

Basic Climatological Station Metadata

Current status

Metadata compiled: 27 JUL 2018

Station: SYDNEY (OBSERVATORY HILL)

Bureau of Meteorology station number: 066062 **Bureau of Meteorology district name:** Metropolitan (E)

State: NSW

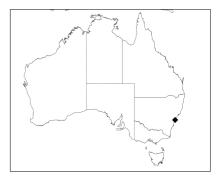
World Meteorological Organization number: 94768

Identification: OBSH

Network Classification: CLIMAT Stations

Station purpose: Synoptic

Automatic Weather Station: Almos



	Current Station Location										
Latitude	Decimal	-33.8607	Hour Min Sec	33°51'39"S							
Longitude	Decimal	151.2050	Hour Min Sec	151°12'18"E							
Station Height	39 m	Barometer Height	40.2 m								
Method of station	n geographi	GPS									

Year opened: 1858 **Status:** Open

Station summary

No sullillary 10	or this site has been writte	en as yet.		



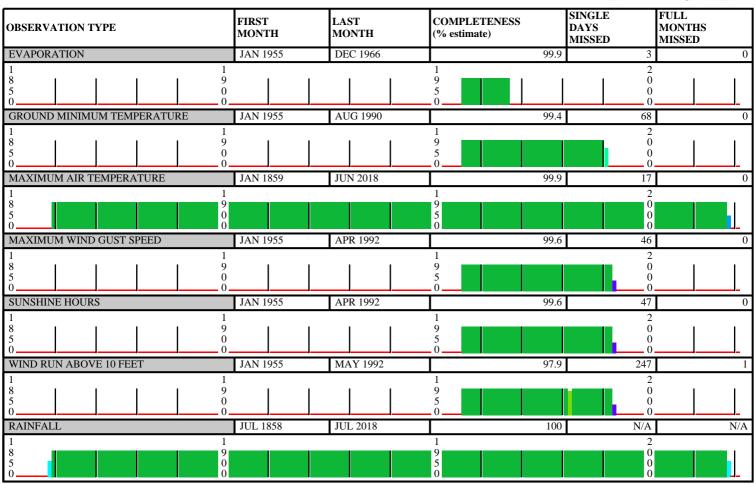
Basic Climatological Station Metadata Current status

Station:	SYDNEY (OI	BSERVATORY	HILL)	Location: SYDNEY (OBSERVATORY HILL)				State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH	Opened:	01 Jan 1858	Current Status:	Still open
Latitude:	-33.8607	Longitude:	151.2050	Elevation:	39 m	Barometer Elev:	40.2 m	Metadata compiled:	27 JUL 2018

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.

Completeness **DAILY DATA HOLDINGS** 100%

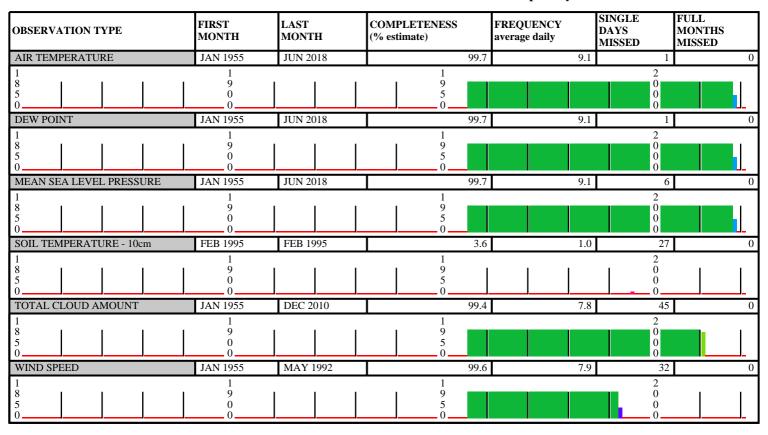




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HOURLY DATA HOLDINGS - from 1 to 24 observations per day



