA-N, instead of area numbering format currently used.



Current Area Forecast and the proposed Graphical Area Forecast boundaries.

## Vertical extent of an area forecast

Graphical Area Forecasts will cover the area between the surface and 10000FT as per ICAO requirements.



## Changes to Area Forecast content

The key changes to the elements of area forecasts are detailed in the table.

| Element                      | ARFOR                | GAF                  |
|------------------------------|----------------------|----------------------|
| Overview                     | Y                    | Y (Pictorial)        |
| Wind & temperature           | Y                    | N (Separate product) |
| Cloud                        | Y                    | Y                    |
| Weather                      | Y                    | Y                    |
| Visibility                   | Y                    | Y                    |
| Freezing level               | Y                    | Y                    |
| Turbulence                   | Y                    | Y                    |
| Icing                        | Y                    | Y                    |
| Critical locations           | Y                    | Y                    |
| Significant weather features | Sometimes            | Y                    |
| Validity period              | 1 x 12 Hour Forecast | 2 x 6 Hour Forecasts |
| Is product amended?          | Y                    | N (AIRMETs issued)   |

## Amendments to GAFs and GAF Corrections

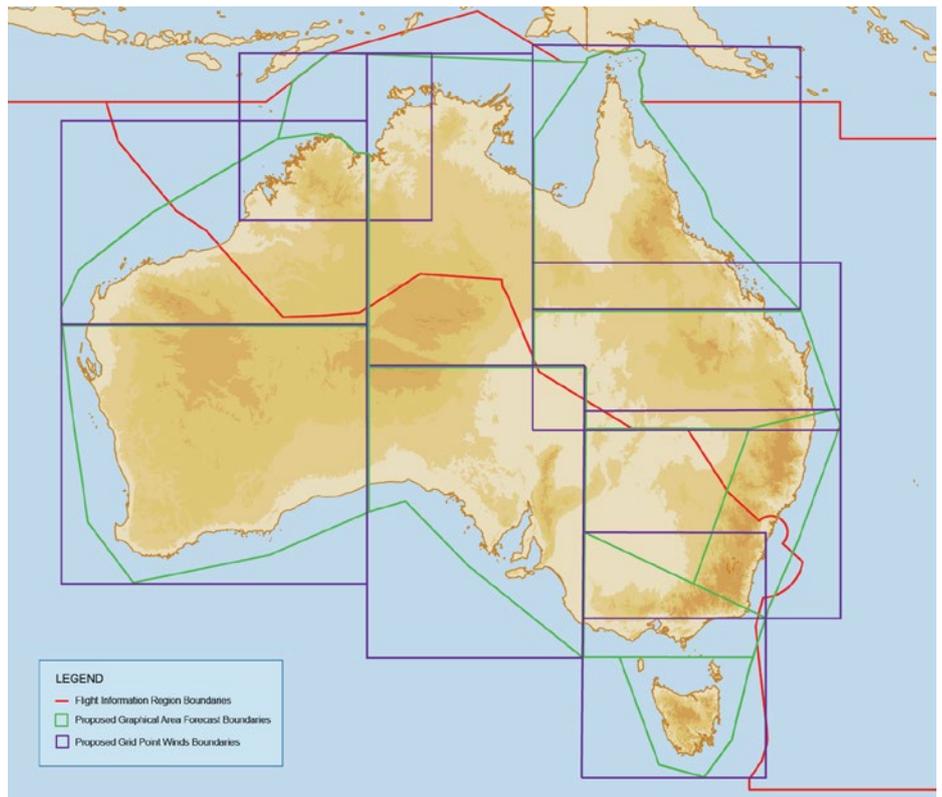
It should be noted that GAFs will not be amended. Advice of an amendment for deteriorating conditions will be solely in the form of an AIRMET.

A GAF Correction will be issued between standard issues times to notify of:

- Typographical error;
- Errors such as transmitting before completion; and
- Improvement in conditions (e.g. removal of fog, thunderstorms, etc.)

