Australian Government
Bureau of Meteorology

Basic Climatological Station Metadata

Current status

Metadata compiled: 28 JUL 2021

Station: MOUNT ISA AERO

Bureau of Meteorology station number: 029127
Bureau of Meteorology district name: Lower Carpentaria
State: QLD

World Meteorological Organization number: 94332
Identification: YBMA

Network Classification: CLIMAT Stations, CLIMAT TEMP Stations, GCOS Surface Network, National Benchmark Network for Agrometeorology, Regional Basic Synoptic Network
Station purpose: Synoptic, Upper Air, Aeronautical
Automatic Weather Station: Almos

Current Station Location				
Latitude	**Decimal**	-20.6778	**Hour Min Sec**	20°40'40"S
Longitude	**Decimal**	139.4875	**Hour Min Sec**	139°29'15"E
Station Height	340.3 m	**Barometer Height**	341 m	
Method of station geographic positioning			GPS	

Year opened: 1966
Status: Open

Station summary

No summary for this site has been written as yet.

Historical metadata for this site has not been quality controlled for accuracy and completeness. Data other than current station information, particularly earlier than 1998, should be considered accordingly. Information may not be complete, as backfilling of historical data is incomplete.

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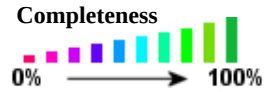
Basic Climatological Station Metadata

Current status

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

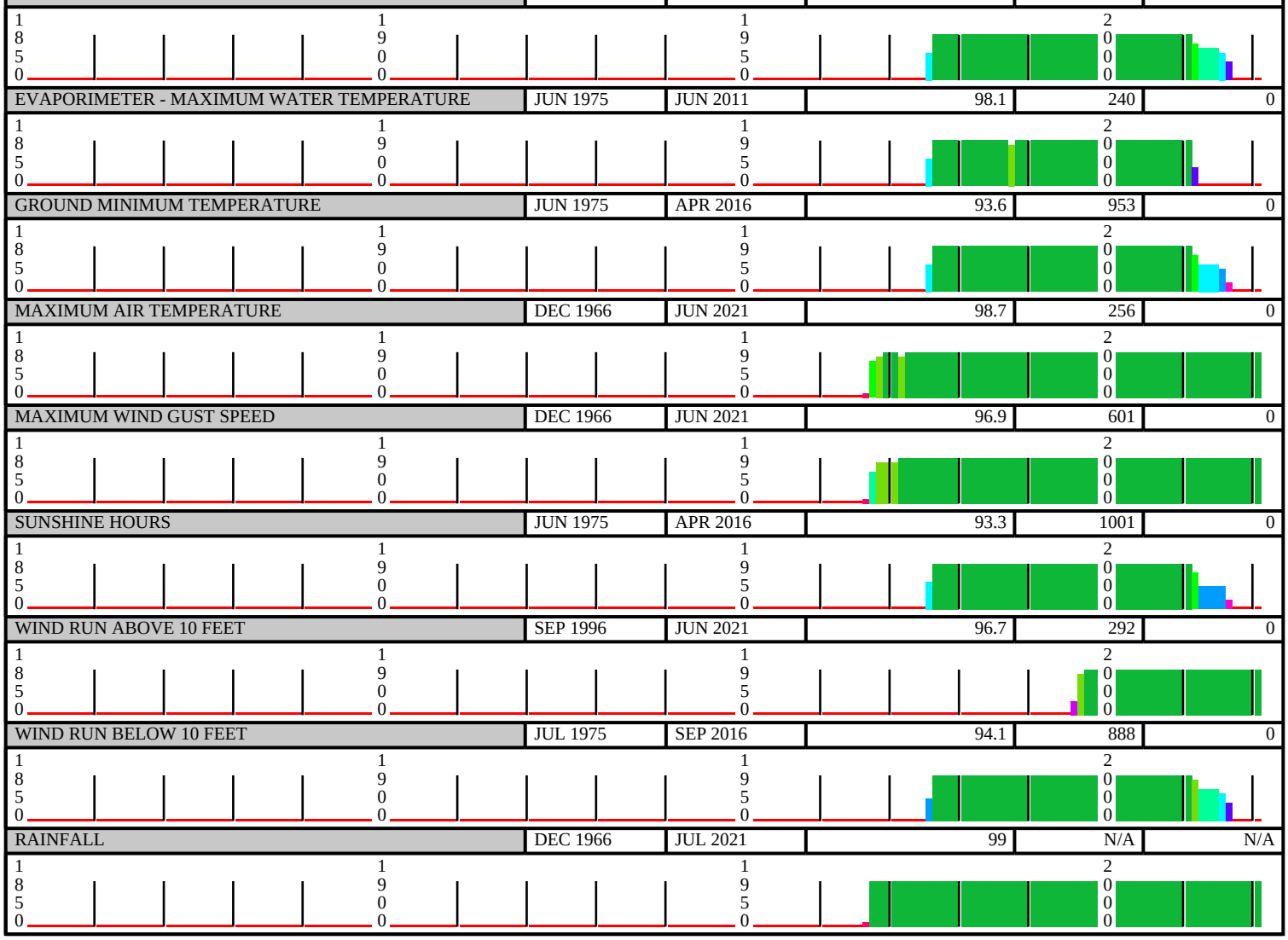
Observation summary

The table below indicates the approximate completeness of the record for individual element types within the Australian Data Archive for Meteorology. For elements not listed see the note below.



DAILY DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	SINGLE DAYS MISSED	FULL MONTHS MISSED
EVAPORATION	JUL 1975	SEP 2016	94.3	846	0
EVAPORIMETER - MAXIMUM WATER TEMPERATURE	JUN 1975	JUN 2011	98.1	240	0
GROUND MINIMUM TEMPERATURE	JUN 1975	APR 2016	93.6	953	0
MAXIMUM AIR TEMPERATURE	DEC 1966	JUN 2021	98.7	256	0
MAXIMUM WIND GUST SPEED	DEC 1966	JUN 2021	96.9	601	0
SUNSHINE HOURS	JUN 1975	APR 2016	93.3	1001	0
WIND RUN ABOVE 10 FEET	SEP 1996	JUN 2021	96.7	292	0
WIND RUN BELOW 10 FEET	JUL 1975	SEP 2016	94.1	888	0
RAINFALL	DEC 1966	JUL 2021	99	N/A	N/A



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Contact us by phone on (03) 9669 4082, by fax on (03) 9669 4515, or by email on climatedata@bom.gov.au

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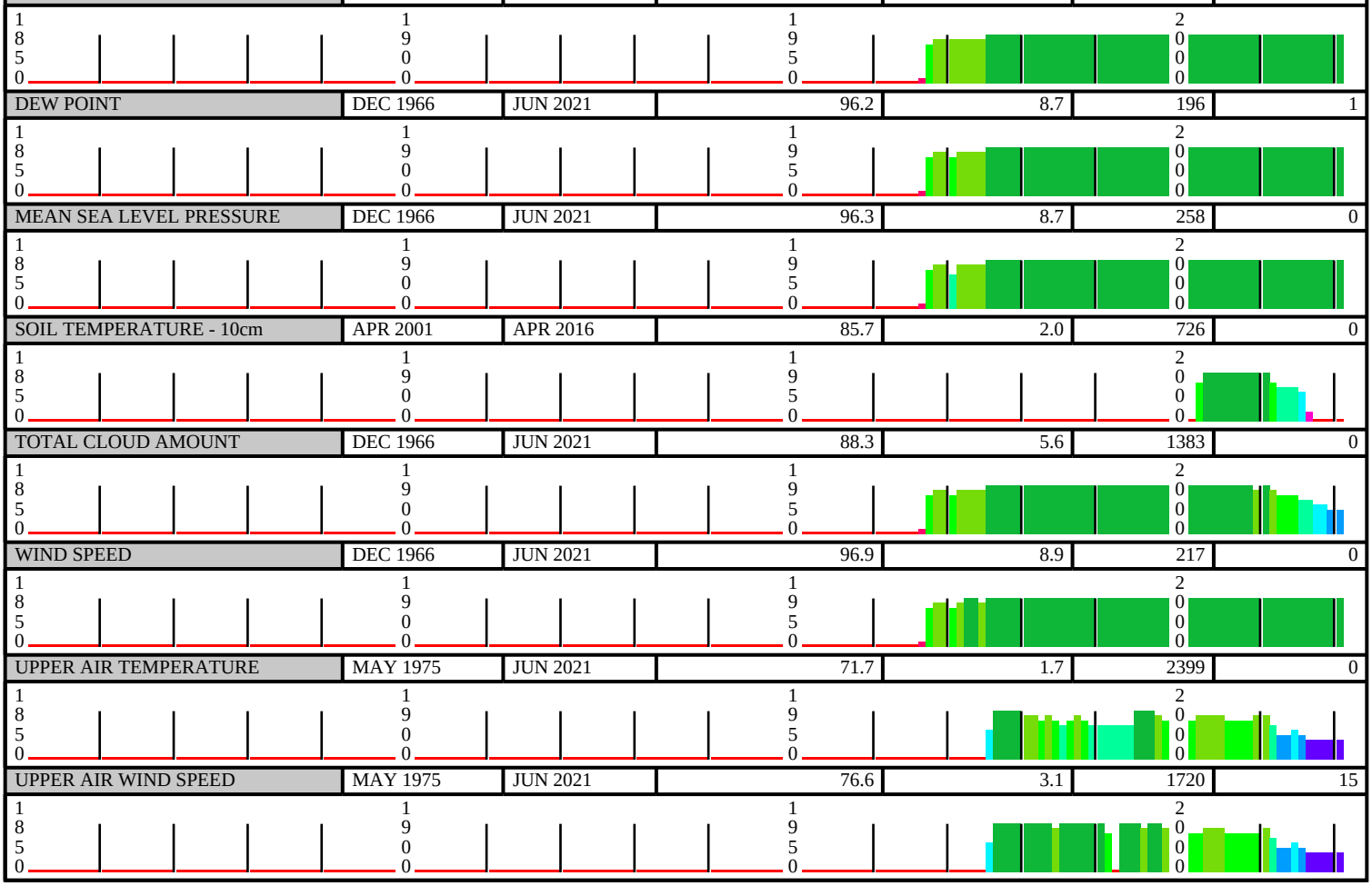
HOURLY DATA HOLDINGS - from 1 to 24 observations per day

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	FREQUENCY average daily	SINGLE DAYS MISSED	FULL MONTHS MISSED
AIR TEMPERATURE	DEC 1966	JUN 2021	96.5	8.7	190	0
DEW POINT	DEC 1966	JUN 2021	96.2	8.7	196	1
MEAN SEA LEVEL PRESSURE	DEC 1966	JUN 2021	96.3	8.7	258	0
SOIL TEMPERATURE - 10cm	APR 2001	APR 2016	85.7	2.0	726	0
TOTAL CLOUD AMOUNT	DEC 1966	JUN 2021	88.3	5.6	1383	0
WIND SPEED	DEC 1966	JUN 2021	96.9	8.9	217	0
UPPER AIR TEMPERATURE	MAY 1975	JUN 2021	71.7	1.7	2399	0
UPPER AIR WIND SPEED	MAY 1975	JUN 2021	76.6	3.1	1720	15



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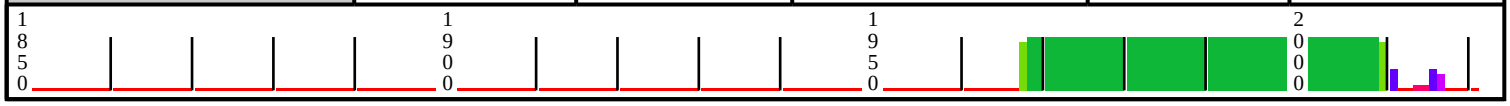
RAINFALL INTENSITY DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	SINGLE DAYS MISSED	FULL MONTHS MISSED
RAINFALL INTENSITY	MAR 1967	OCT 2016	85.6	503	69



ONE-MINUTE DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	FREQUENCY average daily	SINGLE DAYS MISSED	FULL MONTHS MISSED
ALL ELEMENTS	DEC 2003	JUL 2021	99.1	1426.6	N/A	0

HALF-HOURLY DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	FREQUENCY average daily	SINGLE DAYS MISSED	FULL MONTHS MISSED
ALL ELEMENTS	OCT 1995	JUL 2021	99.6	47.8	N/A	0

UPPER-AIR EDT DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH	COMPLETENESS (% estimate)	FREQUENCY average daily	SINGLE DAYS MISSED	FULL MONTHS MISSED
Wind only flights	Dec 2006	Sep 2016	N/A	1.0	144	112
Wind, temperature and pressure flights	Mar 1991	Jul 2017	N/A	1.6	1018	1

Holdings calculated up to 01 Jul 2021

The % complete figure is the completeness of observations averaged over all months of record, for the given station and observation type, taking gaps into account. For hourly holdings, the completeness is relative to the maximum number of daily observations for the site each month, and is therefore an estimate. For daily holdings, the completeness figure shown is exact.

