Basic Climatological Station Metadata

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.
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.

### Basic Climatological Station Metadata

**Station:** HOBART (ELLERSLIE ROAD)  
**Location:** HOBART (ELLERSLIE ROAD)  
**State:** TAS  
**Bureau No.:** 094029  
**WMO No.:** 94970  
**Aviation ID:** HBRO  
**Opened:** 01 Jan 1882  
**Current Status:** Still open  
**Latitude:** -42.8897  
**Longitude:** 147.3278  
**Elevation:** 50.5 m  
**Barometer Elev:** 51.4 m  
**Metadata compiled:** 28 JUL 2019

#### 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.

<table>
<thead>
<tr>
<th>OBSERVATION TYPE</th>
<th>FIRST MONTH</th>
<th>LAST MONTH</th>
<th>COMPLETENESS (% estimate)</th>
<th>SINGLE DAYS MISSED</th>
<th>FULL MONTHS MISSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVAPORATION</td>
<td>JAN 1912</td>
<td>OCT 1994</td>
<td>84.7</td>
<td>30</td>
<td>151</td>
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<tr>
<td>EVAPORIMETER - MAXIMUM WATER TEMPERATURE</td>
<td>JUN 1968</td>
<td>OCT 1994</td>
<td>96.5</td>
<td>299</td>
<td>1</td>
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<tr>
<td>GROUND MINIMUM TEMPERATURE</td>
<td>MAY 1893</td>
<td>NOV 2010</td>
<td>93.6</td>
<td>768</td>
<td>65</td>
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<tr>
<td>MAXIMUM AIR TEMPERATURE</td>
<td>APR 1882</td>
<td>JUN 2019</td>
<td>91.8</td>
<td>134</td>
<td>130</td>
</tr>
<tr>
<td>MAXIMUM WIND GUST SPEED</td>
<td>JAN 1944</td>
<td>JUN 1999</td>
<td>93.0</td>
<td>207</td>
<td>56</td>
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<tr>
<td>SUNSHINE HOURS</td>
<td>JAN 1912</td>
<td>AUG 1995</td>
<td>61.5</td>
<td>78</td>
<td>383</td>
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<tr>
<td>WIND RUN ABOVE 10 FEET</td>
<td>JAN 1912</td>
<td>JUN 1999</td>
<td>63.8</td>
<td>199</td>
<td>460</td>
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<tr>
<td>WIND RUN BELOW 10 FEET</td>
<td>JAN 1918</td>
<td>OCT 1994</td>
<td>77.1</td>
<td>40</td>
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<tr>
<td>RAINFALL</td>
<td>JAN 1882</td>
<td>JUL 1999</td>
<td>92</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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## Basic Climatological Station Metadata

**Current status**

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<th>State</th>
<th>Bureau No.</th>
<th>WMO No.</th>
<th>Aviation ID</th>
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<th>Current Status</th>
<th>Metadata compiled</th>
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<tbody>
<tr>
<td>HOBART (ELLERSLIE ROAD)</td>
<td>HOBART (ELLERSLIE ROAD)</td>
<td>TAS</td>
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<td>94029</td>
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<td>Longitude</td>
<td>Elev.</td>
<td>50.5 m</td>
<td>51.4 m</td>
<td>Barometer Elev.</td>
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### HOURLY DATA HOLDINGS - from 1 to 24 observations per day

<table>
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<tr>
<th>OBSERVATION TYPE</th>
<th>FIRST MONTH</th>
<th>LAST MONTH</th>
<th>COMPLETENESS (% estimate)</th>
<th>FREQUENCY average daily</th>
<th>SINGLE DAYS MISSED</th>
<th>FULL MONTHS MISSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR TEMPERATURE</td>
<td>MAY 1893</td>
<td>JUN 2019</td>
<td>91.1</td>
<td>6.6</td>
<td>45</td>
<td>122</td>
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<tr>
<td>DEW POINT</td>
<td>MAY 1893</td>
<td>JUN 2019</td>
<td>91.0</td>
<td>6.6</td>
<td>49</td>
<td>122</td>
</tr>
<tr>
<td>MEAN SEA LEVEL PRESSURE</td>
<td>MAY 1893</td>
<td>JUN 2019</td>
<td>91.1</td>
<td>6.6</td>
<td>45</td>
<td>122</td>
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<tr>
<td>SOIL TEMPERATURE - 10cm</td>
<td>OCT 1960</td>
<td>NOV 2010</td>
<td>71.1</td>
<td>4.4</td>
<td>201</td>
<td>161</td>
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<tr>
<td>TOTAL CLOUD AMOUNT</td>
<td>MAY 1893</td>
<td>NOV 2010</td>
<td>90.0</td>
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<tr>
<td>WIND SPEED</td>
<td>MAY 1893</td>
<td>JUN 2019</td>
<td>90.9</td>
<td>6.6</td>
<td>52</td>
<td>122</td>
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<tr>
<td>UPPER AIR WIND SPEED</td>
<td>FEB 1950</td>
<td>OCT 1953</td>
<td>62.1</td>
<td>1.6</td>
<td>406</td>
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</tbody>
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RAINFALL INTENSITY DATA HOLDINGS