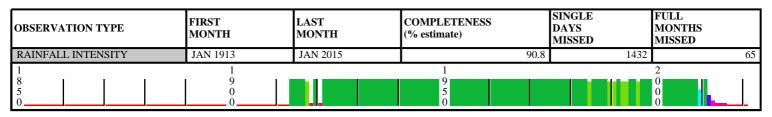


Basic Climatological Station Metadata

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Station:	SYDNEY (OF	BSERVATORY I	HILL)	Location:	SYDNEY	(OBSERVATORY	HILL)	State:	NSW
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RAINFALL INTENSITY DATA HOLDINGS



ONE-MINUTE DATA HOLDINGS

OBSERVATION TYPE	FIRST MONTH	LAST MONTH		FREQUENCY	SINGLE DAYS MISSED	FULL MONTHS MISSED
ALL ELEMENTS	DEC 1998	JUL 2018	96.0	1382.3	N/A	7

HALF-HOURLY DATA HOLDINGS

TORSERVATION TYPE	FIRST MONTH			FREQUENCY	DAYS	FULL MONTHS MISSED	
ALL ELEMENTS	SEP 1993	JUL 2018	99.1	47.6	N/A		0

THERE ARE NO UPPER-AIR EDT DATA HOLDINGS

Holdings calculated up to 01 Jul 2018

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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Instrument Location and Surrounding Features 06/06/2017(most recent)

Station: Sydney (Observatory Hill) Site No: 066062 06-06-2017 Date: School 10 m School/10m arge fig tree 18m Road - Phone line (heritage listed) Building 15 m bitumen road Cottage/5m E Building 4m Education Centre 4m S Range rings 10m



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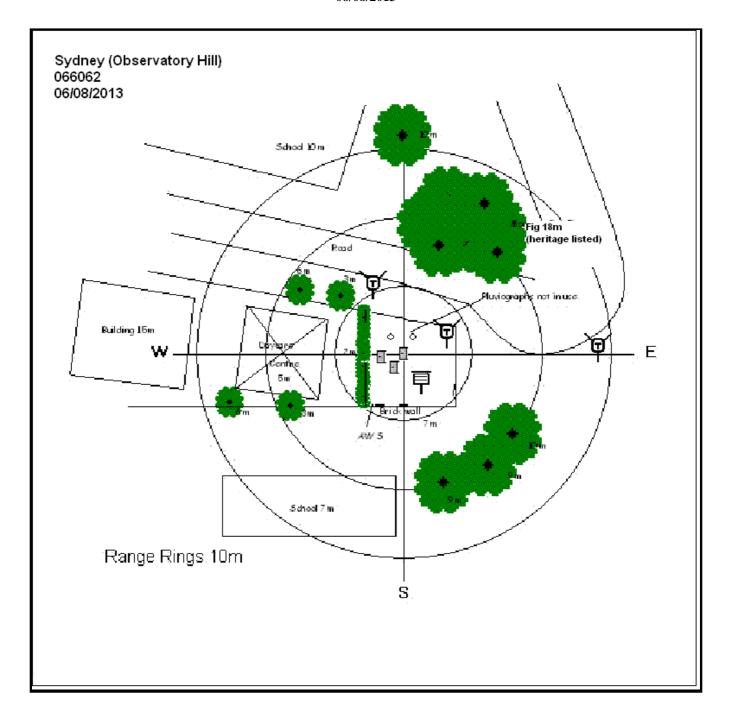
Instrument Location and Surrounding Features 08/01/2016