The single days missed figure is the total number of days for which no observation was received, not including full missed months. The full months missed figure is the total of full month gaps over the period of record. Where an element is not included assumptions can generally be made about availability, and the list to use has been suggested below.

Unlisted element	Listed element to use
Minimum air temperature	Maximum air temperature
Wet bulb temperature	Dew point
Soil temperature at 20, 50 & 100cm	10cm soil temperature
Relative humidity	Dew point
Minimum temp. of water in evaporimeter	Evaporimeter - max water temp
Visual observations eg. weather, visibility	Total cloud amount
Sea related observations	Sea state

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Extended Climatological Station Metadata
All History

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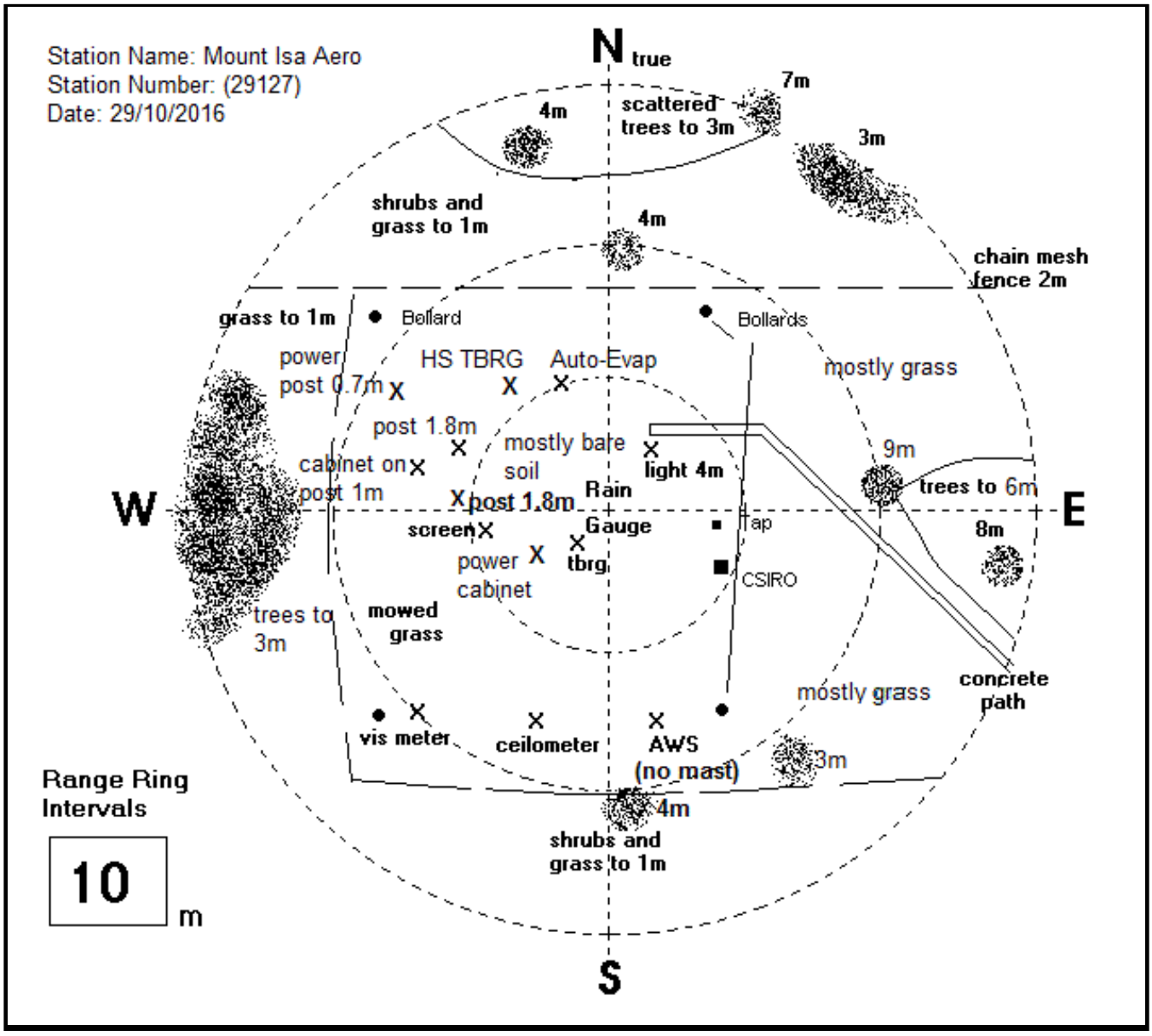
Instrument Location and Surrounding Features
29/10/2016(most recent)



Extended Climatological Station Metadata
All History

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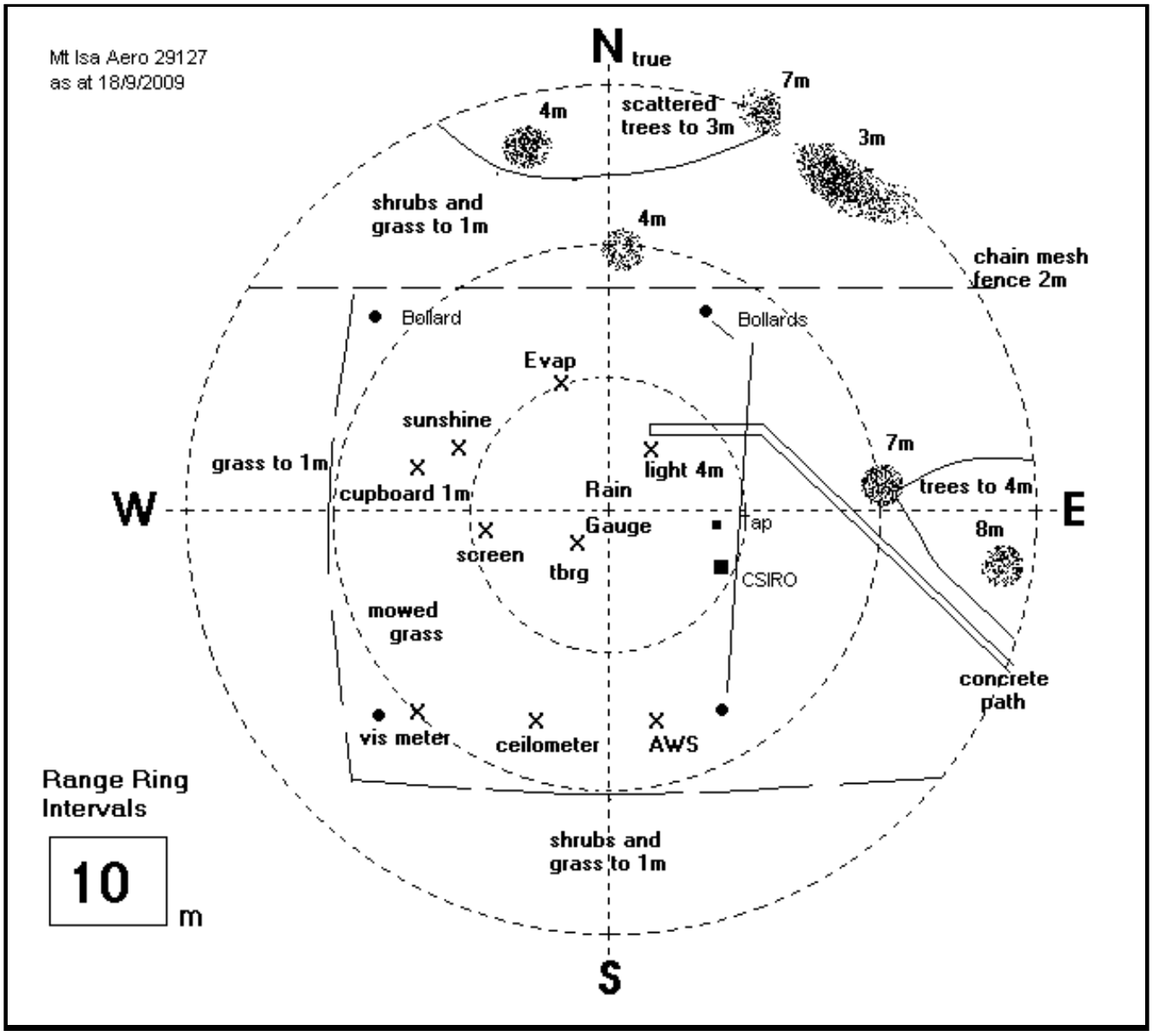
Instrument Location and Surrounding Features
18/09/2009



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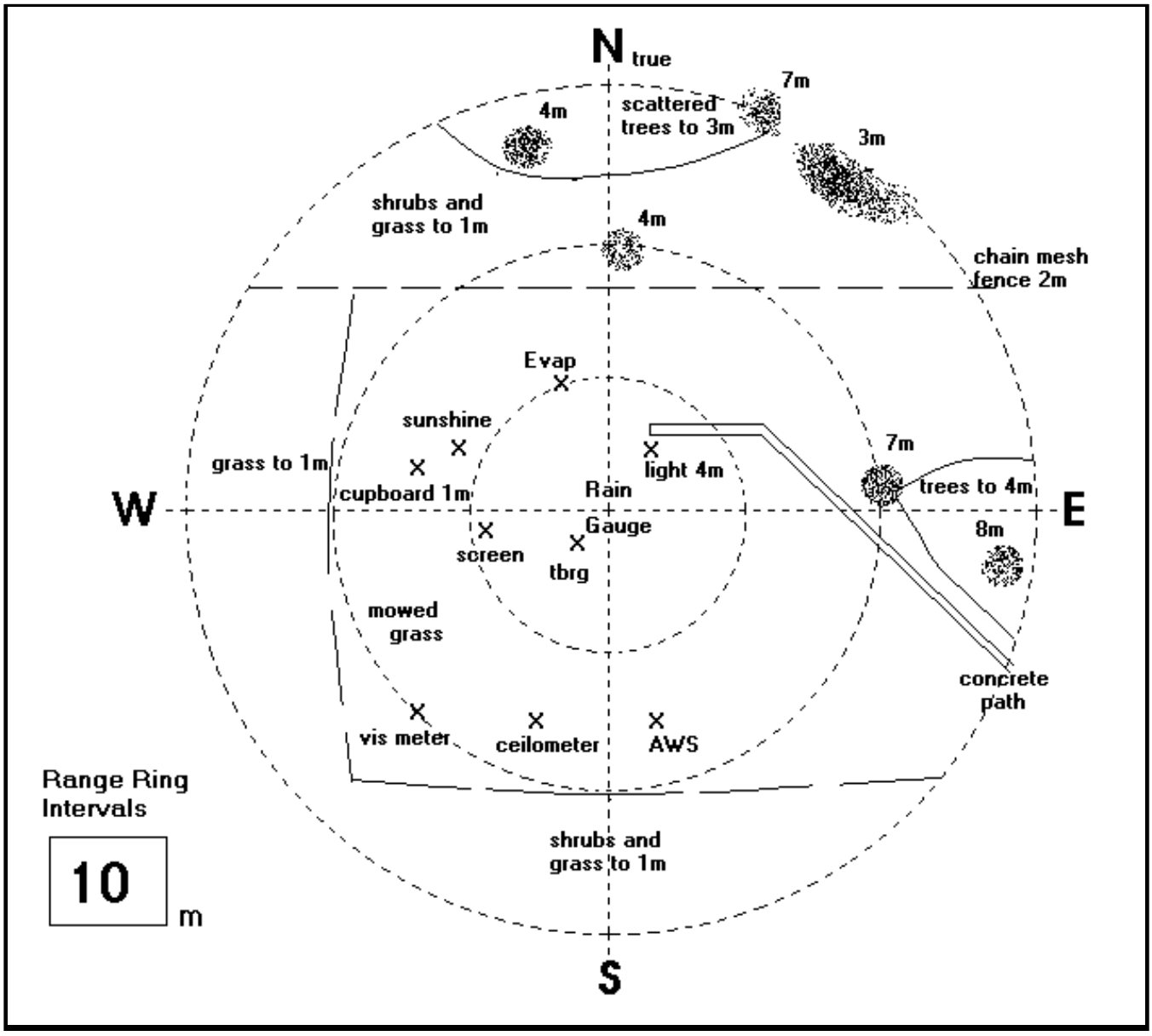
Instrument Location and Surrounding Features