<table>
<thead>
<tr>
<th>OBSERVATION TYPE</th>
<th>FIRST MONTH</th>
<th>LAST MONTH</th>
<th>COMPLETENESS (%) estimate</th>
<th>SINGLE DAYS MISSED</th>
<th>FULL MONTHS MISSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAINFALL INTENSITY</td>
<td>APR 1911</td>
<td>JUL 2015</td>
<td>89.0</td>
<td>2783</td>
<td>46</td>
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</table>

ONE-MINUTE DATA HOLDINGS

<table>
<thead>
<tr>
<th>OBSERVATION TYPE</th>
<th>FIRST MONTH</th>
<th>LAST MONTH</th>
<th>COMPLETENESS (%) estimate</th>
<th>FREQUENCY average daily</th>
<th>SINGLE DAYS MISSED</th>
<th>FULL MONTHS MISSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL ELEMENTS</td>
<td>NOV 1994</td>
<td>JUL 2019</td>
<td>98.9</td>
<td>1424.5</td>
<td>N/A</td>
<td>0</td>
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</tbody>
</table>

HALF-HOURLY DATA HOLDINGS

<table>
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<th>OBSERVATION TYPE</th>
<th>FIRST MONTH</th>
<th>LAST MONTH</th>
<th>COMPLETENESS (%) estimate</th>
<th>FREQUENCY average daily</th>
<th>SINGLE DAYS MISSED</th>
<th>FULL MONTHS MISSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL ELEMENTS</td>
<td>OCT 1994</td>
<td>JUL 2019</td>
<td>108.9</td>
<td>52.2</td>
<td>N/A</td>
<td>0</td>
</tr>
</tbody>
</table>

THERE ARE NO UPPER-AIR EDT DATA HOLDINGS

Holdings calculated up to 01 Jul 2019

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**
  - Minimum air temperature
  - Wet bulb temperature
  - Soil temperature at 20, 50 & 100cm
  - Relative humidity
  - Minimum temp. of water in evaporimeter
  - Visual observations eg. weather, visibility
  - Sea related observations

- **Listed element to use**
  - Maximum air temperature
  - Dew point
  - 10cm soil temperature
  - Dew point
  - Evaporimeter - max water temp
  - Total cloud amount
  - Sea state

---

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### Instrument Location and Surrounding Features

10/05/2013 (most recent)

#### Extended Climatological Station Metadata

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOBART (ELLSERLIE ROAD)</td>
<td>HOBART (ELLSERLIE ROAD)</td>
<td>TAS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bureau No.</th>
<th>WMO No.</th>
<th>Aviation ID</th>
<th>Opened</th>
<th>Current Status</th>
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<tbody>
<tr>
<td>094029</td>
<td>94970</td>
<td>HBRO</td>
<td>01 Jan 1882</td>
<td>Still open</td>
<td>28 JUL 2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
<th>Elevation</th>
<th>Barometer Elev</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-42.8897</td>
<td>147.3278</td>
<td>50.5 m</td>
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Extended Climatological Station Metadata
All History

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</tr>
<tr>
<td>Metadata compiled: 28 JUL 2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instrument Location and Surrounding Features
28/05/2012

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Page 6.
Instrument Location and Surrounding Features

03/05/2011

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Extended Climatological Station Metadata
All History

