

AIRMET

AIRMET information concerns the occurrence, or expected occurrence, of certain phenomena that have not been included in the graphical area forecast (GAF).

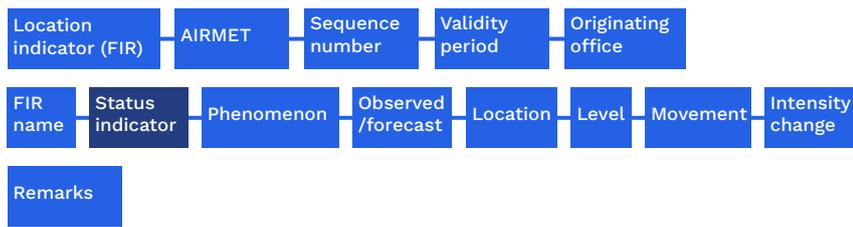
AIRMET

AIRMET information is issued for the occurrence, or expected occurrence, of specified en-route weather phenomena below 10,000 feet above mean sea level (AMSL), which may affect the safety of low-level aircraft operations, and which are not already included in the graphical area forecast (GAF). AIRMET may include phenomena of a lesser degree of severity than that of a SIGMET. AIRMETS are also issued if the phenomena are contained in the GAF but are affecting a different area or time period, or for a change in phenomena affecting visibility. AIRMET are only issued for a deterioration in conditions.

AIRMET information is passed on to pilots by air traffic control (ATC) by way of a hazard alert.

Weather element/ phenomenon	Code	Description	Definitions
Surface visibility	SFC VIS	Widespread areas of visibility of less than 8,000 m, over an area of at least 3,000 nm ² , or less than 5,000 m in areas of high traffic density (+ visibility in m) (+ one of the following weather phenomena or combinations thereof: BR, DS, DU, DZ, FC, FG, FU, GR, GS, HZ, PL, PO, RA, SA, SG, SN, SQ, SS or VA)	<p>Isolated Individual features affecting, or are forecast to affect, up to 50% of an area</p> <hr/> <p>Occasional Well-separated features affecting, or are forecast to affect, greater than 50% but not more than 75% of an area</p> <hr/> <p>Frequent Little or no separation between adjacent features affecting, or forecast to affect, greater than 75% of an area</p> <hr/> <p>Widespread Indicates greater than 75% coverage of an area</p>
Cloud			
Areas of coverage	BKN CLD OVC CLD	Widespread areas of broken (BKN) or overcast (OVC) cloud coverage below 1,500 ft above ground level, over an area of at least 3,000 nm ² , or below 1,000 ft in areas of high traffic density	
Cumulonimbus	ISOL CB OCNL CB FRQ CB	Isolated (ISOL), occasional (OCNL) or frequent (FRQ) cumulonimbus (CB) cloud	
Towering cumulus	ISOL TCU OCNL TCU FRQ TCU	Isolated (ISOL), occasional (OCNL) or frequent (FRQ) towering cumulus (TCU) cloud	
Weather			
Thunderstorms	ISOL TS OCNL TS ISOL TSGR OCNL TSGR	Isolated (ISOL) or occasional (OCNL) thunderstorms (TS) Isolated (ISOL) or occasional (OCNL) thunderstorms with hail (TSGR)	
Moderate icing	MOD ICE	Moderate icing (not issued separately when icing occurs in convective clouds)	
Moderate turbulence	MOD TURB	Moderate turbulence (not issued separately when turbulence occurs in convective clouds)	
Moderate mountain waves	MOD MTW	Moderate mountain waves	
Freezing level	FZLVL	Change in freezing level of 2,000 ft or more	
			<p>Notes</p> <ul style="list-style-type: none"> In Australia, AIRMET is not issued for surface wind or mountain obscuration. If lightning, thunder or hail is expected, the phenomenon TS will be used. The phenomena CB or TCU will only be used when not accompanied by lightning, thunder or hail. Turbulence and icing will not be used in connection with convective clouds as they are implied.

AIRMET message structure



■ Indicates element which may not be included

Location indicator is the International Civil Aviation Organization (ICAO) location indicator of the Australian flight information region (FIR), i.e. either YMMM (Melbourne FIR) or YBBB (Brisbane FIR).

AIRMET is the message identifier.

Sequence number gives the sequential number of AIRMET issued since 0001 UTC on the day concerned. The sequence number will reset to 01 on the UTC day rollover (at 0001 UTC). For example if AIRMET 08 was allocated at 2200 UTC and the next sequence number is requested at 0015 UTC, then sequence number 01 will be allocated.

Validity period is given in the format DDHHMM/DDHHMM, where DD is the day of the month and HHMM is the time in hours and minutes in UTC. An AIRMET is valid for a maximum of 4 hours. The lead time (time of issuance of the AIRMET) can be up to 4 hours before the start of the validity period (i.e. the expected time of occurrence of the phenomenon).

Originating office is either YBRF (Brisbane) or YMRF (Melbourne).

FIR name is the abbreviation and full name of the FIR (YMMM or YBBB) for which the AIRMET is issued, for example, YBBB is Brisbane FIR.