10/08/2002



Extended Climatological Station Metadata

All History

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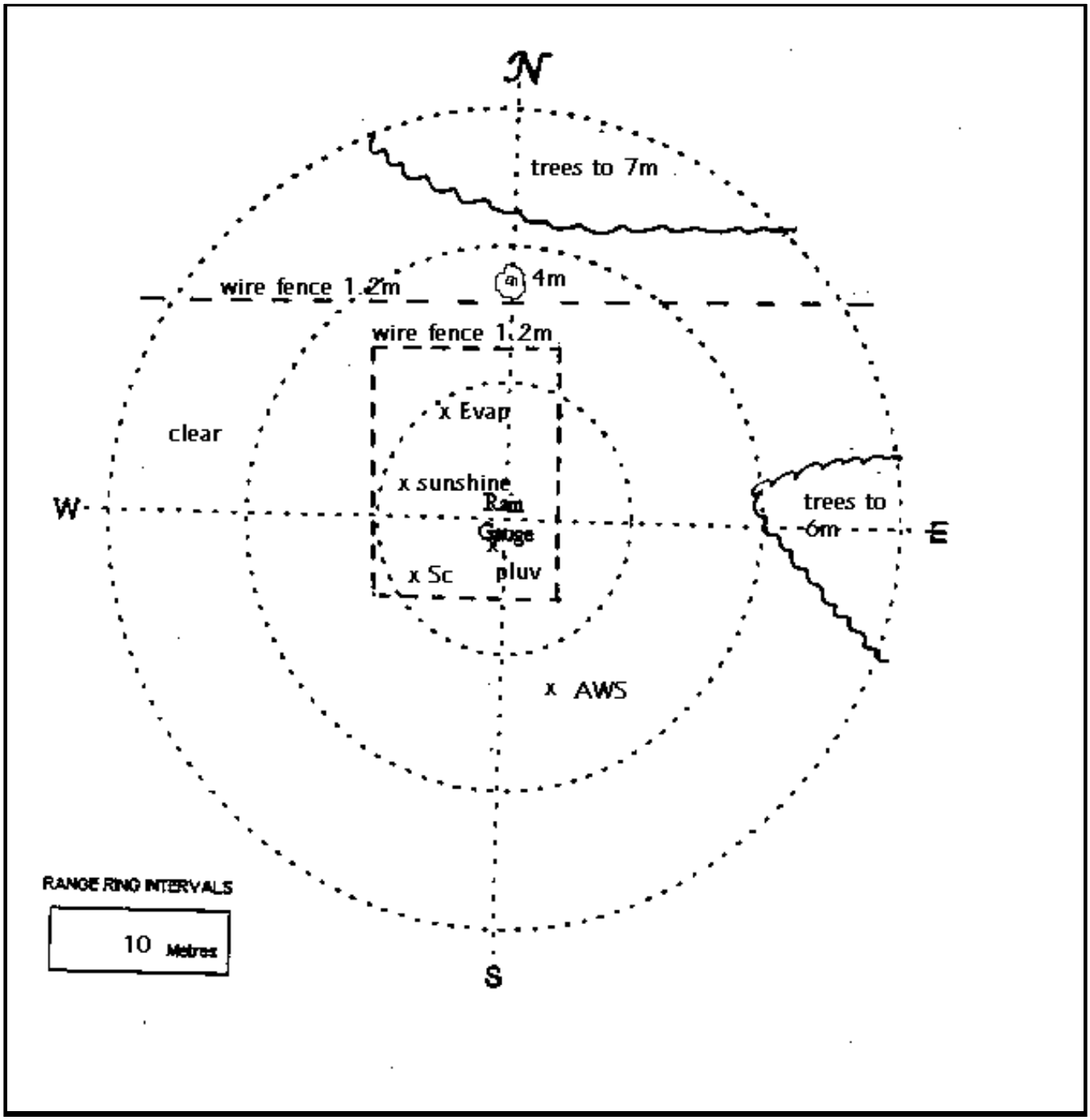
Instrument Location and Surrounding Features

14/08/2000



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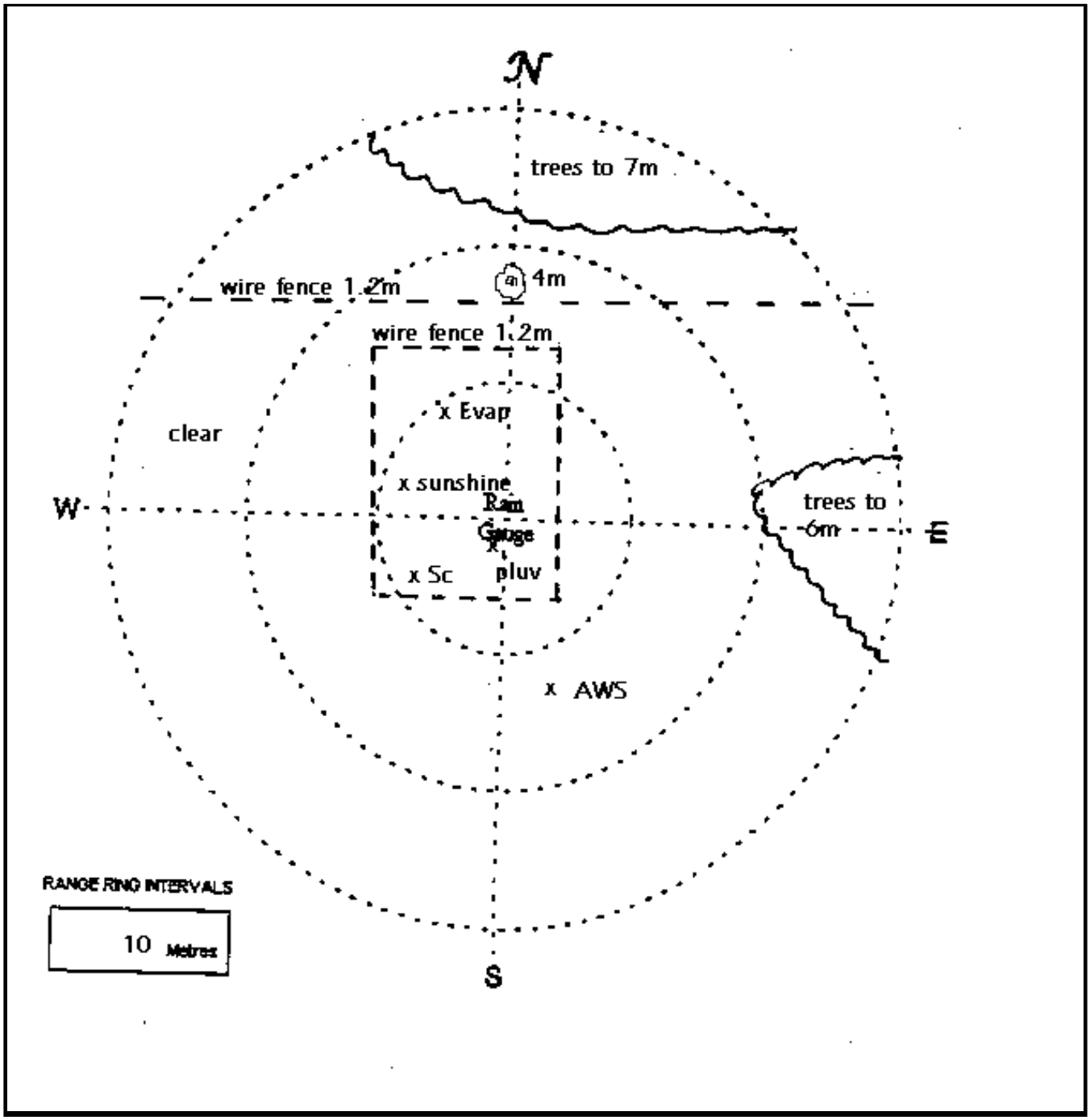
Instrument Location and Surrounding Features
31/07/1999



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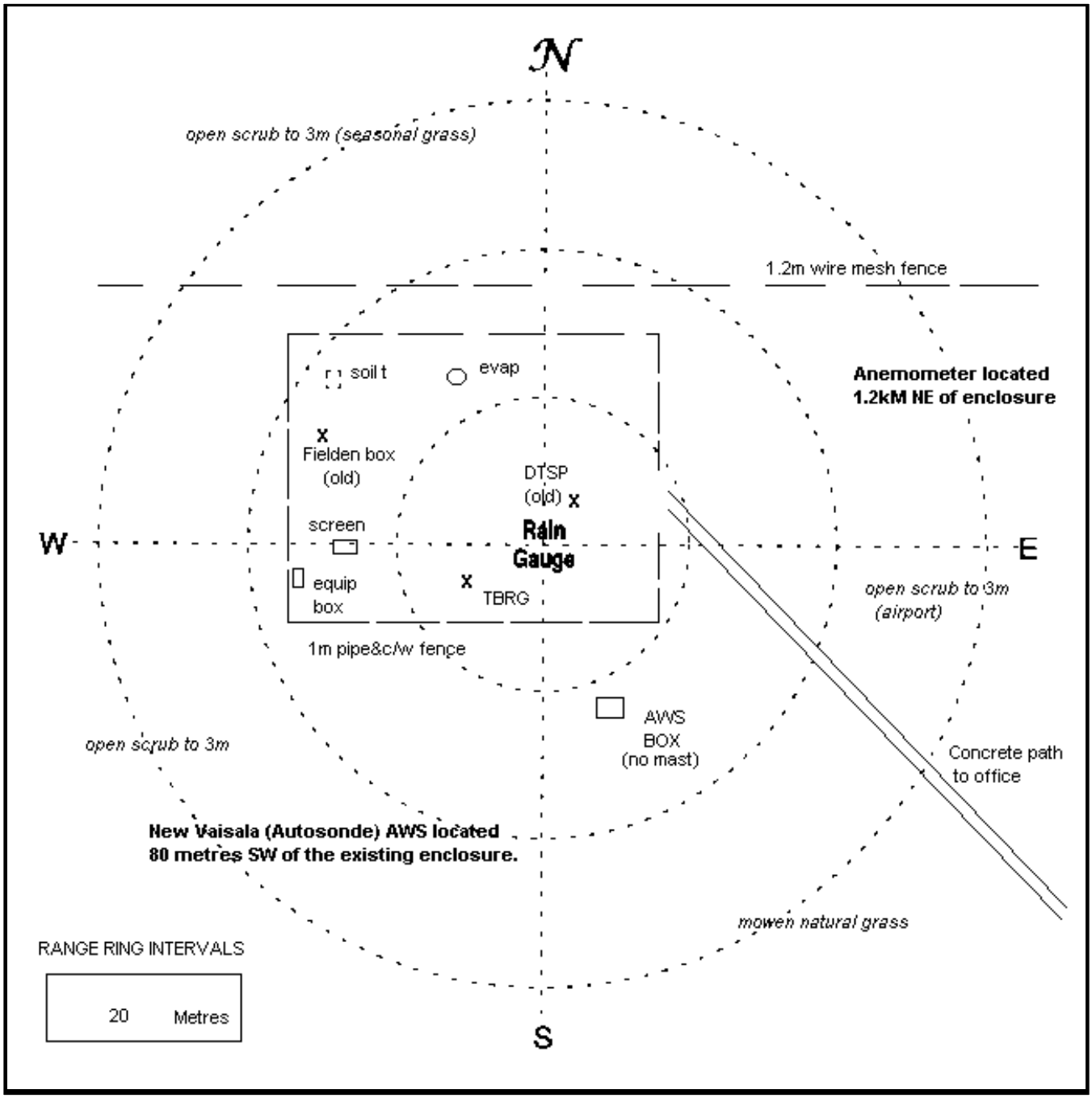
Instrument Location and Surrounding Features
10/08/1998