Station:	SYDNEY (OI	BSERVATORY	HILL)	Location:	Location: SYDNEY (OBSERVATORY HILL)			State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH	Opened:	01 Jan 1858	Current Status:	Still open
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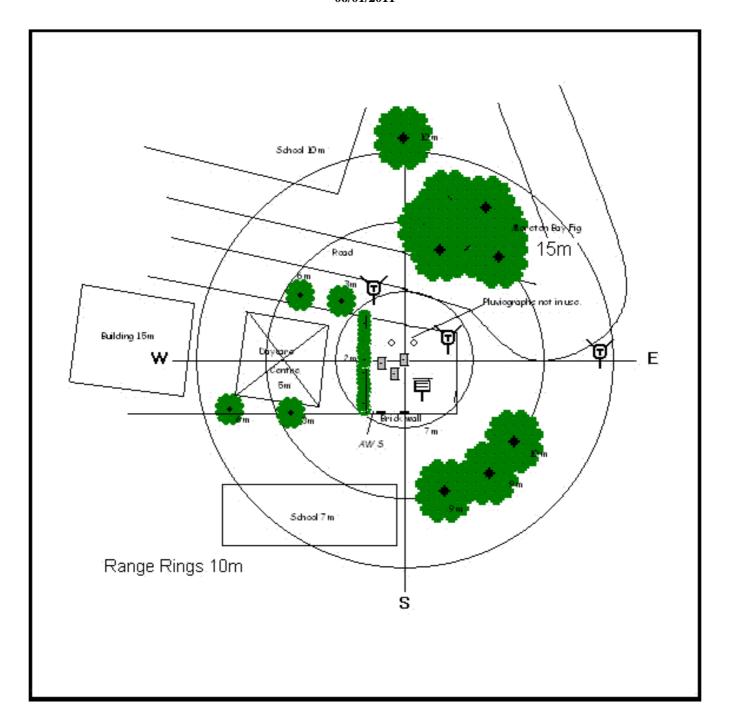
Instrument Location and Surrounding Features 06/08/2013





Station:	SYDNEY (OI	BSERVATORY	HILL)	Location:	Location: SYDNEY (OBSERVATORY HILL)			State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH	Opened:	01 Jan 1858	Current Status:	Still open
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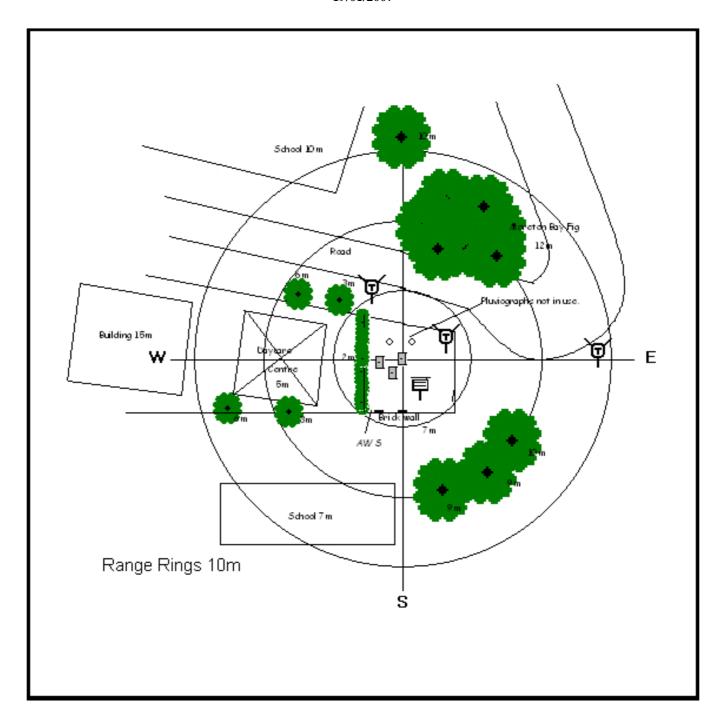
Instrument Location and Surrounding Features $_{06/01/2011}$