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<thead>
<tr>
<th>Station: HOBART (ELLERSLIE ROAD)</th>
<th>Location: HOBART (ELLERSLIE ROAD)</th>
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<tr>
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<tr>
<td>Barometer Elev: 51.4 m</td>
<td>Metadata compiled: 28 JUL 2019</td>
<td></td>
</tr>
<tr>
<td>Still open</td>
<td>Current Status:</td>
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</table>

Instrument Location and Surrounding Features
17/11/2008

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Extended Climatological Station Metadata
All History

Station: HOBART (ELLERSLIE ROAD)  Location: HOBART (ELLERSLIE ROAD)  State: TAS
Bureau No.: 994029  WMO No.: 94970  Aviation ID: HBRO  Opened: 01 Jan 1882  Current Status: Still open
Latitude: -42.8897  Longitude: 147.3278  Elevation: 50.5 m  Barometer Elev: 51.4 m  Metadata compiled: 28 JUL 2019

Instrument Location and Surrounding Features 28/04/2005

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.
Instrument Location and Surrounding Features

27/02/2004

Extended Climatological Station Metadata
All History

<table>
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<th>Station: HOBART (ELLERSLIE ROAD)</th>
<th>Location: HOBART (ELLERSLIE ROAD)</th>
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<tr>
<td>Metadata compiled: 28 JUL 2019</td>
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Instrument Location and Surrounding Features

23/09/2003

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Extended Climatological Station Metadata
All History

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<thead>
<tr>
<th>Station: HOBART (ELLERSLIE ROAD)</th>
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<th>State: TAS</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>Metadata compiled: 28 JUL 2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instrument Location and Surrounding Features
28/11/2002

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</tr>
<tr>
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<td></td>
<td>Metadata compiled: 28 JUL 2019</td>
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</tbody>
</table>

Instrument Location and Surrounding Features

03/10/1995

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All History

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<tr>
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Skyline Diagram
10/05/2013 (most recent)

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All History

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</tr>
<tr>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Skyline Diagram
29/02/2012

Skyline Survey

SUN POSITIONS FOR HOBART (ELLERSLIE ROAD)

SITE NUMBER: 094029
DATE OF SURVEY: 05-02-2009

LATITUDE: -42.8897
LONGITUDE: 147.3278
ALTITUDE: 50.5 m
TIME ZONE: 10.0 hours

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HOBART (ELLERSLIE ROAD)

State: TAS

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Extended Climatological Station Metadata

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<tr>
<td>Aviation ID: HBRO</td>
<td>Elevation: 50.5 m</td>
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<tr>
<td>WMO No.: 094029</td>
<td>Barometer Elev.: 51.4 m</td>
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<tr>
<td>Metadata compiled: 28 JUL 2019</td>
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</tr>
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</table>

Skyline Diagram
19/12/2002

Note:
DEC 22 to JUNE 21 - THIN HOUR LINES
JUNE 21 to DEC 22 - THICK HOUR LINES

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.
### Station Observation Program Summary (Surface Observations) from 01/01/1882 to 03/11/2003

<table>
<thead>
<tr>
<th>Current Observation</th>
<th>Continuous</th>
<th>Half Hourly</th>
<th>Hourly</th>
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<tr>
<td>Surface Observations</td>
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### Station Observation Program Summary (Surface Observations) from 03/11/2003 to 25/05/2011

<table>
<thead>
<tr>
<th>Current Observation</th>
<th>Program Type</th>
<th>12 AM</th>
<th>3 AM</th>
<th>6 AM</th>
<th>9 AM</th>
<th>12 PM</th>
<th>3 PM</th>
<th>6 AM</th>
<th>9 AM</th>
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</thead>
<tbody>
<tr>
<td>Surface Observation</td>
<td>PERFORMED</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Surface Observation</td>
<td>REPORTED</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Surface Observation</td>
<td>SEASONAL</td>
<td>-</td>
<td>-</td>
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### Station Observation Program Summary (Surface Observations) 28 JUL 2019 (most recent)

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<tr>
<th>Current Observation</th>
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<th>3 AM</th>
<th>6 AM</th>
<th>9 AM</th>
<th>12 PM</th>
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<th>6 AM</th>
<th>9 AM</th>
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</thead>
<tbody>
<tr>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Surface Observation</td>
<td>REPORTED</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
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<tr>
<td>Surface Observation</td>
<td>SEASONAL</td>
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</tr>
</tbody>
</table>