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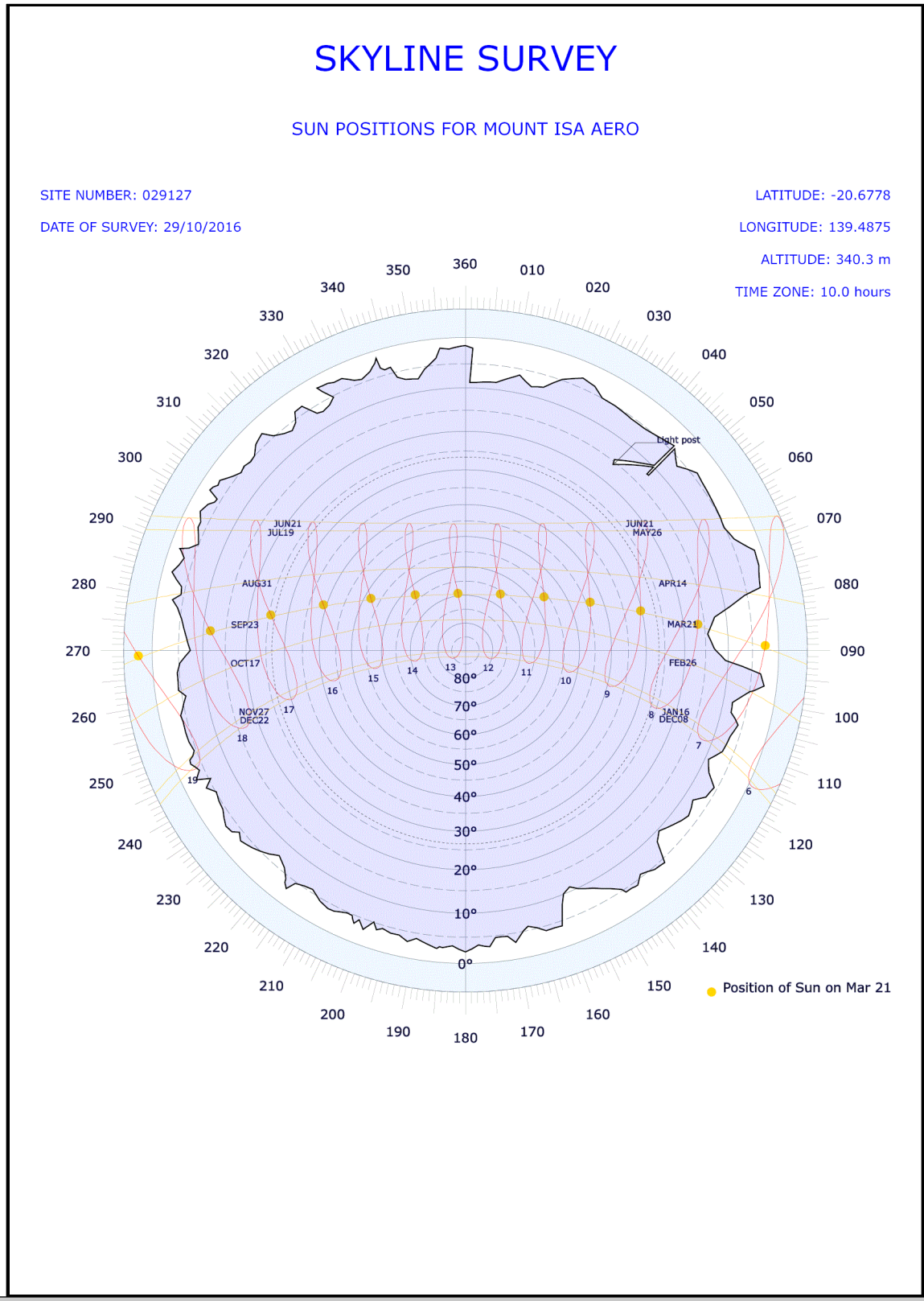
Skyline Diagram
29/10/2016(most recent)



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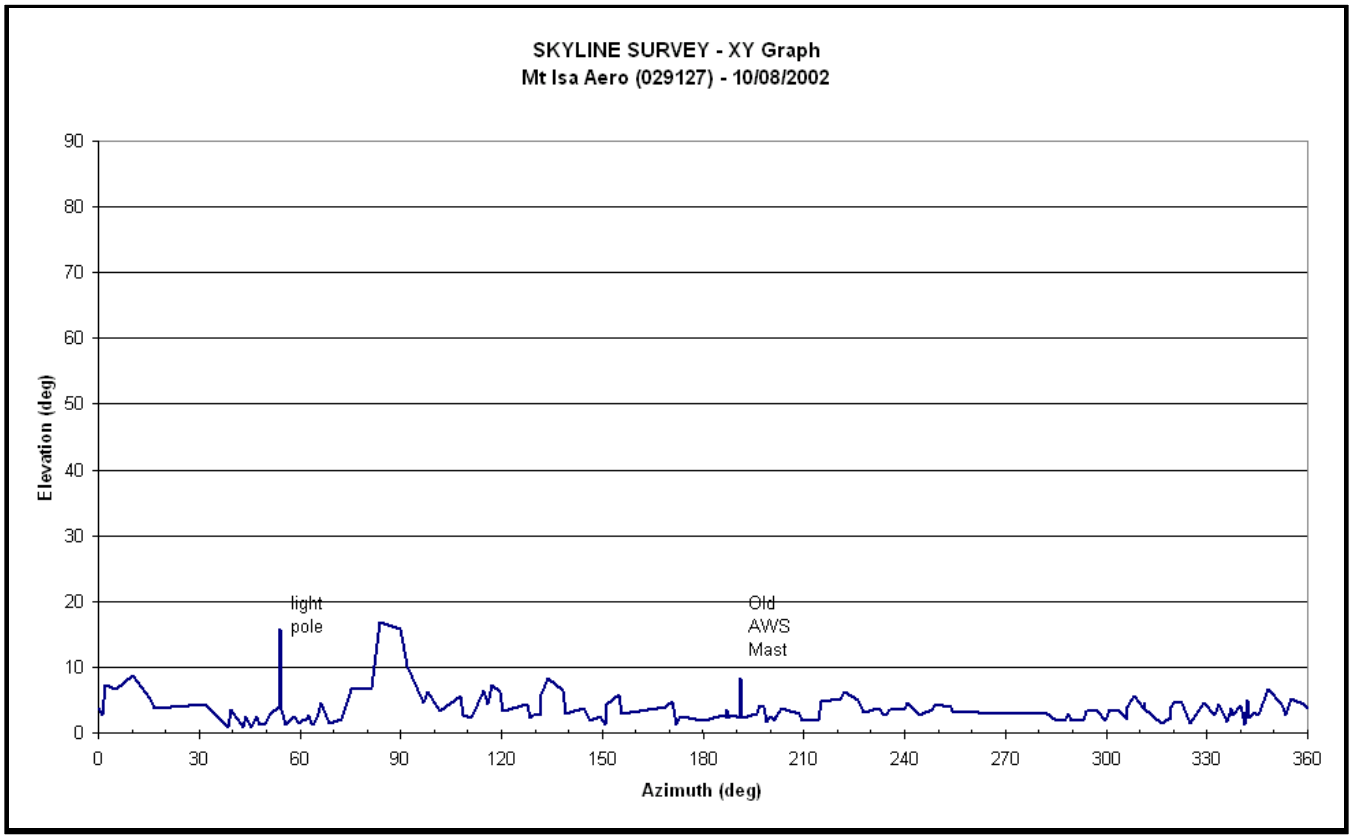
Skyline Diagram
10/08/2002



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Station Observation Program Summary (Surface Observations) from 01/12/1966 to 20/09/1996

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	-	-	-

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	-	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	-	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

Station Observation Program Summary (Surface Observations) from 20/09/1996 to 01/12/1996

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	Y	Y	Y

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

Station Observation Program Summary (Surface Observations) from 01/12/1996 to 18/12/2003

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	-	Y	Y

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

Station Observation Program Summary (Surface Observations) from 18/12/2003 to 05/02/2010

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	Y	Y	Y

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

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All History

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Station Observation Program Summary (Surface Observations) from 05/02/2010 to 28/04/2016

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	Y	Y	Y

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

Station Observation Program Summary (Surface Observations) 28 JUL 2021 (most recent)

Current Observation	Continuous	Half Hourly	Hourly
Surface Observations	Y	Y	Y

Current Observation	Program Type	12 AM	3 AM	6 AM	9 AM	12 PM	3 PM	6 AM	9 AM
Surface Observation	PERFORMED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	REPORTED	Y	Y	Y	Y	Y	Y	Y	Y
Surface Observation	SEASONAL	-	-	-	-	-	-	-	-

Upper Air Routine 01/07/1999 to 05/01/2005

Flight type	Time UTC	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Wind & Temp.	00:00	Y	Y	Y	Y	Y	Y	Y
Wind & Temp.	06:00	-	-	-	-	-	-	-
Wind & Temp.	12:00	Y	Y	Y	Y	Y	Y	Y
Wind & Temp.	18:00	-	-	-	-	-	-	-
Wind	00:00	Y	Y	Y	Y	Y	Y	Y
Wind	06:00	-	-	-	-	-	-	-
Wind	12:00	Y	Y	Y	Y	Y	Y	Y
Wind	18:00	-	-	-	-	-	-	-

Upper Air Routine 05/01/2005 to 03/08/2012

Flight type	Time UTC	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Wind & Temp.	00:00	Y	Y	Y	Y	Y	Y	Y
Wind & Temp.	06:00	-	-	-	-	-	-	-
Wind & Temp.	12:00	-	-	-	-	-	-	-
Wind & Temp.	18:00	-	-	-	-	-	-	-
Wind	00:00	Y	Y	Y	Y	Y	Y	Y
Wind	06:00	-	-	-	-	-	-	-
Wind	12:00	-	-	-	-	-	-	-
Wind	18:00	-	-	-	-	-	-	-

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Upper Air Routine 03/08/2012 to 01/11/2012

Flight type	Time UTC	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Wind & Temp.	00:00	-	Y	Y	-	-	-	Y
Wind & Temp.	06:00	-	-	-	-	-	-	-
Wind & Temp.	12:00	-	-	-	-	-	-	-
Wind & Temp.	18:00	-	-	-	-	-	-	-
Wind	00:00	-	Y	Y	-	-	-	Y
Wind	06:00	-	-	-	-	-	-	-
Wind	12:00	-	-	-	-	-	-	-
Wind	18:00	-	-	-	-	-	-	-

Upper Air Routine 01/11/2012 (most recent)

Flight type	Time UTC	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Wind & Temp.	00:00	-	Y	Y	-	-	-	Y
Wind & Temp.	06:00	-	-	-	-	-	-	-
Wind & Temp.	12:00	-	-	-	-	-	-	-
Wind & Temp.	18:00	-	-	-	-	-	-	-
Wind	00:00	-	Y	Y	-	-	-	Y
Wind	06:00	-	-	-	-	-	-	-
Wind	12:00	-	-	-	-	-	-	-
Wind	18:00	-	-	-	-	-	-	-

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Station Equipment History

Equipment Install/Remove

Cloud Height

18/AUG/2015 INSTALL Ceilometer (Type Vaisala CT25K S/N - R1910002) Surface Observations Holdings
28/MAR/2001 INSTALL Ceilometer (Type Vaisala CT25K S/N - V01406) Surface Observations
11/SEP/2015 REMOVE Ceilometer (Type Vaisala CT25K S/N - R1910002) Surface Observations Holdings
18/AUG/2015 REPLACE Ceilometer (Now Vaisala CL31 S/N - K4820008) Surface Observations
30/NOV/2006 REPLACE Ceilometer (Now Vaisala CT25K S/N - R1910002) Surface Observations
16/OCT/2002 REPLACE Ceilometer (Now Vaisala CT25K S/N - T13205) Surface Observations
11/DEC/2003 REPLACE Ceilometer (Now Vaisala CT25K S/N - T13205) Surface Observations
23/NOV/2006 REPLACE Ceilometer (Now Vaisala CT25K S/N - W09406) Surface Observations
28/OCT/2003 REPLACE Ceilometer (Now Vaisala CT25K S/N - W09410) Surface Observations
01/DEC/1966 INSTALL Cloud Base Searchlight (Type 63 Degree S/N - NONE) Surface Observations
01/SEP/2015 INSTALL Cloud Base Searchlight (Type 63 Degree S/N - NONE) Surface Observations Holdings
01/SEP/2015 REMOVE Cloud Base Searchlight (Type 63 Degree S/N - NONE) Surface Observations
30/SEP/2016 REMOVE Cloud Base Searchlight (Type 63 Degree S/N - NONE) Surface Observations Holdings

River Height (No Electronic History)

Wind Run

18/JUN/1975 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations
30/SEP/2016 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations Holdings
30/SEP/2016 REMOVE Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations

Spectral Radiation (No Electronic History)

Sea Surface Temperature (No Electronic History)

Sea Water Temperature

30/SEP/2016 INSTALL Temperature Probe - Water (Type TEMP CONTROLS TCBMP02A S/N - Unknown) Surface Observations
21/JAN/2019 REPLACE Temperature Probe - Water (Now TEMP CONTROLS TCBMP02A S/N - Unknown) Surface Observations

Evaporation

21/JAN/2019 INSTALL Equipment Reset Device (Type Watchdog Automatic Evaporation Pan S/N - NONE) Surface Observations
15/JAN/2010 INSTALL Evaporation Pan (Type Class A S/N - NONE) Surface Observations Holdings
18/JUN/1975 INSTALL Evaporation Pan (Type Class A S/N - Unknown) Surface Observations
22/JUN/2001 INSTALL Evaporation Pan (Type Class A S/N - Unknown) Surface Observations Holdings
04/OCT/2013 REMOVE Evaporation Pan (Type Class A S/N - NONE) Surface Observations Holdings
07/APR/2003 REMOVE Evaporation Pan (Type Class A S/N - Unknown) Surface Observations Holdings
31/JAN/2009 REPLACE Evaporation Pan (Now Class A S/N - NONE) Surface Observations
30/SEP/2016 REPLACE Evaporation Pan (Now SS Class A Automatic S/N - NONE) Surface Observations