Station:	SYDNEY (OI	BSERVATORY	HILL)	Location:	Location: SYDNEY (OBSERVATORY HILL)			State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH	Opened:	01 Jan 1858	Current Status:	Still open
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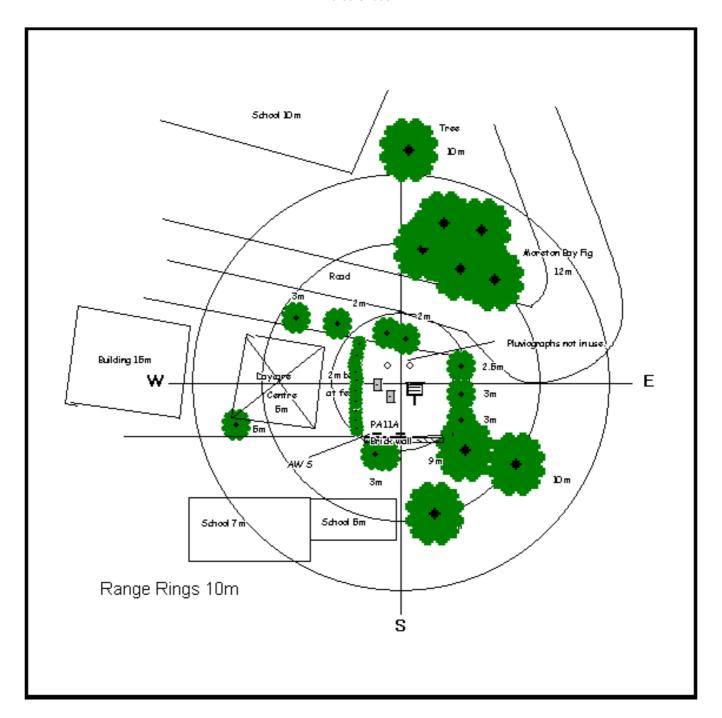
Instrument Location and Surrounding Features19/01/2007





Station:	SYDNEY (OBSERVATORY HILL) Location			Location:	SYDNEY	(OBSERVATORY	HILL)	State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH Opened: 01 Jan 1858			Current Status:	Still open
Latitude:	-33.8607	Longitude:	151.2050	Elevation:	39 m	Barometer Elev:	40.2 m	Metadata compiled:	27 JUL 2018

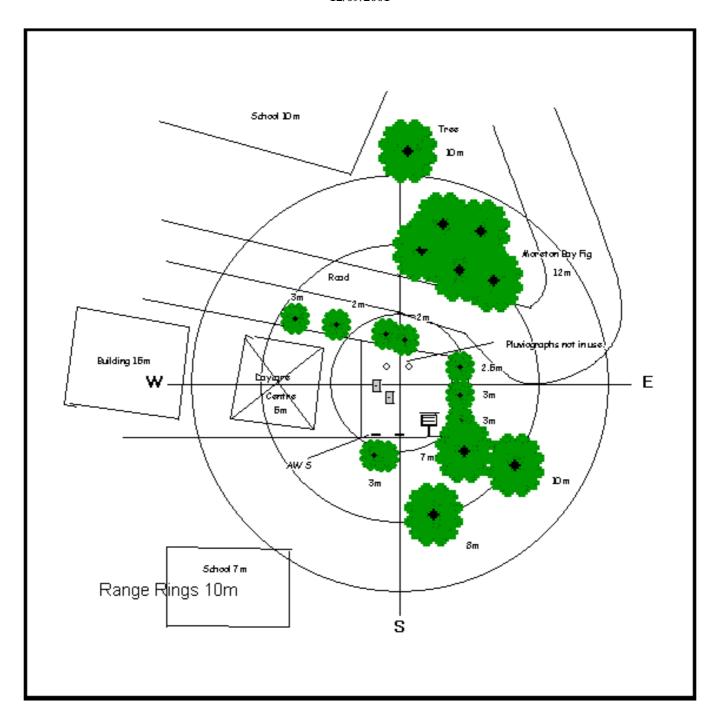
Instrument Location and Surrounding Features 04/01/2006