**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.**
Station Equipment History

Equipment Install/Remove
Cloud Height (No Electronic History)
River Height (No Electronic History)
Wind Run
02/SEP/1975 INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
01/NOV/1994 REMOVE Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
Spectral Radiation (No Electronic History)
Sea Surface Temperature (No Electronic History)
Sea Water Temperature (No Electronic History)
Evaporation
01/MAR/1910 INSTALL Evaporation Pan (Type Class A S/N - Unknown) Surface Observations
01/NOV/1994 REMOVE Evaporation Pan (Type Class A S/N - Unknown) Surface Observations
Minimum Temperature
01/JAN/1882 INSTALL Thermometer, Alcohol, Min (Type Dobbie S/N - M5153) Surface Observations
04/APR/2011 REMOVE Thermometer, Alcohol, Min (Type Dobbie S/N - M2652) Surface Observations
30/MAY/2000 REPLACE Thermometer, Alcohol, Min (Now Dobbie S/N - 14477) Surface Observations
13/NOV/2000 REPLACE Thermometer, Alcohol, Min (Now Dobbie S/N - 19670) Surface Observations
11/JUN/1998 REPLACE Thermometer, Alcohol, Min (Now Dobbie S/N - M1619) Surface Observations
31/JAN/2001 REPLACE Thermometer, Alcohol, Min (Now Dobbie S/N - M2652) Surface Observations
Soil Temperature 50cm (No Electronic History)
Sub Surface Temperature (No Electronic History)
Electrical Conductivity (No Electronic History)
Maximum Temperature
01/JAN/1882 INSTALL Thermometer, Mercury, Max (Type Dobbie S/N - CBM311) Surface Observations
04/APR/2011 REMOVE Thermometer, Mercury, Max (Type Dobbie S/N - 15425) Surface Observations
22/AUG/2006 REPLACE Thermometer, Mercury, Max (Now Dobbie S/N - 15425) Surface Observations
13/NOV/2000 REPLACE Thermometer, Mercury, Max (Now Dobbie S/N - 19309) Surface Observations
Soil Temperature 20cm
01/JAN/1882 INSTALL Thermometer, Soil, 20cm (Type Dobros S/N - Unknown) Surface Observations
04/APR/2011 REMOVE Thermometer, Soil, 20cm (Type Dobros S/N - 0270785) Surface Observations
21/MAR/2005 REPLACE Thermometer, Soil, 20cm (Now Dobros S/N - 0270785) Surface Observations
15/MAR/2005 REPLACE Thermometer, Soil, 20cm (Now Dobros S/N - CBM689) Surface Observations
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)
Terrestrial Minimum Temperature
01/JAN/1882 INSTALL Thermometer, Terrestrial, Min (Type Unknown S/N - Unknown) Surface Observations
04/APR/2011 REMOVE Thermometer, Terrestrial, Min (Type Dobbie S/N - M1682) Surface Observations
04/FEB/2002 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 12800) Surface Observations
12/APR/1999 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 13329) Surface Observations
16/DEC/1999 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 14471) Surface Observations
09/JAN/2002 REPLACE Thermometer, Terrestrial, Min (Now Dobbie S/N - 15657) Surface Observations

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.
Extended Climatological Station Metadata

All History

Station: HOBART (ELLERSLIE ROAD)  Location: HOBART (ELLERSLIE ROAD)  State: TAS

<table>
<thead>
<tr>
<th>Bureau No.</th>
<th>WMO No.</th>
<th>Aviation ID</th>
<th>Opened</th>
<th>Current Status</th>
</tr>
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<tbody>
<tr>
<td>094029</td>
<td>94970</td>
<td>HBRO</td>
<td>01 Jan 1882</td>
<td>Still open</td>
</tr>
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</table>

Latitude: -42.8897  Longitude: 147.3278  Elevation: 50.5 m  Barometer Elev: 51.4 m  Metadata compiled: 28 JUL 2019

Station Equipment History (continued)

Equipment Install/Remove (Continued)