Minimum Temperature

07/JAN/2004 INSTALL Thermometer, Alcohol, Min (Type Amarol S/N - 23197) Surface Observations Holdings
07/JAN/2004 INSTALL Thermometer, Alcohol, Min (Type Amarol S/N - 23314) Surface Observations Holdings
29/APR/2016 INSTALL Thermometer, Alcohol, Min (Type Amarol S/N - 29108) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Alcohol, Min (Type Dobbie S/N - M2674) Surface Observations Holdings
01/DEC/1966 INSTALL Thermometer, Alcohol, Min (Type Dobbie S/N - Unknown) Surface Observations
18/OCT/2012 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 27636) Surface Observations Holdings
18/OCT/2012 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 27677) Surface Observations Holdings
22/JAN/2013 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 29082) Surface Observations Holdings
25/JUL/2008 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 29082) Surface Observations Holdings

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

25/JUL/2008 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 29108) Surface Observations Holdings
29/APR/2016 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31211) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31211) Surface Observations Holdings
28/NOV/2010 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31214) Surface Observations
27/AUG/2012 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31214) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31214) Surface Observations Holdings
06/JUL/2013 INSTALL Thermometer, Alcohol, Min (Type WIKA S/N - 31844) Surface Observations Holdings
08/JAN/2004 REMOVE Thermometer, Alcohol, Min (Type Amarol S/N - 23197) Surface Observations Holdings
02/MAY/2006 REMOVE Thermometer, Alcohol, Min (Type Amarol S/N - 23314) Surface Observations Holdings
29/APR/2016 REMOVE Thermometer, Alcohol, Min (Type Amarol S/N - 29108) Surface Observations
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type Amarol S/N - 29108) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type Dobbie S/N - M2674) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 27636) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 27677) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 29082) Surface Observations Holdings
27/AUG/2012 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 29082) Surface Observations Holdings
19/SEP/2010 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 29108) Surface Observations Holdings
29/APR/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31211) Surface Observations
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31211) Surface Observations Holdings
22/JAN/2013 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31211) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31214) Surface Observations Holdings
28/NOV/2010 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31214) Surface Observations Holdings
29/SEP/2014 REMOVE Thermometer, Alcohol, Min (Type WIKA S/N - 31844) Surface Observations Holdings
02/MAY/2006 REPLACE Thermometer, Alcohol, Min (Now Amarol S/N - 23314) Surface Observations
10/FEB/2010 REPLACE Thermometer, Alcohol, Min (Now Amarol S/N - 29108) Surface Observations
18/JUN/1975 REPLACE Thermometer, Alcohol, Min (Now Dobbie S/N - 14481) Surface Observations
09/AUG/2012 REPLACE Thermometer, Alcohol, Min (Now WIKA S/N - 29082) Surface Observations
22/JAN/2013 REPLACE Thermometer, Alcohol, Min (Now WIKA S/N - 31211) Surface Observations

Soil Temperature 50cm

29/APR/2016 INSTALL Thermometer, Soil, 50cm (Type Amarol S/N - 9690794) Surface Observations Holdings
01/FEB/1996 INSTALL Thermometer, Soil, 50cm (Type Dobros S/N - 9564486) Surface Observations
29/APR/2016 REMOVE Thermometer, Soil, 50cm (Type Amarol S/N - 9690794) Surface Observations
30/SEP/2016 REMOVE Thermometer, Soil, 50cm (Type Amarol S/N - 9690794) Surface Observations Holdings
01/NOV/1999 REPLACE Thermometer, Soil, 50cm (Now Amarol S/N - 9690794) Surface Observations

Sub Surface Temperature (No Electronic History)

Electrical Conductivity (No Electronic History)

Maximum Temperature

18/AUG/2014 INSTALL Thermometer, Mercury, Max (Type Amarol S/N - 21997) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - 13377) Surface Observations Holdings
18/AUG/2014 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - 17448) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - 18818) Surface Observations Holdings
18/AUG/2014 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - 4044) Surface Observations Holdings
20/MAR/2014 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - CBM2147) Surface Observations Holdings

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

18/AUG/2014 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - M0504) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - M2409) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - M5867) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - M5872) Surface Observations Holdings
01/DEC/1966 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - Unknown) Surface Observations
09/AUG/2012 INSTALL Thermometer, Mercury, Max (Type Dobros S/N - 13368) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Max (Type Dobros S/N - CBM3974) Surface Observations Holdings
29/APR/2016 INSTALL Thermometer, Mercury, Max (Type WIKA S/N - 31346) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Max (Type WIKA S/N - 31346) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Amarol S/N - 21997) Surface Observations Holdings
17/SEP/2008 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - 13377) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - 17448) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - 18818) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - 4044) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - CBM2147) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - M0504) Surface Observations Holdings
14/MAR/2014 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - M2409) Surface Observations Holdings
17/SEP/2008 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - M5867) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - M5872) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type Dobros S/N - 13368) Surface Observations Holdings
19/SEP/2010 REMOVE Thermometer, Mercury, Max (Type Dobros S/N - CBM3974) Surface Observations Holdings
29/APR/2016 REMOVE Thermometer, Mercury, Max (Type WIKA S/N - 31346) Surface Observations
30/SEP/2016 REMOVE Thermometer, Mercury, Max (Type WIKA S/N - 31346) Surface Observations Holdings
09/AUG/2012 REMOVE Thermometer, Mercury, Max (Type WIKA S/N - 31346) Surface Observations Holdings
18/JUN/1975 REPLACE Thermometer, Mercury, Max (Now Dobbie S/N - M5866) Surface Observations
01/NOV/1999 REPLACE Thermometer, Mercury, Max (Now Dobros S/N - 13368) Surface Observations
09/AUG/2012 REPLACE Thermometer, Mercury, Max (Now WIKA S/N - 31346) Surface Observations

Soil Temperature 20cm

29/AUG/2005 INSTALL Thermometer, Soil, 20cm (Type Amarol S/N - 0398734) Surface Observations Holdings
29/APR/2016 INSTALL Thermometer, Soil, 20cm (Type Amarol S/N - 0398734) Surface Observations Holdings
06/JUL/2013 INSTALL Thermometer, Soil, 20cm (Type Amarol S/N - 967144) Surface Observations Holdings
13/MAR/2012 INSTALL Thermometer, Soil, 20cm (Type Dobros S/N - 0011841) Surface Observations Holdings
06/AUG/2005 INSTALL Thermometer, Soil, 20cm (Type Dobros S/N - 0011841) Surface Observations Holdings
01/FEB/1996 INSTALL Thermometer, Soil, 20cm (Type Dobros S/N - M3642) Surface Observations
29/APR/2016 REMOVE Thermometer, Soil, 20cm (Type Amarol S/N - 0398734) Surface Observations
13/MAR/2012 REMOVE Thermometer, Soil, 20cm (Type Amarol S/N - 0398734) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Soil, 20cm (Type Amarol S/N - 0398734) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Soil, 20cm (Type Amarol S/N - 967144) Surface Observations Holdings
06/JUL/2013 REMOVE Thermometer, Soil, 20cm (Type Dobros S/N - 0011841) Surface Observations Holdings
07/AUG/2005 REMOVE Thermometer, Soil, 20cm (Type Dobros S/N - 0011841) Surface Observations Holdings
13/MAR/2012 REPLACE Thermometer, Soil, 20cm (Now Amarol S/N - 0398734) Surface Observations
07/AUG/2005 REPLACE Thermometer, Soil, 20cm (Now Dobros S/N - 0011841) Surface Observations
09/AUG/2002 REPLACE Thermometer, Soil, 20cm (Now Dobros S/N - 9604850) Surface Observations

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

Solar Radiation (No Electronic History)

Soil Temperature 5cm (No Electronic History)

Oxygen Content (No Electronic History)

Sea Water Level (No Electronic History)

Surface Inclination (No Electronic History)

Terrestial Minimum Temperature

13/FEB/2003 INSTALL Thermometer, Terrestrial, Min (Type Amarol S/N - 21919) Surface Observations Holdings
28/NOV/2010 INSTALL Thermometer, Terrestrial, Min (Type Amarol S/N - 23262) Surface Observations Holdings
07/JAN/2004 INSTALL Thermometer, Terrestrial, Min (Type Amarol S/N - 23262) Surface Observations Holdings
18/JUN/1975 INSTALL Thermometer, Terrestrial, Min (Type Dobbie S/N - M6594) Surface Observations
14/FEB/2003 REMOVE Thermometer, Terrestrial, Min (Type Amarol S/N - 21919) Surface Observations Holdings
28/NOV/2010 REMOVE Thermometer, Terrestrial, Min (Type Amarol S/N - 23262) Surface Observations
06/APR/2011 REMOVE Thermometer, Terrestrial, Min (Type Amarol S/N - 23262) Surface Observations Holdings
31/DEC/2004 REMOVE Thermometer, Terrestrial, Min (Type Amarol S/N - 23262) Surface Observations Holdings
14/FEB/2003 REPLACE Thermometer, Terrestrial, Min (Now Amarol S/N - 21919) Surface Observations
31/DEC/2004 REPLACE Thermometer, Terrestrial, Min (Now Amarol S/N - 23262) Surface Observations
31/JUL/1999 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 13201) Surface Observations
03/NOV/2002 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 13213) Surface Observations
01/NOV/1999 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 14481) Surface Observations
09/DEC/2003 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 22127) Surface Observations
25/SEP/2003 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 22175) Surface Observations
22/JUN/2001 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - M6719) Surface Observations

Visibility

28/MAR/2001 INSTALL Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations
21/SEP/2001 INSTALL Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations
20/SEP/2001 INSTALL Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations Holdings
18/AUG/2015 INSTALL Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations Holdings
20/SEP/2001 REMOVE Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations
21/SEP/2001 REMOVE Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations Holdings
11/SEP/2015 REMOVE Visibility Meter (Type Vaisala FD12 S/N - V18102) Surface Observations Holdings
18/AUG/2015 REPLACE Visibility Meter (Now Vaisala FS11 S/N - K4330001) Surface Observations

Solar Radiation (Direct) (No Electronic History)

Magnetic Bearing (No Electronic History)

Wind Direction

01/DEC/1966 INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations
16/JUN/2005 INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 80262) Surface Observations
20/SEP/1996 INSTALL Anemometer (Type Synchrotac Vane - Type 706 S/N - WS=72376 WD=72346) Surface Observations
20/SEP/2001 INSTALL Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Surface Observations Holdings
25/SEP/1998 INSTALL Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Upper Air
20/SEP/2001 INSTALL Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Surface Observations Holdings
25/SEP/1998 INSTALL Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Upper Air
20/SEP/1996 INSTALL Mast Anemometer (Type Pivot, Standard 8m S/N - NONE) Infrastructure
21/SEP/2001 INSTALL Mast Anemometer (Type Pivot, Standard 8m S/N - NONE) Infrastructure

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

18/JUN/1975 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations
30/SEP/2016 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations Holdings
20/SEP/1996 REMOVE Anemometer (Type Dines S/N - Unknown) Surface Observations
22/MAR/2005 REMOVE Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Surface Observations Holdings
20/SEP/2001 REMOVE Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Upper Air
22/MAR/2005 REMOVE Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Surface Observations Holdings
20/SEP/2001 REMOVE Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Upper Air
30/SEP/2016 REMOVE Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations
16/JUN/2005 REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - 80302) Surface Observations
08/MAR/2000 REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - WS=74123 WD=74069) Surface Observations

Air Temperature

31/MAR/2009 INSTALL Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 44691001) Surface Observations
08/JUL/2015 INSTALL Humidity Probe (Type Vaisala HMP45D S/N - B3640003) Surface Observations
05/OCT/2013 REMOVE Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 2654006) Surface Observations
10/SEP/2012 REPLACE Humidity Probe (Now Rotronics MP101A-T4-W4W S/N - 2654006) Surface Observations
20/SEP/1996 INSTALL Temperature Probe - Dry Bulb (Type Rosemount S/N - 0225) Surface Observations
20/SEP/2001 INSTALL Temperature Probe - Dry Bulb (Type Rosemount S/N - 0417) Surface Observations Holdings
25/SEP/1998 INSTALL Temperature Probe - Dry Bulb (Type Rosemount S/N - 0417) Upper Air
15/OCT/2001 REMOVE Temperature Probe - Dry Bulb (Type Rosemount S/N - 0417) Surface Observations Holdings
20/SEP/2001 REMOVE Temperature Probe - Dry Bulb (Type Rosemount S/N - 0417) Upper Air
22/APR/2009 REPLACE Temperature Probe - Dry Bulb (Now Rosemount ST2401 S/N - 0668) Surface Observations
01/DEC/1966 INSTALL Thermograph (Type Fielden S/N - Unknown) Surface Observations
20/SEP/1996 REMOVE Thermograph (Type Fielden S/N - Unknown) Surface Observations
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type AMA S/N - 0399028) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 12840) Surface Observations Holdings
18/AUG/2014 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 13201) Surface Observations Holdings
15/OCT/2002 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 13648) Surface Observations
22/JUN/2001 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 13648) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 19136) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 5188) Surface Observations Holdings
23/SEP/2016 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - CBM5658) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - CBM5658) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M1877) Surface Observations Holdings
18/AUG/2014 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M6188) Surface Observations Holdings
01/DEC/1966 INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - Unknown) Surface Observations
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM548) Surface Observations Holdings
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM601) Surface Observations Holdings
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM606) Surface Observations Holdings
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM854) Surface Observations Holdings
17/SEP/2008 INSTALL Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM882) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43009) Surface Observations Holdings
23/SEP/2016 INSTALL Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43033) Surface Observations Holdings
19/SEP/2010 INSTALL Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43033) Surface Observations Holdings