## Grid Point Wind and Temperature (GPWT) chart

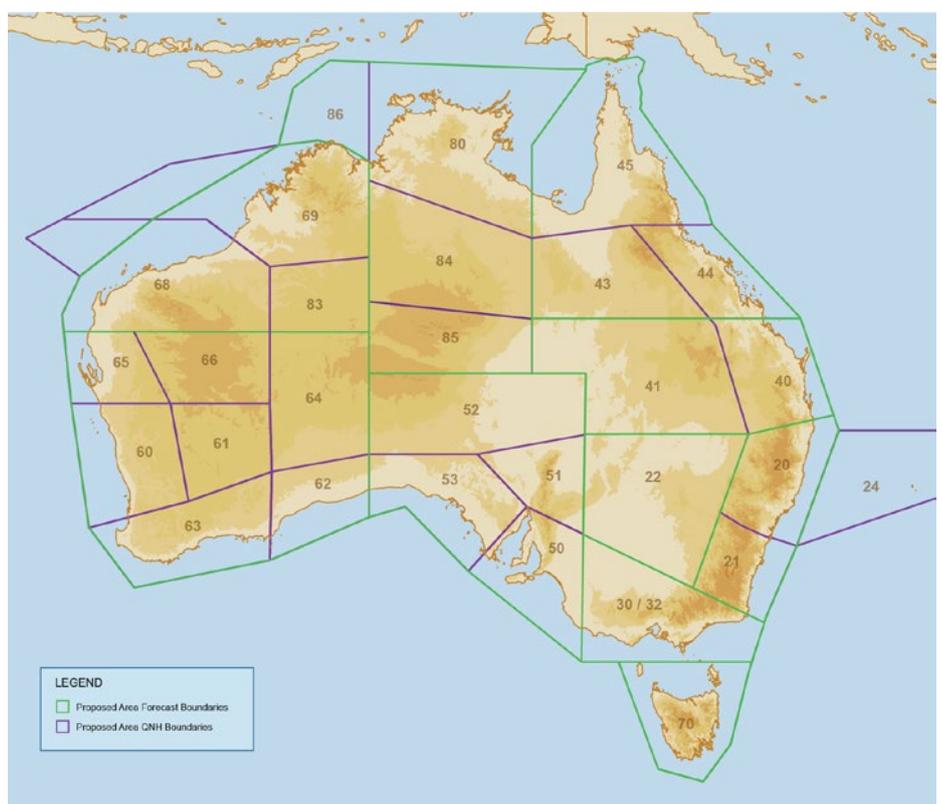
Currently, ARFORs have a section for wind and temperature information. With the production of GAF low-level winds and temperatures will be provided in a Grid Point Wind and Temperature format, similar to Mid-level and High-level GPWT charts.



Proposed GPWT areas.

## Changes to Area QNH boundaries

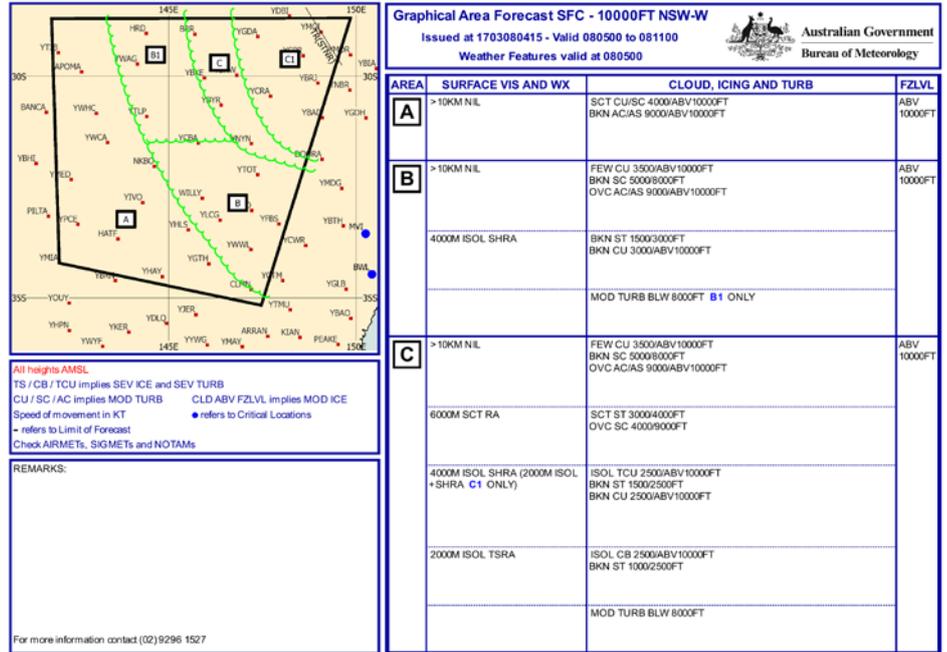
The current number of Area QNH boundaries will remain the same; however, the Area QNH boundaries is proposed to be modified to align with GAF boundaries.