Station:	SYDNEY (OBSERVATORY HILL) Location			Location:	SYDNEY	(OBSERVATORY	HILL)	State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH Opened: 01 Jan 1858			Current Status:	Still open
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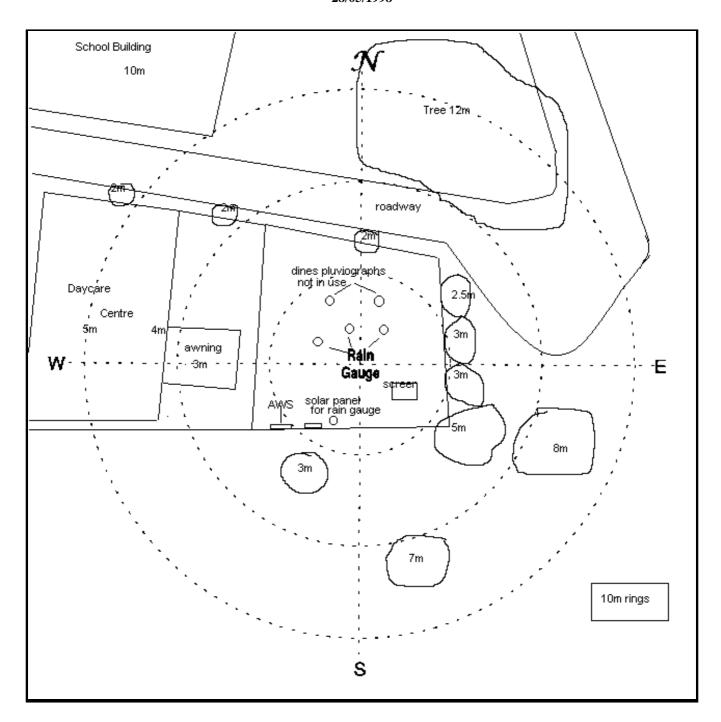
Instrument Location and Surrounding Features 12/09/2001





Station:	SYDNEY (OI	BSERVATORY	HILL)	Location:	SYDNEY	(OBSERVATORY	State:	NSW	
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH Opened: 01 Jan 1858			Current Status:	Still open
Latitude:	-33.8607	Longitude:	151.2050	Elevation:	39 m	Barometer Elev:	40.2 m	Metadata compiled:	27 JUL 2018

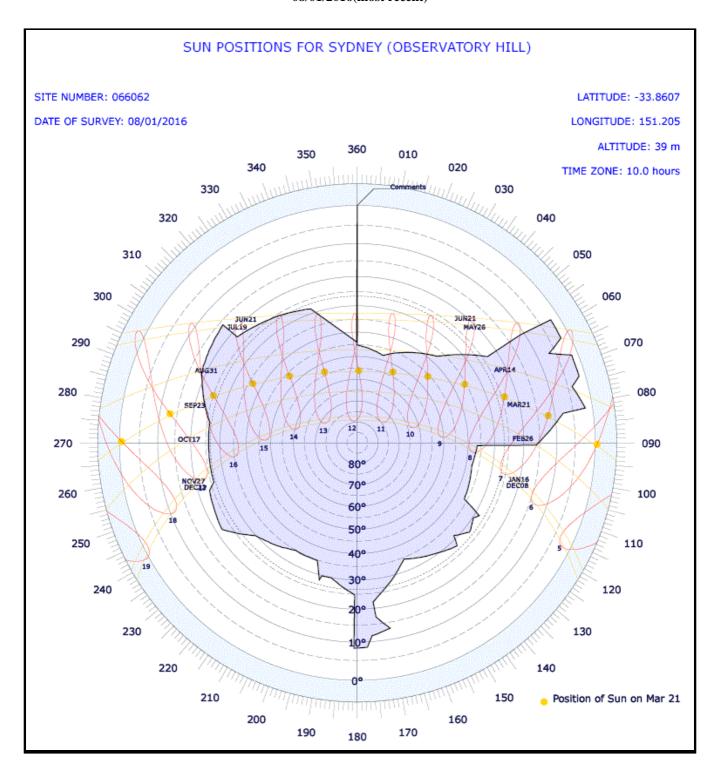
Instrument Location and Surrounding Features 28/05/1998