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			Location:	MOUNT ISA AERO			State:	QLD
Bureau No.:	029127	WMO No.:	94332	Aviation ID:	YBMA	Opened:	01 Dec 1966	Current Status:	Still open
Latitude:	-20.6778	Longitude:	139.4875	Elevation:	340.3 m	Barometer Elev:	341 m	Metadata compiled:	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type AMA S/N - 0399028) Surface Observations Holdings
19/SEP/2010 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 12840) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 13201) Surface Observations Holdings
15/OCT/2002 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 13648) Surface Observations Holdings
12/SEP/2006 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 19136) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - 5188) Surface Observations Holdings
23/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - CBM5658) Surface Observations
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - CBM5658) Surface Observations Holdings
03/NOV/2002 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - CBM5658) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M1877) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M6188) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM548) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM601) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM606) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM854) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type Other S/N - CBM882) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43009) Surface Observations Holdings
23/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43033) Surface Observations
30/SEP/2016 REMOVE Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43033) Surface Observations Holdings
27/AUG/2012 REMOVE Thermometer, Mercury, Dry Bulb (Type WIKA S/N - 43033) Surface Observations Holdings
01/NOV/1999 REPLACE Thermometer, Mercury, Dry Bulb (Now Dobbie S/N - 18747) Surface Observations
18/JUN/1975 REPLACE Thermometer, Mercury, Dry Bulb (Now Dobbie S/N - 5658) Surface Observations
03/NOV/2002 REPLACE Thermometer, Mercury, Dry Bulb (Now Dobbie S/N - CBM5658) Surface Observations
27/AUG/2012 REPLACE Thermometer, Mercury, Dry Bulb (Now WIKA S/N - 43033) Surface Observations

Wet Bulb Temperature

20/SEP/1996 INSTALL Temperature Probe - Wet Bulb (Type Rosemount S/N - 0158) Surface Observations
20/SEP/2001 INSTALL Temperature Probe - Wet Bulb (Type Rosemount S/N - 0420) Surface Observations Holdings
25/SEP/1998 INSTALL Temperature Probe - Wet Bulb (Type Rosemount S/N - 0420) Upper Air
05/OCT/2013 INSTALL Temperature Probe - Wet Bulb (Type Rosemount ST2401 S/N - 0346) Surface Observations
03/APR/2009 INSTALL Temperature Probe - Wet Bulb (Type Temp Control TCBMP01 S/N - 10067) Surface Observations Holdings
15/OCT/2001 REMOVE Temperature Probe - Wet Bulb (Type Rosemount S/N - 0420) Surface Observations Holdings
20/SEP/2001 REMOVE Temperature Probe - Wet Bulb (Type Rosemount S/N - 0420) Upper Air
08/JUL/2015 REMOVE Temperature Probe - Wet Bulb (Type Rosemount ST2401 S/N - 0346) Surface Observations
03/APR/2009 REMOVE Temperature Probe - Wet Bulb (Type Temp Control TCBMP01 S/N - 10067) Surface Observations
28/OCT/2013 REMOVE Temperature Probe - Wet Bulb (Type Temp Control TCBMP01 S/N - 10067) Surface Observations Holdings
24/OCT/2002 REPLACE Temperature Probe - Wet Bulb (Now Temp Control TCBMP01 S/N - 10067) Surface Observations
18/AUG/2014 INSTALL Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - 15797) Surface Observations Holdings
09/AUG/2002 INSTALL Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - 19136) Surface Observations Holdings
01/DEC/1966 INSTALL Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - Unknown) Surface Observations
30/SEP/2016 REMOVE Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - 15797) Surface Observations Holdings
15/OCT/2002 REMOVE Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - 18762) Surface Observations
17/SEP/2008 REMOVE Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - 19136) Surface Observations Holdings
18/JUN/1975 REPLACE Thermometer, Mercury, Wet Bulb (Now Dobbie S/N - 12840) Surface Observations

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

31/JUL/1999 REPLACE Thermometer, Mercury, Wet Bulb (Now Dobbie S/N - 13648) Surface Observations
09/AUG/2002 REPLACE Thermometer, Mercury, Wet Bulb (Now Dobbie S/N - 18762) Surface Observations
01/NOV/1999 REPLACE Thermometer, Mercury, Wet Bulb (Now Dobbie S/N - 19136) Surface Observations

Lightning (No Electronic History)

Turbidity (No Electronic History)

Total Column Ozone Amount (No Electronic History)

Pressure

01/DEC/1966 INSTALL Barometer (Type Kew pattern mercury S/N - 1927) Surface Observations
01/NOV/1983 INSTALL Barometer (Type Negretti and Zambra Mk II S/N - CBM138) Surface Observations
21/SEP/2001 INSTALL Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations
16/FEB/2003 INSTALL Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations
15/FEB/2003 INSTALL Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations Holdings
20/SEP/2001 INSTALL Barometer (Type Vaisala DPA21 S/N - 11011PAS442) Surface Observations Holdings
25/SEP/1998 INSTALL Barometer (Type Vaisala DPA21 S/N - 11011PAS442) Upper Air
20/SEP/1996 INSTALL Barometer (Type Vaisala PA11A S/N - R1130014) Surface Observations
05/FEB/2016 INSTALL ROBTS: Reg Obs Barometer Tfr Std (Type BoM S/N - ROBTS62) Reference Standards Holdings
01/FEB/1985 REMOVE Barometer (Type Negretti and Zambra Mk II S/N - CBM138) Surface Observations
15/FEB/2003 REMOVE Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations
03/OCT/2013 REMOVE Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations
16/FEB/2003 REMOVE Barometer (Type Vaisala DPA21 S/N - 11011PA-S442) Surface Observations Holdings
21/SEP/2001 REMOVE Barometer (Type Vaisala DPA21 S/N - 11011PAS442) Surface Observations Holdings
20/SEP/2001 REMOVE Barometer (Type Vaisala DPA21 S/N - 11011PAS442) Upper Air
20/SEP/1996 REMOVE Barometer (Type Vaisala PA11A S/N - 661838) Surface Observations
15/FEB/2016 REMOVE ROBTS: Reg Obs Barometer Tfr Std (Type BoM S/N - ROBTS62) Reference Standards Holdings
18/JUN/1975 REPLACE Barometer (Now Kew pattern mercury S/N - 1580) Surface Observations
05/MAR/2004 REPLACE Barometer (Now Vaisala PA11A S/N - 458187) Surface Observations
05/MAR/2004 REPLACE Barometer (Now Vaisala PA11A S/N - 458187) Upper Air
01/OCT/1994 REPLACE Barometer (Now Vaisala PA11A S/N - 661838) Surface Observations
21/MAR/2005 REPLACE Barometer (Now Vaisala PTB220B S/N - V0430017) Surface Observations
21/MAR/2005 REPLACE Barometer (Now Vaisala PTB220B S/N - V0430017) Upper Air
05/OCT/2013 REPLACE Barometer (Now Vaisala PTB330B (General Use) S/N - J2470006) Surface Observations
05/OCT/2013 REPLACE Barometer (Now Vaisala PTB330B (General Use) S/N - J2470006) Upper Air
25/SEP/1998 SHARE Barometer (Type Vaisala PA11A S/N - 458187) Upper Air
25/SEP/1998 SHARE Barometer (Type Vaisala PA11A S/N - R1130014) Upper Air
25/SEP/1998 SHARE Barometer (Type Vaisala PTB220B S/N - V0430017) Upper Air
20/SEP/2001 UNSHARE Barometer (Type Vaisala PTB330B (General Use) S/N - J2470006) Upper Air

Humidity

31/MAR/2009 INSTALL Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 44691001) Surface Observations
08/JUL/2015 INSTALL Humidity Probe (Type Vaisala HMP45D S/N - B3640003) Surface Observations
05/OCT/2013 REMOVE Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 2654006) Surface Observations
10/SEP/2012 REPLACE Humidity Probe (Now Rotronics MP101A-T4-W4W S/N - 2654006) Surface Observations
01/DEC/1966 INSTALL Hygrograph (Type Fielden S/N - Unknown) Surface Observations
20/SEP/1996 REMOVE Hygrograph (Type Fielden S/N - Unknown) Surface Observations

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

Sunshine Hours

01/JUN/1975 INSTALL Sunshine Recorder (Type Negretti/Zambra S/N - 312/43) Surface Observations
29/APR/2016 INSTALL Sunshine Recorder (Type Negretti/Zambra S/N - 312/43) Surface Observations Holdings
29/APR/2016 REMOVE Sunshine Recorder (Type Negretti/Zambra S/N - 312/43) Surface Observations
30/SEP/2016 REMOVE Sunshine Recorder (Type Negretti/Zambra S/N - 312/43) Surface Observations Holdings

Pressure Trend

01/DEC/1966 INSTALL Barograph (Type Weekly S/N - 17) Surface Observations
31/MAR/2008 REMOVE Barograph (Type Weekly S/N - 17) Surface Observations

Snow Height (No Electronic History)

Wind Speed

01/DEC/1966 INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations
16/JUN/2005 INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 80262) Surface Observations
20/SEP/1996 INSTALL Anemometer (Type Synchrotac Vane - Type 706 S/N - WS=72376 WD=72346) Surface Observations
20/SEP/2001 INSTALL Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Surface Observations Holdings
25/SEP/1998 INSTALL Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Upper Air
20/SEP/2001 INSTALL Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Surface Observations Holdings
25/SEP/1998 INSTALL Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Upper Air
20/SEP/1996 INSTALL Mast Anemometer (Type Pivot, Standard 8m S/N - NONE) Infrastructure
21/SEP/2001 INSTALL Mast Anemometer (Type Pivot, Standard 8m S/N - NONE) Infrastructure
18/JUN/1975 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations
30/SEP/2016 INSTALL Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations Holdings
20/SEP/1996 REMOVE Anemometer (Type Dines S/N - Unknown) Surface Observations
22/MAR/2005 REMOVE Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Surface Observations Holdings
20/SEP/2001 REMOVE Anemometer (Type Vaisala Cups WAA151 S/N - T11312) Upper Air
22/MAR/2005 REMOVE Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Surface Observations Holdings
20/SEP/2001 REMOVE Anemometer (Type Vaisala Vane WAV151 S/N - T11201) Upper Air
30/SEP/2016 REMOVE Wind Run Anemometer (Type Munro S/N - 36558) Surface Observations
16/JUN/2005 REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - 80302) Surface Observations
08/MAR/2000 REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - WS=74123 WD=74069) Surface Observations

Rainfall

01/MAR/1967 INSTALL Pluviograph (Type Dines syphoning S/N - Unknown) Rainfall Intensity
20/SEP/1996 REMOVE Pluviograph (Type Dines syphoning S/N - Unknown) Rainfall Intensity
01/DEC/1966 INSTALL Raingauge (Type 203 mm (8in) - 200mm capacity S/N - NONE) Surface Observations
19/SEP/1996 INSTALL Raingauge (Type HS TB3A-0.2 S/N - 96-175) Rainfall Intensity
19/SEP/1996 INSTALL Raingauge (Type HS TB3A-0.2 S/N - 96-175) Surface Observations
30/SEP/2016 INSTALL Raingauge (Type HS-TB3/0.1/P S/N - Unknown) Surface Observations
28/SEP/2020 INSTALL Raingauge (Type Rimco 7499 TBRG S/N - 836) Surface Observations Holdings
15/FEB/2021 REMOVE Raingauge (Type Rimco 7499 TBRG S/N - 836) Surface Observations Holdings
14/OCT/2009 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 322490) Rainfall Intensity
14/OCT/2009 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 322490) Surface Observations
08/MAR/2000 REPLACE Raingauge (Now Rimco TBRG (type unspecified) S/N - 251) Rainfall Intensity
08/MAR/2000 REPLACE Raingauge (Now Rimco TBRG (type unspecified) S/N - 251) Surface Observations
03/DEC/2020 UNSHARE Raingauge (Type Rimco 7499 TBRG S/N - 322490) Rainfall Intensity

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Equipment Install/Remove(Continued)

