AUSTRALIA

AERONAUTICAL INFORMATION CIRCULAR (AIC)

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H20/26

Effective: 202604210000 UTC

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CLOUD HEIGHT REPORTING BIAS AT IDENTIFIED AERODROMES

1. INTRODUCTION

1.1 The Bureau of Meteorology (the Bureau) owns and operates a large network of Automatic Weather Stations (AWS) across Australia.

1.2 When installed at aerodromes, the AWS operates as the source of information for authorised weather reports for that aerodrome (c.f. the definitions of the Civil Aviation Safety Regulations 1998 (CASR)), providing METAR/SPECI and, where available, the Aerodrome Weather Information Service (AWIS).

1.3 At the majority of aerodromes where the Bureau provides an aerodrome forecast (TAF) service, the AWS includes a ceilometer which measures cloud heights.

1.4 Ceilometers measure cloud heights by using a laser light source to send a light pulse vertically through the atmosphere. The light pulse is scattered by aerosols, including water droplets (clouds), and the component of light scattered back towards the ceilometer is measured at the ceilometer's receiver. The time taken for the signal to return is proportional to the height of the scattering obstruction (e.g. cloud base).

1.5 For use in the METAR/SPECI and AWIS, a cloud algorithm processes data collected by the ceilometer over the last 30 minutes to determine cloud height and coverage.

1.6 The cloud height in METAR/SPECI and AWIS is reported in hundreds of feet, rounded down to the nearest 100 feet, above aerodrome elevation.

1.6.1 For example, a cloud layer determined to cover 6 oktas of the sky and be at 395FT height, is reported as BKN003.

1.7 More information about the measurement of cloud height and coverage is available at https://reg.bom.gov.au/aviation/data/education/aws.pdf.

1.8 This AIC provides notification of a reporting bias in cloud heights that has been identified at several aerodromes.

2. CLOUD HEIGHT REPORTING BIAS DETAILS

2.1 Recently it was realised that at 11 aerodromes, where there is a notable offset between the ceilometer instrument elevation and the aerodrome elevation, reported cloud height does not meet the operationally desirable accuracy of observations as recommended by ICAO, in which cloud height is desired to have an operational accuracy of ±33FT for cloud heights up to 330FT.

2.2 At aerodromes in the table below, cloud heights reported in METAR/SPECI and AWIS are up to 100FT offset to what actual cloud height has been present in the previous 30 minute reporting period.

2.2.1 In all cases, apart from Giles, actual cloud height is up to 100FT lower than the reported cloud height.

2.2.2 Only at Giles, the actual cloud height is up to 100FT higher than the reported cloud height.

2.3 Details of affected aerodromes:

Identifier	Aerodrome	Maximum Offset
YBHI	Broken Hill	-100FT
YBRM	Broome/INTL	-100FT
YPXM	Christmas Island	-100FT
YCOM	Cooma – Snowy Mountains	-100FT
YCIN	Curtin	-100FT
YGLB	Goulburn	-100FT
YKRY	Kingaroy	-100FT
YMML	Melbourne	-100FT
YSNW	Nowra	-100FT
YSTW	Tamworth	-100FT
YGLS	Giles	+100FT

2.4 Aerodrome specific NOTAM will be raised at these locations upon publication of this AIC.

2.5 The reporting bias per station will be corrected by the Bureau in May 2026, the completion of which will be communicated by the cancellation of the corresponding NOTAM.

2.6 Until such time, users are required to use caution in interpreting cloud height reports in METAR/SPECI and AWIS at the affected aerodromes, and may apply a bias correction.

3. CANCELLATION

3.1 This AIC self-cancels at 22 June 2026.

4. DISTRIBUTION

4.1 Airservices Australia website only.