### Visibility (No Electronic History)

#### Solar Radiation (Direct) (No Electronic History)

#### Magnetic Bearing (No Electronic History)

#### Wind Direction

- **29/JUN/1992** INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
- **12/SEP/1995** INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
- **29/JUN/1992** INSTALL Anemometer (Type Synchrotac Vane - Type 706 S/N - 71641) Surface Observations
- **12/APR/1994** INSTALL Mast Anemometer (Type Pivot, Standard 20m S/N - NONE) Infrastructure
- **02/SEP/1975** INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
- **12/SEP/1995** REMOVE Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
- **01/NOV/1994** REMOVE Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
- **22/MAR/2005** REPLACE Anemometer (Now Synchrotac Cups - Type 732 S/N - 64123) Surface Observations
- **06/JAN/2015** REPLACE Anemometer (Now Synchrotac Cups - Type 732 S/N - 91676) Surface Observations
- **22/MAR/2005** REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - NONE) Surface Observations
- **01/MAY/2019** REPLACE Mast Anemometer (Now Pivot, Standard 20m S/N - POL24700) Infrastructure

#### Air Temperature

- **27/JUL/2017** INSTALL Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 49513006) Surface Observations
- **29/JUN/1992** INSTALL Temperature Probe - Dry Bulb (Type Rosemount S/N - 07478) Surface Observations
- **08/NOV/2007** REPLACE Temperature Probe - Dry Bulb (Now Temp Control TCBMP01 S/N - 10238) Surface Observations
- **01/JAN/1939** INSTALL Thermohygrograph (Type Unknown S/N - Unknown) Surface Observations
- **01/JUL/1967** REMOVE Thermohygrograph (Type Unknown S/N - Unknown) Surface Observations
- **01/1882** INSTALL Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M3057) Surface Observations
- **04/APR/2011** REMOVE Thermometer, Mercury, Dry Bulb (Type Dobbie S/N - M16723) Surface Observations
- **31/JAN/2001** REPLACE Thermometer, Mercury, Dry Bulb (Now Dobbie S/N - M16723) Surface Observations
- **13/NOV/2000** REPLACE Thermometer, Mercury, Dry Bulb (Now Dobbie S/N - M5483) Surface Observations

#### Wet Bulb Temperature

- **29/JUN/1992** INSTALL Temperature Probe - Wet Bulb (Type Rosemount S/N - 07812) Surface Observations
- **27/JUL/2017** REMOVE Temperature Probe - Wet Bulb (Type Temp Control TCBMP01 S/N - 10199) Surface Observations
- **08/NOV/2007** REPLACE Temperature Probe - Wet Bulb (Now Temp Control TCBMP01 S/N - 10177) Surface Observations
- **15/APR/2015** REPLACE Temperature Probe - Wet Bulb (Now Temp Control TCBMP01 S/N - 10199) Surface Observations
- **01/JAN/1882** INSTALL Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - CBM4472) Surface Observations
- **04/APR/2011** REMOVE Thermometer, Mercury, Wet Bulb (Type Dobbie S/N - M1197) Surface Observations
- **13/NOV/2000** REPLACE Thermometer, Mercury, Wet Bulb (Now Dobbie S/N - M1197) Surface Observations

#### Lightning (No Electronic History)

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Station Equipment History (continued)

Turbidity (No Electronic History)

Pressure

29/JUN/1992 INSTALL Barometer (Type Vaisala PA11A S/N - 458186) Surface Observations
03/MAY/2011 REPLACE Barometer (Now Vaisala PTB220B S/N - D1610047) Surface Observations

Humidity

27/JUL/2017 INSTALL Humidity Probe (Type Rotronics MP101A-T4-W4W S/N - 49513006) Surface Observations
01/JAN/1939 INSTALL Thermohygrograph (Type Unknown S/N - Unknown) Surface Observations
01/JUL/1967 REMOVE Thermohygrograph (Type Unknown S/N - Unknown) Surface Observations

Sunshine Hours

11/MAY/1893 INSTALL Sunshine Recorder (Type Campbell-Stokes S/N - Unknown) Surface Observations
19/DEC/1994 REMOVE Sunshine Recorder (Type Campbell-Stokes S/N - Unknown) Surface Observations

Pressure Trend

31/JUL/1999 INSTALL Barograph (Type Weekly S/N - CMO99) Surface Observations
04/APR/2011 REMOVE Barograph (Type Weekly S/N - CMO99) Surface Observations
05/FEB/2007 REPLACE Barograph (Now Weekly S/N - CBM093) Surface Observations
08/MAY/2007 REPLACE Barograph (Now Weekly S/N - CMO99) Surface Observations