Proposed Area QNH and GAF Boundaries.

## Graphical Area Forecast

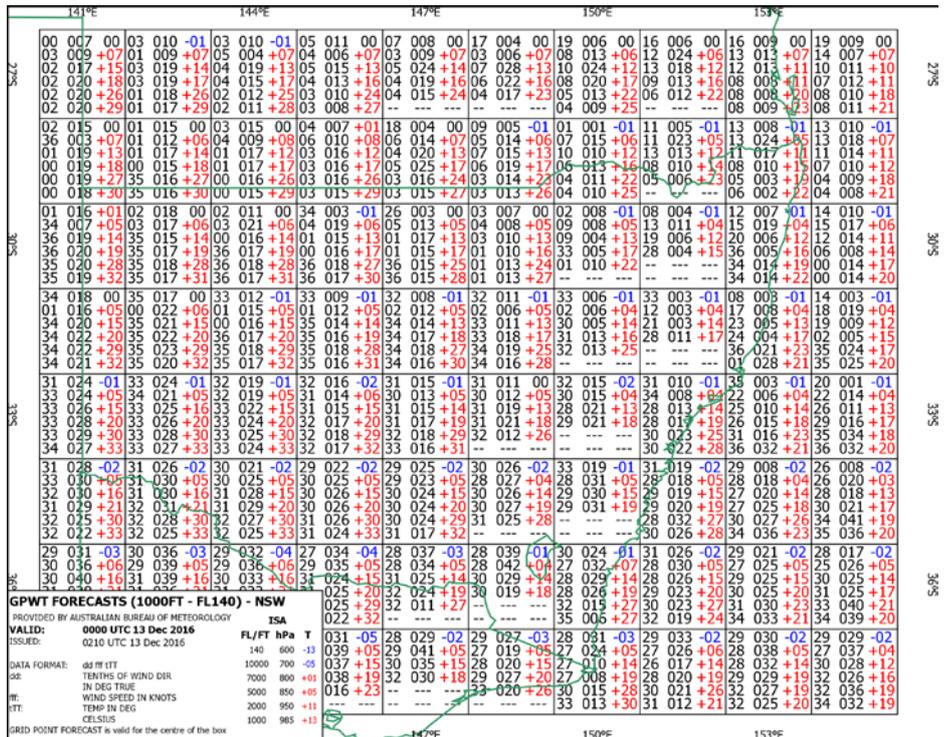
Graphical Area Forecasts are a combination of graphical and text information. The GAF is broken up into different sub-areas that share common characteristics of weather, visibility or cloud that change in a similar fashion during the period of the forecast. GAF is divided into separate sections to provide information on weather and visibility, cloud and freezing level for different sub-areas within a GAF during the period of the forecast.



An example GAF for NSW West (NSW-W).

## Grid Point Wind and Temperature chart

Graphical Area Forecasts are not proposed to include low-level winds. Low-level winds and temperatures will be provided in a Grid Point Wind and Temperature (GPWT) format as produced for mid and high-level flights. The low-level GPWT chart will provide wind and temperature information for vertical levels of 1000FT, 2000FT, 5000FT, 7000FT, 10,000FT and 14,000FT.



An example of GPWT chart for NSW.



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Airservices Australia is the official distributor of aviation forecasts, warnings and observations issued by the Bureau of Meteorology. Airservices' flight briefing services are available at [www.airservicesaustralia.com](http://www.airservicesaustralia.com). Telephone contact details for elaborative briefings are contained in Airservices' Aeronautical Information Publication Australia (AIP), which is available online through their website.

Other brochures produced by the Bureau of Meteorology's aviation weather service program can be found at [www.bom.gov.au/aviation/knowledge-centre](http://www.bom.gov.au/aviation/knowledge-centre).

| Indicates a change from previous edition.