Status indicator is included for a test (TEST) or exercise (EXER), if required.

Phenomenon is a description of the phenomenon causing the issuance of the AIRMET, and consists of a qualifier and a phenomenon abbreviation.

Observed or forecast gives an indication of whether the element is observed or forecast, and is given in the format OBS [AT <HHMMZ>] or FCST.

Location is described using a single point or polygon using coordinates or location abbreviations from the Planning Chart Australia (PCA). The first point of a polygon is not repeated when describing the horizontal extent. The location gives the location at the beginning of the validity period.

Level is the vertical extent of the phenomenon in feet AMSL, using one of the following formats:

- SFC/[n]nnnnFT
- TOP [n]nnnnFT
- [n]nnnnFT
- TOP ABV [n]nnnnFT
- [n]nnnn/[n]nnnnFT
- BLW [n]nnnnFT
- ABV [n]nnnnFT.

If a layer is extending through the transition level (10,000 ft):

- Where the base of the phenomenon is below 10,000 ft but the top is above 10,000 ft, ABV nnnnFT will be used, where 'nnnn' is the base of the phenomenon, e.g. ABV 5000FT.
- In the case of TS, CB and TCU, where the top of the phenomenon may be above 10,000 ft, TOP ABV 10000FT will be used.

AIRMET abbreviations

ABV	Above
BKN	Broken
BLW	Below
BR	Mist
CB	Cumulonimbus
CLD	Cloud
CNL	Cancel
DS	Duststorm
DU	Dust
DZ	Drizzle
E	East or eastern longitude
FC	Funnel cloud
EXER	Exercise
FCST	Forecast
FG	Fog
FIR	Flight information region
FL	Flight level
FRQ	Frequent
FT	Feet
FU	Smoke
FZLVL	Freezing level
GAF	Graphical area forecast
GR	Hail
GS	Small hail and/or snow pellets
HZ	Haze
ICE	Icing
INTSF	Intensifying
ISOL	Isolated
KT	Knots
M	Metres
MOD	Moderate
MOV	Moving
MTW	Mountain wave
N	North or northern latitude
NC	No change (in intensity)
OBS	Observed
OBSC	Obscured
OCNL	Occasional
OVC	Overcast
PL	Ice pellets
PO	Dust/sand whirls (dust devils)
RA	Rain
S	South or southern latitude

Movement or expected movement is indicated by a direction using one of the 16 compass radials and speed is given in knots (KT), e.g. MOV NNE 25KT. Speed is given in 5 knot increments and 2 digits shall be used for speeds less than 10 knots.

The abbreviation STNR (stationary) is used if no significant movement is expected and for FZLVL AIRMETS.

Intensity change is the expected evolution of the phenomenon’s intensity and is indicated by one of the following abbreviations:

- INTSF: intensifying
- WKN: weakening
- NC: no change.

The abbreviation NC will always be used for FZLVL AIRMETS.

Remarks are found only in Australian AIRMET messages and are removed before sending internationally. The purpose is to allow additional information to be conveyed in an AIRMET message, such as:

- list of GAF identifiers that the AIRMET message applies to
- cross-referencing AIRMET messages when a phenomenon straddles the FIR boundary.

Cancellation

An AIRMET will be cancelled when, during the validity period of an AIRMET, the phenomenon for which the AIRMET had been issued is included in a routine GAF or the phenomenon ceases to exist.

Note: There is no provision for amendments to AIRMET and therefore if an amendment is required, or an error is to be corrected, the current AIRMET will be cancelled and a new AIRMET issued with a new (or next) sequence number.

Graphical AIRMET

The Bureau of Meteorology issues a graphical product that represents all text AIRMETS for Australia. This product is intended for situational awareness. Users are to consider the product as being valid only for the issue time. The text AIRMET should be used for flight planning purposes.

There will be multiple AIRMETS displayed for the one phenomenon when:

- an extended AIRMET is issued and the previous AIRMET (for the same phenomenon) is yet to expire
- a new AIRMET is issued in response to a significant change to an event given in a previous AIRMET, and the previous AIRMET is yet to be cancelled
- 2 AIRMETS are issued when a phenomenon crosses the FIR boundary, one for YBBB FIR and one for YMMM FIR.

If a text AIRMET cannot be rendered graphically, it will be displayed in text format on the graphic.

Issue frequency of graphical AIRMET

The graphical AIRMET product will be updated every 10 minutes and whenever a text AIRMET is issued. It will show an image of Australia with AIRMETS overlaid. There is also the option of viewing zoomed-in versions of 3 different sectors, covering southeast Australia, northeast Australia, and western parts of Australia. There will be a slight delay between the issuance of the text AIRMET and the subsequent update of the graphic. Images will be issued even if there is no AIRMET current.