Soil Temperature 100cm

29/APR/2016 INSTALL Thermometer, Soil, 100cm (Type Amarol S/N - 9859560) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Soil, 100cm (Type Dobros S/N - 97251511) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Soil, 100cm (Type Dobros S/N - 97251522) Surface Observations Holdings
01/FEB/1996 INSTALL Thermometer, Soil, 100cm (Type Dobros S/N - M6762) Surface Observations
29/APR/2016 REMOVE Thermometer, Soil, 100cm (Type Amarol S/N - 9859560) Surface Observations
30/SEP/2016 REMOVE Thermometer, Soil, 100cm (Type Amarol S/N - 9859560) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Soil, 100cm (Type Dobros S/N - 97251511) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Soil, 100cm (Type Dobros S/N - 97251522) Surface Observations Holdings
01/NOV/1999 REPLACE Thermometer, Soil, 100cm (Now Amarol S/N - 9859560) Surface Observations

Soil Temperature 10cm

29/AUG/2005 INSTALL Thermometer, Soil, 10cm (Type Amarol S/N - 0270818) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Soil, 10cm (Type Dobros S/N - 11841) Surface Observations Holdings
01/FEB/1996 INSTALL Thermometer, Soil, 10cm (Type Dobros S/N - 9566453) Surface Observations
29/APR/2016 INSTALL Thermometer, Soil, 10cm (Type Dobros S/N - 9604907) Surface Observations Holdings
22/JUN/2001 INSTALL Thermometer, Soil, 10cm (Type Dobros S/N - 9604907) Surface Observations Holdings
30/SEP/2016 REMOVE Thermometer, Soil, 10cm (Type Amarol S/N - 0270818) Surface Observations Holdings
06/AUG/2005 REMOVE Thermometer, Soil, 10cm (Type Dobros S/N - 11841) Surface Observations Holdings
29/APR/2016 REMOVE Thermometer, Soil, 10cm (Type Dobros S/N - 9604907) Surface Observations
30/SEP/2016 REMOVE Thermometer, Soil, 10cm (Type Dobros S/N - 9604907) Surface Observations Holdings
06/AUG/2005 REMOVE Thermometer, Soil, 10cm (Type Dobros S/N - 9604907) Surface Observations Holdings
09/AUG/2002 REPLACE Thermometer, Soil, 10cm (Now Dobros S/N - 9566453) Surface Observations
09/JAN/2001 REPLACE Thermometer, Soil, 10cm (Now Dobros S/N - 9604850) Surface Observations
06/AUG/2005 REPLACE Thermometer, Soil, 10cm (Now Dobros S/N - 9604907) Surface Observations

Solar Radiation (Long Wave) (No Electronic History)

RF Reflectivity

01/JUN/1975 INSTALL Radar (Type WF3 S/N - Unknown) Upper Air
03/FEB/1999 INSTALL Radar (Type WF3 S/N - Unknown) Upper Air
25/SEP/1998 REMOVE Radar (Type WF3 S/N - Unknown) Upper Air
01/JAN/2000 REMOVE Radar (Type WF3 S/N - Unknown) Upper Air

The following table summarises information on field performance checks available electronically over the period indicated. The number of instances an instrument was found to fail field performance checks should only be used as a guide. A system of data quality flags is implemented by the Bureau of Meteorology to indicate the data quality of an observation as determined by a mutli-stage quality control process.

Available Date Range	Element	Fail Field Performance Check
10/AUG/2002 - 03/DEC/2020	Cloud Height	2
14/AUG/2000 - 07/AUG/2015	Wind Run	0
14/AUG/2000 - 25/MAR/2021	Evaporation	0
10/AUG/2002 - 07/AUG/2015	Minimum Temperature	0
10/AUG/2002 - 07/AUG/2015	Soil Temperature 50cm	0
09/AUG/2002 - 07/AUG/2015	Maximum Temperature	0

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Available Date Range	Element	Fail Field Performance Check
10/AUG/2002 - 07/AUG/2015	Soil Temperature 20cm	0
10/AUG/2002 - 19/SEP/2010	Terrestial Minimum Temperature	0
10/AUG/2002 - 03/DEC/2020	Visibility	9
16/MAY/1997 - 03/DEC/2020	Wind Direction	4
18/AUG/1997 - 03/DEC/2020	Air Temperature	6
18/AUG/1997 - 08/JUL/2015	Wet Bulb Temperature	5
25/JUL/1992 - 03/DEC/2020	Pressure	3
31/MAR/2009 - 03/DEC/2020	Humidity	3
14/AUG/2000 - 24/JUL/2005	Pressure Trend	0
16/MAY/1997 - 03/DEC/2020	Wind Speed	4
16/MAY/1997 - 03/DEC/2020	Rainfall	4
09/AUG/2002 - 07/AUG/2015	Soil Temperature 100cm	0
09/AUG/2002 - 07/AUG/2015	Soil Temperature 10cm	0

Station Detail Changes

09/MAY/2006 CLASSIFICATION AWS Funding - Aviation Funded Assets (AVAF)
12/OCT/2020 CLASSIFICATION AWS Priority 2 - Important (SLP2-AWS)
25/SEP/1998 CLASSIFICATION Autosonde (RSA)
26/JUN/2002 CLASSIFICATION CLIMAT Stations (CLC)
26/JUN/2002 CLASSIFICATION CLIMAT TEMP Stations (CLT)
09/MAY/2006 CLASSIFICATION Category B (TAF B)
20/SEP/1996 CLASSIFICATION Climate (FCL)
10/JAN/2011 CLASSIFICATION Critical (ASOSCRIT)
01/MAY/1997 CLASSIFICATION GCOS Surface Network (GSN)
01/JUL/2018 CLASSIFICATION HQ EVAPORATION (HQEVAP)
10/JUN/2014 CLASSIFICATION Important Aviation or Defence (AVIMP) ENDED 16-10-2020
01/JUL/1998 CLASSIFICATION Information and Observations (MIO)
21/MAR/2016 CLASSIFICATION NOT Processed by ASOS (NPBA)
01/MAY/1989 CLASSIFICATION National Benchmark Network for Agrometeorology (NBNA)
01/JUL/2017 CLASSIFICATION Observing Operations Hub - Cairns (OOH-C)
02/JAN/2017 CLASSIFICATION Queensland (2) (QLD_2)
01/JUL/1998 CLASSIFICATION Rawinsonde Stations (RS) ENDED 24-09-1998
01/SEP/1992 CLASSIFICATION Reference Climate Stations (RCS) ENDED 30-06-2011
14/FEB/1997 CLASSIFICATION Regional Basic Synoptic Network (RBSN)
01/JUL/2017 CLASSIFICATION SLS Flood forecasting priority â€“ Low (FWP-L)
08/FEB/2017 OBJECT Document/(Yearly Hydrogen Inspection) MT ISA_F611 FEB_2017
13/MAY/2015 OBJECT Document/(Yearly Hydrogen Inspection) Mt Isa F611 hydrogen 2015
25/FEB/2016 OBJECT Document/ASBESTOS REGISTER
30/SEP/2016 OBJECT Document/ASOS config 2016
31/OCT/2013 OBJECT Document/BAROMETER COEFFICIENTS
03/OCT/2013 OBJECT Document/Barometer Height Mt Isa
10/MAY/2011 OBJECT Document/CEILOMETER STATUS
23/MAY/2012 OBJECT Document/CEILOMETER STATUS

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Station Detail Changes(Continued)

07/APR/2014 OBJECT Document/CEILOMETER STATUS
28/APR/2015 OBJECT Document/CEILOMETER STATUS
23/MAY/2016 OBJECT Document/CEILOMETER STATUS
12/MAY/2016 OBJECT Document/CEILOMETER STATUS
02/MAY/2017 OBJECT Document/CEILOMETER STATUS
05/OCT/2013 OBJECT Document/CEILOMETER STATUS
17/AUG/2015 OBJECT Document/CEILOMETER STATUS
09/DEC/2019 OBJECT Document/CEILOMETER STATUS
12/SEP/2018 OBJECT Document/CEILOMETER STATUS
03/DEC/2020 OBJECT Document/CEILOMETER STATUS
22/MAR/2019 OBJECT Document/CEILOMETER STATUS
07/AUG/2015 OBJECT Document/CEILOMETER STATUS
24/OCT/2016 OBJECT Document/CEILOMETER STATUS
12/JAN/2017 OBJECT Document/Executed Mt Isa Sustainability Plan
22/JAN/2018 OBJECT Document/FS11P Cal YBMA 16 Jan 2018
19/FEB/2019 OBJECT Document/HYDRO INSPECTION CHECKSHEET
01/FEB/2018 OBJECT Document/MT ISA_F611 FEB_2018
19/FEB/2019 OBJECT Document/MT ISA_F611 FEB_2019
28/NOV/2013 OBJECT Document/Metconsole config YBMA_131128_MSCA4_0
02/OCT/2015 OBJECT Document/Mount Isa Mines UAdata2015_2020 ServiceOrder_signed
22/NOV/2012 OBJECT Document/Mt Isa Asbestos audit 2012
01/JUN/2015 OBJECT Document/Mt Isa OHS_6MTH_INSPECTION_JAN_2015
22/JAN/2018 OBJECT Document/PWD32 Cal 16JAN 2018
17/SEP/2008 OBJECT Document/SKYLINE DATA
10/AUG/2002 OBJECT Document/SKYLINE DATA
29/OCT/2016 OBJECT Document/SKYLINE DATA
09/DEC/2019 OBJECT Document/SeeSaw Mast Inspection checklist YBMA
10/MAY/2011 OBJECT Document/VISIBILITY METER STATUS
11/NOV/2011 OBJECT Document/VISIBILITY METER STATUS
23/MAY/2012 OBJECT Document/VISIBILITY METER STATUS
07/APR/2014 OBJECT Document/VISIBILITY METER STATUS
28/APR/2015 OBJECT Document/VISIBILITY METER STATUS
12/MAY/2016 OBJECT Document/VISIBILITY METER STATUS
22/JAN/2018 OBJECT Document/VISIBILITY METER STATUS
05/OCT/2013 OBJECT Document/VISIBILITY METER STATUS
17/AUG/2015 OBJECT Document/VISIBILITY METER STATUS
12/DEC/2019 OBJECT Document/VISIBILITY METER STATUS
12/SEP/2018 OBJECT Document/VISIBILITY METER STATUS
03/DEC/2020 OBJECT Document/VISIBILITY METER STATUS
22/MAR/2019 OBJECT Document/VISIBILITY METER STATUS
07/AUG/2015 OBJECT Document/VISIBILITY METER STATUS
02/MAY/2017 OBJECT Document/YBMA FS11P Cal Apr 2017
01/DEC/1966 STATION - (nondb seeding) Opened

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

Station Detail Changes(Continued)

01/DEC/1966	STATION - (nondb seeding) aero_ht Changed to 341.7
01/DEC/1966	STATION - (nondb seeding) name Changed to MOUNT ISA AERO
01/DEC/1966	STATION - (nondb seeding) wmo_num Changed to 94332
01/DEC/1966	STATION aviation_id Changed to YBMA
21/MAR/2005	STATION bar_ht Changed to 340.9
03/OCT/2013	STATION bar_ht Changed to 341.03
01/JUN/1975	STATION bar_ht Changed to 341.1
01/DEC/1966	STATION bar_ht Changed to 344.3
01/DEC/1966	STATION bar_ht_deriv Changed to SURVEY
01/JUN/1975	STATION bar_ht_deriv Changed to SURVEY
21/MAR/2005	STATION bar_ht_deriv Changed to SURVEY
03/OCT/2013	STATION bar_ht_deriv Changed to SURVEY
01/DEC/1966	STATION latitude Changed to -20.6644Seeded from NonDb
01/JUN/1975	STATION latitude Changed to -20.6778GPS reading done on 19/7/2003 at Mt Isa M.O. Reading entered in SitesDb as at 1-6-1975 as this was the date the current office was opened_mmQROS
01/JUN/1975	STATION latlon_deriv Changed to GPS
01/JUN/1975	STATION latlon_error Changed to
01/JUN/1975	STATION longitude Changed to 139.4875GPS reading done on 19/7/2003 at Mt Isa M.O. Reading entered in SitesDb as at 1-6-1975 as this was the date the current office was opened_mmQROS
01/DEC/1966	STATION longitude Changed to 139.4908Seeded from NonDb
10/AUG/1998	STATION lu_0_100m Changed to Airport
10/AUG/1998	STATION lu_100m_1km Changed to Airport
10/AUG/1998	STATION lu_1km_10km Changed to City area, buildings > 10 metres (3 storey)
10/AUG/1998	STATION soil_type Changed to red soil
01/JUN/1975	STATION stn_ht Changed to 340.3
01/DEC/1966	STATION stn_ht Changed to 343.0
01/DEC/1966	STATION stn_ht_deriv Changed to SURVEY
01/JUN/1975	STATION stn_ht_deriv Changed to SURVEY
10/AUG/1998	STATION surface_type Changed to mostly covered by grass