Snow Height (No Electronic History)

Wind Speed

29/JUN/1992 INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
12/SEP/1995 INSTALL Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
29/JUN/1992 INSTALL Anemometer (Type Synchrotac Vane - Type 706 S/N - 71641) Surface Observations
12/APR/1994 INSTALL Mast Anemometer (Type Pivot, Standard 20m S/N - NONE) Infrastructure
02/SEP/1975 INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
12/SEP/1995 REMOVE Anemometer (Type Synchrotac Cups - Type 732 S/N - 71620) Surface Observations
01/NOV/1994 REMOVE Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
22/MAR/2005 REPLACE Anemometer (Now Synchrotac Cups - Type 732 S/N - 64123) Surface Observations
06/JAN/2015 REPLACE Anemometer (Now Synchrotac Cups - Type 732 S/N - 91676) Surface Observations
22/MAR/2005 REPLACE Anemometer (Now Synchrotac Vane - Type 706 S/N - NONE) Surface Observations
01/MAY/2019 REPLACE Mast Anemometer (Now Pivot, Standard 20m S/N - POL24700) Infrastructure

Rainfall

01/Jan/1911 INSTALL Pluviograph (Type Dines syphoning S/N - 136B/57) Rainfall Intensity
01/Jan/2008 REPLACE Pluviograph (Type Dines syphoning S/N - CMO5) Rainfall Intensity
01/Jan/2008 REPLACE Pluviograph (Now Dines syphoning S/N - CMO5) Rainfall Intensity
01/Jan/1882 INSTALL Raingauge (Type 203 mm (8in) - 200mm capacity S/N - NONE) Surface Observations
29/JUN/1992 INSTALL Raingauge (Type HS TB3A-0.2 S/N - 95-076) Surface Observations
04/Jan/2011 REMOVE Raingauge (Type 203 mm (8in) - 200mm capacity S/N - NONE) Surface Observations
10/Jan/2014 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 77120) Rainfall Intensity
10/Jan/2014 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 77120) Surface Observations
18/Jul/2008 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 90192) Rainfall Intensity
18/Jul/2008 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 90192) Surface Observations
12/May/1998 REPLACE Raingauge (Now Rimco 8020 TBRG S/N - 75526) Rainfall Intensity
12/May/1998 REPLACE Raingauge (Now Rimco 8020 TBRG S/N - 75526) Surface Observations

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.
## Station Equipment History (continued)

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 multi-stage quality control process.

<table>
<thead>
<tr>
<th>Available Date Range</th>
<th>Element</th>
<th>Fail Field Performance Check</th>
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</thead>
<tbody>
<tr>
<td>05/APR/2000 - 28/MAY/2012</td>
<td>Minimum Temperature</td>
<td>0</td>
</tr>
<tr>
<td>05/APR/2000 - 28/MAY/2012</td>
<td>Maximum Temperature</td>
<td>0</td>
</tr>
<tr>
<td>11/JUL/2000 - 17/NOV/2008</td>
<td>Soil Temperature 20cm</td>
<td>0</td>
</tr>
<tr>
<td>05/APR/2000 - 17/NOV/2008</td>
<td>Terrestrial Minimum Temperature</td>
<td>1</td>
</tr>
<tr>
<td>06/JAN/1998 - 01/MAY/2019</td>
<td>Wind Direction</td>
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<tr>
<td>06/JAN/1998 - 13/SEP/2018</td>
<td>Air Temperature</td>
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<td>06/JAN/1998 - 27/JUL/2017</td>
<td>Wet Bulb Temperature</td>
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</tr>
<tr>
<td>06/JAN/1998 - 13/SEP/2018</td>
<td>Pressure</td>
<td>3</td>
</tr>
<tr>
<td>27/JUL/2017 - 13/SEP/2018</td>
<td>Humidity</td>
<td>0</td>
</tr>
<tr>
<td>23/SEP/2003 - 17/NOV/2008</td>
<td>Pressure Trend</td>
<td>0</td>
</tr>
<tr>
<td>06/JAN/1998 - 01/MAY/2019</td>
<td>Wind Speed</td>
<td>1</td>
</tr>
<tr>
<td>06/JAN/1998 - 13/SEP/2018</td>
<td>Rainfall</td>
<td>7</td>
</tr>
<tr>
<td>11/JUL/2000 - 17/NOV/2008</td>
<td>Soil Temperature 10cm</td>
<td>0</td>
</tr>
</tbody>
</table>