Station:	SYDNEY (OBSERVATORY HILL) Location			Location:	SYDNEY	(OBSERVATORY	State:	NSW	
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH Opened: 01 Jan 1858			Current Status:	Still open
Latitude:	-33.8607	Longitude:	151.2050	Elevation:	39 m	Barometer Elev:	40.2 m	Metadata compiled:	27 JUL 2018

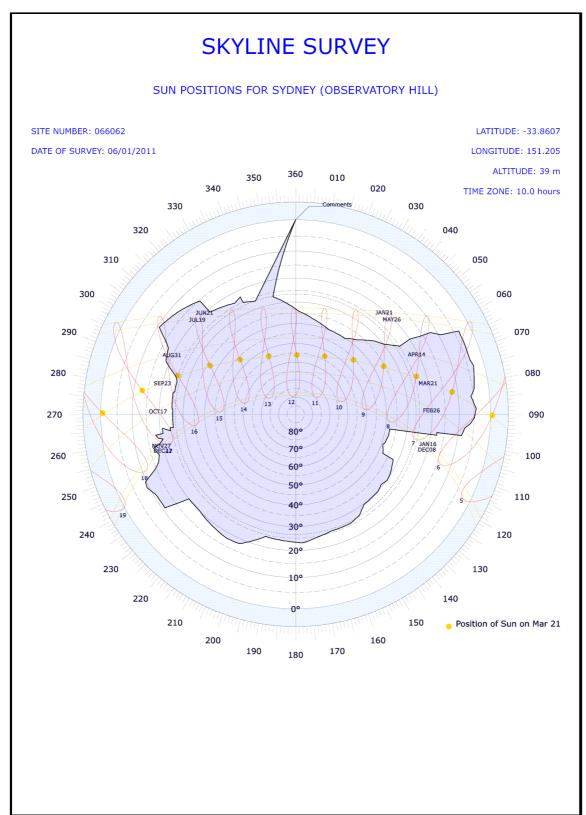
Skyline Diagram 08/01/2016(most recent)





Station:	SYDNEY (OF	BSERVATORY	HILL)	Location:	on: SYDNEY (OBSERVATORY HILL)			State:	NSW
Bureau No.:	066062	WMO No.:	94768	Aviation ID:	OBSH	Opened:	Current Status:	Still open	
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Skyline Diagram 06/01/2011





Station:	SYDNEY (OBSERVATORY HILL)			Location:	SYDNEY	(OBSERVATORY	State:	NSW	
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Station Observation Program Summary (Surface Observations) from 01/07/1858 to 01/11/2008

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	-	1	-	-	-	1	ı	-

Station Observation Program Summary (Surface Observations) from 01/11/2008 to 25/12/2010

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	-	-	-	-	-	-	-	-

Station Observation Program Summary (Surface Observations) 27 JUL 2018 (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	-	-	-	-	-	-	-	-



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Latitude:	-33.8607	Longitude:	151.2050	Elevation:	39 m	Barometer Elev:	40.2 m	Metadata compiled:	27 JUL 2018

Station Equipment History

Equipment Install/Remove

Cloud Height (No Electronic History)

River Height (No Electronic History)

Wind Run

01/JAN/1955 INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations

30/APR/1990 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/JAN/1880 INSTALL Evaporation Pan (Type Class A S/N - Unknown) Surface Observations

13/DEC/1966 REMOVE Evaporation Pan (Type Class A S/N - Unknown) Surface Observations

Minimum Temperature

01/JAN/1859 INSTALL Thermometer, Alcohol, Min (Type Unknown S/N - Unknown) Surface Observations

31/MAY/1995 REMOVE Thermometer, Alcohol, Min (Type Unknown S/N - Unknown) Surface Observations

Soil Temperature 50cm (No Electronic History)

Sub Surface Temperature (No Electronic History)

Electrical Conductivity (No Electronic History)