System Changes

11/MAY/2000	SYSTEM Communications Commenced
05/FEB/2001	SYSTEM Communications Holdings Commenced
01/JAN/2000	SYSTEM Computing Commenced
07/OCT/2013	SYSTEM Computing Holdings Commenced
01/SEP/2006	SYSTEM External Clients Commenced
01/DEC/1966	SYSTEM Infrastructure Commenced
01/JAN/1989	SYSTEM Monitoring and Display Commenced
03/DEC/2020	SYSTEM Rainfall Intensity Ceased
01/MAR/1967	SYSTEM Rainfall Intensity Commenced
26/JUL/2011	SYSTEM Reference Standards Commenced
09/JUL/2012	SYSTEM Reference Standards Holdings Ceased
10/JUL/2013	SYSTEM Reference Standards Holdings Commenced
07/SEP/2006	SYSTEM Reference Standards Holdings Commenced

Extended Climatological Station Metadata
All History

Station:	MOUNT ISA AERO			**Location:**	MOUNT ISA AERO			**State:**	QLD
Bureau No.:	029127	**WMO No.:**	94332	**Aviation ID:**	YBMA	**Opened:**	01 Dec 1966	**Current Status:**	Still open
Latitude:	-20.6778	**Longitude:**	139.4875	**Elevation:**	340.3 m	**Barometer Elev:**	341 m	**Metadata compiled:**	28 JUL 2021

Station Equipment History (continued)

System Changes(Continued)

01/DEC/1966 SYSTEM Surface Observations Commenced
20/MAR/2001 SYSTEM Surface Observations Holdings Commenced
23/MAR/2006 SYSTEM Tools and Test Equipment Holdings Commenced
01/JUN/1975 SYSTEM Upper Air Commenced
19/JUN/2003 SYSTEM Upper Air Holdings Commenced

Notes on these metadata

The following notes have been compiled to assist with interpreting the metadata provided in this document. These notes are subject to change as the network evolves. Changes in station-specific metadata occur more frequently, both as recent changes are recorded and historical information is transferred from paper file to electronic database.

Reliability of the metadata

The Commonwealth Bureau of Meteorology maintains information on more than 20,000 stations which have operated since observations began in the mid 1800s. The amount of information available for each of these sites and its associated uncertainty are influenced by a number of factors including the type and purpose of the station and the time over which it operated.

Early information about stations was held only on paper file. In 1998 a corporate electronic database was established to help maintain information about the network and its components. The number of parameters recorded about a station is now much greater than before this database was established. The national database has also helped improve consistency in the metadata through the implementation of predefined fields. As a result, and through the refinement of operating procedures, station metadata recorded since 1998 are of a higher overall standard than previously, although occasional omissions and errors are still possible.

The Bureau is part way through a task of entering historical information held on paper file into the corporate database. **Until this process is completed there will remain large gaps in the information contained in these metadata documents and considerable caution should be used when deriving conclusions from the metadata.** As an example, two consecutive entries about a rain gauge dated 50 years apart may appear in the equipment metadata. This may either mean that nothing happened to that instrument over the 50 years, or that information for the intervening period has yet to be entered into the database. Similarly, if no information was available about instruments at a site when it was first established, fields which were required to have a value present may have used the earliest information available as a best-guess estimate. Sometimes this was the metadata current when the database was established in 1998. In some instances there may be gaps in metadata relevant to the post 1998 period.

For the above reasons it is recommended that all metadata prior to 1998 be considered as indicative only, and used with caution, unless it has been quality controlled. The Bureau of Meteorology should be contacted if further information or confirmation of the data is required. Depending on the nature of the inquiry there may be a fee associated with this request. Contact details are provided in the telephone book for each capital city or the Bureau's web site at:
http://www.bom.gov.au

The following pages contain explanatory notes for selected terms found in this document.

Station Number

The Bureau of Meteorology station number uniquely specifies a station and is not intended to change over time time, although on very rare occasions a station number may change or be deleted from the record (usually to correct an error). Generally a new station number is established if an existing station changes in a way that would affect the climate data record for that site (measured in terms of air temperature and precipitation). Significant station moves are an example of this.

Some stations also possess a World Meteorological Organization (WMO) station number. The WMO number is different to the Bureau of Meteorology number. It also uniquely specifies a station at any given time but can be reassigned to another station if the new station takes priority in the global reporting network. Only selected stations will have a WMO number. Significant stations may maintain their WMO number for many decades.

Notes on these metadata

Network Classification

SUPPORTING the BASIC CLIMATE SERVICE
Global Climate Observing System (GCOS)
GCOS Upper Air Network (GUAN)
GCOS Surface Network (GSN)
National Climate Network {not yet assigned}
Reference Climate Stations (RCS)
Regional Basic Climatological Network (RBCN)
CLIMAT Stations (CLC)
CLIMAT TEMP Stations (CLT)
SUPPORTING the NATIONAL WEATHER WATCH SYSTEM
WMO Global Observing System (GOS)
GOS Upper Air Network
GOS Satellite Network
Global Atmospheric Watch
Background Atmospheric Pollution Monitoring Network (BAPMON)
Basic Ozone Network
Basic Solar and Terrestrial Radiation Network
Regional Basic Synoptic Network (RBSN)
WMO Global Oceanic Observing System (GOOS)
SUPPORTING the BASIC WEATHER SERVICE (BWS)
BWS Land Network
Significant Land Locations
Capital City Mesonets
National Benchmark Network for Agrometeorology (NBNA)
BWS Marine Network
Significant Coastal Loactions
Open Ocean Network
BWS Upper Air Network
Major Significant Locations
BWS Remote Sensing Network
Weather Watch Radar Network
Fire Weather Wind Mesonets
High Resolution Satellite
SUPPORTING the BASIC HYDROLOGICAL SERVICE
Regional Flood Warning Network
Water Resources Assessment Network
Global Hydrological Network
Global Terrestrial Observing System (GTOS)
World Hydrological Cycle Observing System (WHYCOS)
National Hydrological Network

Networks of stations are defined for a variety of purposes (as defined in above table).

Notes on these metadata

Network Classification Continued....

Stations may be included in several different networks, which may change over time. The table on the previous page lists current network classifications related to the scientific purpose of the network. Some of these networks - the GCOS network for instance - are components of a global network. Entries in the database for some networks may not be complete, thus not properly representing the status of the network. The composition of the network will usually change over time. While several of the networks have international significance, other network classifications have been developed to aid operational management.

Station Purpose

The station purpose can be classified according to the observation program listed below. Parameters in brackets list some of the various different configurations which occur.

- Synoptic [Seasonal, River Height, Climatological, Telegraphic Rain, Aeronautical, Upper Air]
- Climatological [Seasonal, Telegraphic Rain]
- Aeronautical
- Rainfall [River Height]
- River Height
- Telegraphic Rain [Non-Telegraphic River Height, Telegraphic River Height]
- Non-Telegraphic Rain [Telegraphic River Height]
- Evaporation [Rainfall, River Height, Telegraphic River Height, Non-Telegraphic River Height, Telegraphic Rain, Non-Telegraphic Rain]
- Pluviograph [Rainfall, Telegraphic Rain, Non-Telegraphic Rain, River Height, Telegraphic River Height, Non-Telegraphic River Height]
- Radiation
- Lightning Flash Counter
- Public Information
- Local Conditions
- Radar Site
- Unclassified
- No Routine Observations

Note: Telegraphic observations are those which are sent by some electronic means be it a phone or telegram to the responsible Bureau office. It is a term which is historically linked to analogue non automatic data transmission.

Station Observation Program Summary

Surface Observations

The following terms are used to describe the frequency of surface observations at a site. Historical observation programs will typically be missing for many sites until the database is backfilled with information.

Set a)

- Continuous Program
  - More than half hourly observations sent (eg an automatic weather station {AWS} which continuously transmits 10 minute observations). This will automatically include half hourly and hourly observations programs.
- Half hourly observations
  - Half hourly observations sent. This will automatically include hourly observations.
- Hourly observations
  - Hourly observations sent only. Stations report on non-synoptic hours (ie. 0100, 0200, 0400, 0500, etc)

Notes on these metadata

Surface observations continued....

Set b)

- Performed
  - Observations performed, instruments read and observations recorded
- Reported
  - Observations performed, instruments read and reported real time
- Seasonal
  - The program may only be performed during a defined season (such as Fire Weather observations) or the routine program may increase in reporting frequency and/or parameters. The program dates are currently modified at the start and end of each season for stations performing seasonal observations. Historically this was not always the case.

Current Station Equipment Summary

Equipment listed in this metadata product is catalogued under one of systems listed below, appropriate to its application. The "Infrastructure" category has been included since it contains information about the mast height of an anemometer (if present).

- Flood Warning
- Infrastructure
- Radiation
- Rainfall Intensity
- Surface Observations
- Upper Air
- Weather Watch {RADAR}

Station Equipment History

Equipment Install/Remove

One of four types of actions can be performed on an instrument in this listing:

Install - A new instrument is installed at the site. This can be either a completely new addition (eg the first barometer at the site), or the replacement of an existing instrument with a different type (eg replacing mercury barometer with electronic barometer)

Remove - An instrument can be removed either when it is no longer necessary to measure a particular element, or when the element is to be measured by an instrument of a different type (see under "Install" above)

Replace - This occurs when one instrument is replaced with another of the same type (eg Kew pattern mercury barometer replacing another Kew pattern mercury barometer)

Share - The same instrument is used for observations under two (or more) systems (eg a rain gauge may be used within both Surface Observations and Rainfall Intensity systems)

Unshare - The instrument is no longer shared between systems

Notes on these metadata

Calibration

During a site inspection an instrument will be calibrated as either being within or not within the specified tolerance in accuracy.

Where a quantative calibration result can be achieved by comparison to a transfer standard (eg barometer comparisons and tipping bucket rain gauge calibrations), the instrument will be recorded as being within or outside the required tolerance. Instruments (such as 203mm rain gauges, screens and evaporation pans) where quantitative calibrations cannot be derived should be regarded as meeting specifications when the instrument is in 'good working order'.

This product provides a summary table of the number of times an instrument was found to be out of calibration

Station Detail Changes

This set of metadata indicates when some aspect of the general information about a station has changed.

- STATION

Metadata which are categorised as pertaining to STATION are items of (textual) information describing a specific attribute of the station. A reference to (nondB seeding) indicates initial information of this field has been sourced from a previous database.

Station position

- Latitude and longitude

Derivation of station latitude and longitude, defined by the location of the rain gauge when it is present, has changed over time. Current practice is to locate or verify open and operational station latitude and longitude based on Global Positioning System equipment. Methods used to locate a station as described in this product (latlon_deriv) are as follows: GPS, MAP 1:10000, MAP 1:12500, MAP 1:25000, MAP 1:50000, MAP 1:100000, MAP 1:250000, SURVEY, and Unknown (which is more commonly represented by a null value). The field latlon_error should be used with caution as the method of determining this value has been interpreted in different ways over time.

- Height

Determination of heights for observing sites is by survey where possible. Otherwise height may be determined using a Digital Aneroid Barometer and a known surveyed point, or derived from map contours. The source of height is provided in the corresponding parameter with a suffix of "_deriv".

Heights which may appear in these metadata are:

- aero_ht
  - The official elevation of the aerodrome which normally corresponds to the altitude of the highest threshold of the runways at that airport;
- bar_ht
  - this represents the height of the mercury barometer cistern or the digital aneroid barometer above mean sea level (MSL);
- stn_ht
  - this normally represents the height of the rain gauge above MSL

Notes on these metadata

- Land Use

To assist the long term understanding of climate change it is important to be able to determine the differences over time which are attributed to variations in the climate. Since land use has an effect on the micro climate around the site, and changes in land use will therefore affect the climate record, it is important that the characteristics of the site are monitored. Soil types are recorded as they affect the land use and also add to the knowledge of the site details.

Defined Land use Types.

- Non-vegetated (barren, desert)
- Coastal or Island
- Forest
- Open farmland, grassland or tundra
- Small town, less than 1000 population
- Town 1000 to 10,000 population
- City area with buildings less than 10 metres (3 stories)
- City area with buildings greater than 10 metres (3 stories)
- Airport

The land use code is entered on the station inspection form in the ranges 0 to 100 m, 100 to 1 km and 1km to 10 km; ie:

- lu_0_100m: Land Use 0 to 100 metres from the enclosure
- lu_100m_1km: Land Use 100 metres to 1 kilometre
- lu_1km_10km: Land Use 1 kilometre to 10 kilometres

Defined Soil Type (At Enclosure).

- unable to determine
- sand
- black soil
- clay
- rock
- red soil
- other

Surface Type (At Enclosure).

- unable to determine
- fully covered by grass
- mostly covered by grass
- partly covered by grass
- bare ground
- sand
- concrete
- asphalt
- rock
- other