### Station Detail Changes

- **01/JUL/2011**  CLASSIFICATION Australian Climate Observations Reference Network - Surface Air Temperature (ACORN-SAT)
- **10/APR/2014**  CLASSIFICATION CLIMAT Stations (CLC)
- **10/JAN/2011**  CLASSIFICATION Critical (ASOSCRIT)
- **29/JUN/1992**  CLASSIFICATION Fielden (FFD)
- **01/JUL/2017**  CLASSIFICATION Observing Operations Hub - Hobart (OOH-H)
- **21/MAR/2016**  CLASSIFICATION Processed by ASOS (PBA)
- **01/JUL/1998**  CLASSIFICATION Regional Forecasting Centres (RFC)
- **01/JUL/1998**  CLASSIFICATION Surface Observations only (SO)
- **01/JAN/1901**  OBJECT Document/09402901011901
- **15/DEC/1964**  OBJECT Document/094029641215sd
- **19/DEC/2002**  OBJECT Document/SKYLINE DATA
- **29/FEB/2012**  OBJECT Document/SKYLINE DATA

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Prepared by the Bureau of Meteorology.

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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Extended Climatological Station Metadata
All History

<table>
<thead>
<tr>
<th>Station: HOBART (ELLERSLIE ROAD)</th>
<th>Location: HOBART (ELLERSLIE ROAD)</th>
<th>State: TAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureau No.: 094029</td>
<td>WMO No.: 94970</td>
<td>Aviation ID: HBRO</td>
</tr>
<tr>
<td>Latitude: -42.8897</td>
<td>Longitude: 147.3278</td>
<td>Elevation: 50.5 m</td>
</tr>
<tr>
<td>State: TAS</td>
<td>Location: HOBART (ELLERSLIE ROAD)</td>
<td>Current Status: Still open</td>
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</tr>
</tbody>
</table>

Station Equipment History (continued)

Station Detail Changes (Continued)

10/MAY/2013 OBJECT Document/SKYLINE DATA
05/FEB/2009 OBJECT Document/SKYLINE DATA
01/JAN/1882 STATION - (nondb seeding) Opened
01/JAN/1882 STATION - (nondb seeding) bar_ht Changed to 51.4
01/JAN/1882 STATION - (nondb seeding) bar_ht_deriv Changed to MAP 1:100 000
01/JAN/1882 STATION - (nondb seeding) name Changed to HOBART (ELLERSLIE ROAD)
01/JAN/1882 STATION - (nondb seeding) wmo_num Changed to 94970
31/OCT/1997 STATION aviation_id Changed to HBRO
01/JAN/1882 STATION latitude Changed to -42.8897Seeded from 1:25 000 Tasmapi HOBART sheet number 5225 (Edition 3).
01/JAN/1882 STATION latlon_deriv Changed to GPS
01/JAN/1882 STATION longitude Changed to 147.3278Seeded from 1:25 000 Tasmapi HOBART sheet number 5225 (Edition 3).
11/JUL/2000 STATION lu_0_100m Changed to City area, buildings < 10 metres (3 storey)
11/JUL/2000 STATION lu_100m_1km Changed to City area, buildings > 10 metres (3 storey)
11/JUL/2000 STATION lu_1km_10km Changed to City area, buildings > 10 metres (3 storey)
11/JUL/2000 STATION soil_type Changed to black soil
01/JAN/1882 STATION stn_ht Changed to 50.5
01/JAN/1882 STATION stn_ht_deriv Changed to MAP 1:25 000
11/JUL/2000 STATION surface_type Changed to fully covered by grass

System Changes

12/DEC/1977 SYSTEM Infrastructure Commenced
01/JAN/1911 SYSTEM Rainfall Intensity Commenced
01/JAN/1882 SYSTEM Surface Observations Commenced

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.
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, 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.
## 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 Locations
  - 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).

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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

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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
Calibration

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

Where a quantitative calibration result can be achieved by comparison to a transfer standard (e.g., 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.
- 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

Notes on these metadata

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