Maximum Temperature

01/JAN/1859 INSTALL Thermometer, Mercury, Max (Type Unknown S/N - Unknown) Surface Observations

31/MAY/1995 REMOVE Thermometer, Mercury, Max (Type Unknown S/N - Unknown) Surface Observations

Soil Temperature 20cm (No Electronic History)

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

01/JAN/1859 INSTALL Thermometer, Terrestrial, Min (Type Unknown S/N - Unknown) Surface Observations

31/JUL/1990 REMOVE Thermometer, Terrestrial, Min (Type Unknown S/N - Unknown) Surface Observations

Visibility (No Electronic History)

Solar Radiation (Direct) (No Electronic History)

Magnetic Bearing (No Electronic History)

Wind Direction

01/JAN/1859 INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations

01/APR/1990 INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations

01/JAN/1955 INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations

30/APR/1992 REMOVE Anemometer (Type Dines S/N - Unknown) Surface Observations

30/APR/1990 REMOVE Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations

Air Temperature

22/NOV/2012 INSTALL Humidity Probe (Type Vaisala HMP45D S/N - D3040011) Surface Observations

01/APR/1990 INSTALL Temperature Probe - Dry Bulb (Type Rosemount S/N - NONE) Surface Observations

07/JUN/2011 REPLACE Temperature Probe - Dry Bulb (Now Temp Control TCBMP01 S/N - 10309) Surface Observations

01/SEP/1963 INSTALL Thermograph (Type Fielden S/N - Unknown) Surface Observations



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Station Equipment History (continued)

Equipment	Install/Remove(Continued)
	INSTALL Thermograph (Type Weekly S/N - Unknown) Surface Observations
08/AUG/1990	REMOVE Thermograph (Type Fielden S/N - Unknown) Surface Observations
08/AUG/1990	REMOVE Thermograph (Type Weekly S/N - Unknown) Surface Observations
01/JAN/1859	INSTALL Thermometer, Mercury, Dry Bulb (Type Unknown S/N - Unknown) Surface Observations
31/MAY/1995	REMOVE Thermometer, Mercury, Dry Bulb (Type Unknown S/N - Unknown) Surface Observations
Wet Bulb Ten	nperature
	INSTALL Temperature Probe - Wet Bulb (Type Rosemount S/N - NONE) Surface Observations
22/NOV/2012	REMOVE Temperature Probe - Wet Bulb (Type WIKA TR40 S/N - 63930-10) Surface Observations
	REPLACE Temperature Probe - Wet Bulb (Now WIKA TR40 S/N - 63930-10) Surface Observations
01/JAN/1859	INSTALL Thermometer, Mercury, Wet Bulb (Type Unknown S/N - Unknown) Surface Observations
31/MAY/1995	REMOVE Thermometer, Mercury, Wet Bulb (Type Unknown S/N - Unknown) Surface Observations
	Electronic History)
1	Electronic History)
Total Column	Ozone Amount (No Electronic History)
Pressure	
	INSTALL Barometer (Type Kew pattern mercury S/N - 1889) Surface Observations
	INSTALL Barometer (Type Vaisala DPA25 S/N - 386782) Surface Observations
	REMOVE Barometer (Type Kew pattern mercury S/N - 1889) Surface Observations
	REPLACE Barometer (Now Vaisala PA11A S/N - S0630014) Surface Observations
	REPLACE Barometer (Now Vaisala PA11A S/N - T1330008) Surface Observations
17/JAN/2012	REPLACE Barometer (Now Vaisala PTB330B (General Use) S/N - G2970032) Surface Observations
Humidity	
	INSTALL Humidity Probe (Type Vaisala HMP45D S/N - D3040011) Surface Observations
	INSTALL Hygrograph (Type Fielden S/N - Unknown) Surface Observations
	INSTALL Hygrograph (Type Hair Hygrograph S/N - Unknown) Surface Observations
	REMOVE Hygrograph (Type Fielden S/N - Unknown) Surface Observations
	REMOVE Hygrograph (Type Hair Hygrograph S/N - Unknown) Surface Observations
Sunshine Hou	
	INSTALL Sunshine Recorder (Type Campbell-Stokes S/N - Unknown) Surface Observations
	REMOVE Sunshine Recorder (Type Campbell-Stokes S/N - Unknown) Surface Observations
	d (No Electronic History)
	(No Electronic History)
Wind Speed	
01/JAN/1859	INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations
01/APR/1990	INSTALL Anemometer (Type Dines S/N - Unknown) Surface Observations
01/JAN/1955	INSTALL Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
30/APR/1992	REMOVE Anemometer (Type Dines S/N - Unknown) Surface Observations
30/APR/1990	REMOVE Wind Run Anemometer (Type Unknown S/N - Unknown) Surface Observations
Rainfall	
01/JAN/1913	INSTALL Pluviograph (Type Dines syphoning S/N - 208) Rainfall Intensity
17/JUN/1996	REMOVE Pluviograph (Type Dines syphoning S/N - 208) Rainfall Intensity
01/JUL/1858	INSTALL Raingauge (Type 203 mm (8in) - 200mm capacity S/N - Unknown) Surface Observations
17/JUN/1996	INSTALL Raingauge (Type HS TB3A-0.2 S/N - 95-099) Flood Warning