AIRMET abbreviations (cont)

SA	Sand
SFC	Surface
SG	Snow grains
SN	Snow
SQ	Squall
SS	Sandstorm
STNR	Stationary
TCU	Towering cumulus
TEST	Test
TOP	Top (of cloud)
TS	Thunderstorm
TURB	Turbulence
UTC	Coordinated universal time
VA	Volcanic ash
VIS	Visibility
W	West or western longitude
WI	Within (area)
WKN	Weakening (intensity)
YBBB	Brisbane flight information region
YBRF	Brisbane Meteorological Office
YMMM	Melbourne flight information region
YMRF	Melbourne Meteorological Office

Graphical AIRMET symbols

	MOD icing
	MOD turbulence
	Thunderstorm
	Thunderstorm with hail
	Mountain waves
SFC VIS	Visibility
CLD (BKN)	BKN low cloud
CLD (OVC)	OVC low cloud
CB	Cumulonimbus
TCU	Towering cumulus
0°	Freezing level

Examples of AIRMET text products

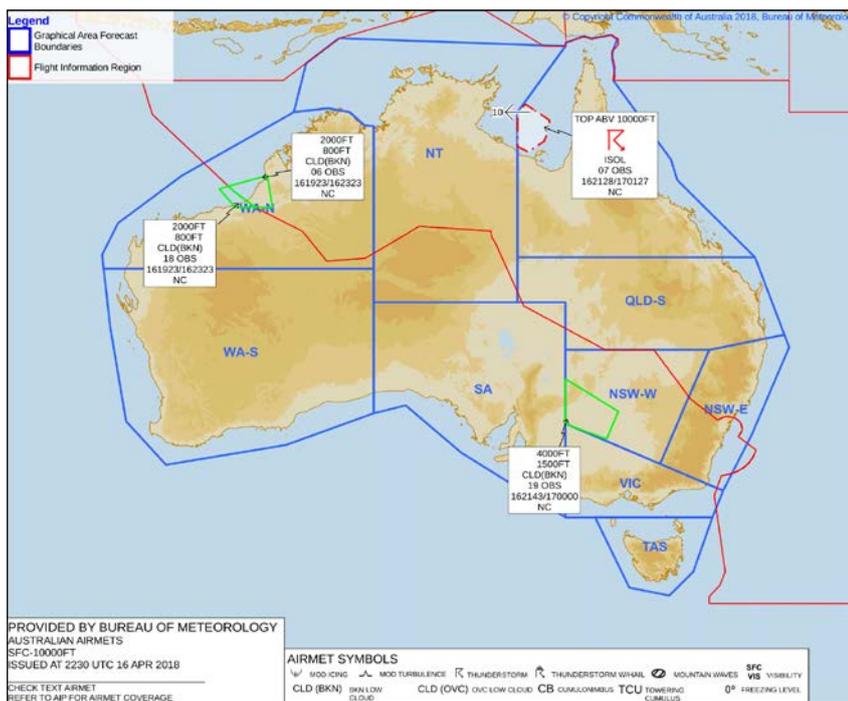
YMMM AIRMET 19 VALID 162143/170000 YMRF-
 YMMM MELBOURNE FIR BKN CLD 1500/4000FT OBS WI S3050 E14100 - YIVO - YBRN - S3340 E14100 STNR NC
 RMK: GAF NSW-W=

YBBB AIRMET 07 VALID 162128/170127 YBRF-
 YBBB BRISBANE FIR ISOL TS OBS WI S1430 E14000 - S1500 E14000 - S1550 E13940 - S1610 E13910 - S1630 E13840
 - S1610 E13800 - S1540 E13800 - S1520 E13800 - S1450 E13800 - S1420 E13800 - S1400 E13800 - S1330 E13830 -
 S1350 E13900 TOP ABV 10000FT MOV W 10KT NC
 RMK: GAF QLD-N=

YBBB AIRMET 06 VALID 161923/162323 YBRF-
 YBBB BRISBANE FIR BKN CLD 800/2000FT OBS WI S1850 E11920 - S1800 E12220 - S2000 E12240 - S2000 E12020
 STNR NC
 RMK: GAF WA-N SEE ALSO YMMM 18=

YMMM AIRMET 18 VALID 161923/162323 YBRF-
 YMMM MELBOURNE FIR BKN CLD 800/2000FT OBS WI S1850 E11920 - S1800 E12220 - S2000 E12240 - S2000
 E12020 STNR NC
 RMK: GAF WA-N SEE ALSO YBBB 06=

Example of the graphical AIRMET product



Decode WA-N broken cloud graphical AIRMET

2000FT 800FT	Vertical extent of the cloud (base 800 feet and top 2,000 feet)
CLD (BKN)	Broken cloud
18 OBS	AIRMET number 18 Cloud was observed
161923/ 162323	AIRMET valid from 1923 UTC to 2323 UTC on the 16th
NC	No change in intensity expected

Decode QLD-N thunderstorm graphical AIRMET

TOP ABV 10000FT	Vertical extent of thunderstorm tops is above 10,000 feet
ISOL	Isolated (thunderstorms)
07 OBS	AIRMET number 07 Isolated thunderstorms observed
162128/ 170127	AIRMET valid from 2128 UTC on the 16th to 0127 UTC on the 17th
NC	No change in intensity expected

Further aviation educational resources produced by the Bureau of Meteorology can be found at www.bom.gov.au/aviation/knowledge-centre.

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| A vertical line in the margin indicates a change or addition since last update.

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