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Station Equipment History (continued)

Equipment Install/Remove(Continued)

17/JUN/1996 INSTALL Raingauge (Type HS TB3A-0.2 S/N - 95-099) Rainfall Intensity

21/OCT/2015 INSTALL Raingauge (Type HS TB3B-0.2 S/N - 99/83) Rainfall Intensity

19/OCT/2015 INSTALL Raingauge (Type HS TB3B-0.2 S/N - 99/83) Surface Observations

08/AUG/1990 INSTALL Raingauge (Type Rimco TBRG (type unspecified) S/N - 162675) Surface Observations

08/AUG/1990 REMOVE Raingauge (Type 203 mm (8in) - 200mm capacity S/N - Unknown) Surface Observations

21/AUG/2015 REMOVE Raingauge (Type HS TB3B-0.2 S/N - 99/83) Flood Warning

25/SEP/2008 REMOVE Raingauge (Type HS TB3B-0.2 S/N - 99/83) Rainfall Intensity

06/JUN/2017 REMOVE Raingauge (Type HS TB3B-0.2 S/N - 99/83) Rainfall Intensity

20/OCT/2015 REMOVE Raingauge (Type HS TB3B-0.2 S/N - 99/83) Surface Observations

02/JUN/1999 REPLACE Raingauge (Now HS TB3B-0.2 S/N - 99/83) Flood Warning

02/JUN/1999 REPLACE Raingauge (Now HS TB3B-0.2 S/N - 99/83) Rainfall Intensity

13/JUL/2007 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 84606) Rainfall Intensity

13/JUL/2007 REPLACE Raingauge (Now Rimco 7499 TBRG S/N - 84606) Surface Observations

25/SEP/2008 SHARE Raingauge (Type Rimco TBRG (type unspecified) S/N - 162675) Rainfall Intensity

Soil Temperature 100cm (No Electronic History)

Soil Temperature 10cm (No Electronic History)

Solar Radiation (Long Wave) (No Electronic History)

RF Reflectivity (No Electronic History)

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
28/MAY/1998 - 06/JUN/2017	Air Temperature	0
28/MAY/1998 - 22/NOV/2012	Wet Bulb Temperature	0
28/MAY/1998 - 06/JUN/2017	Pressure	2
22/NOV/2012 - 06/JUN/2017	Humidity	0
28/MAY/1998 - 13/OCT/2017	Rainfall	17

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)

01/APR/1990 CLASSIFICATION Fielden (FFD)

01/JUL/2017 CLASSIFICATION Observing Operations Hub - Sydney (OOH-S)

21/MAR/2016 CLASSIFICATION Processed by ASOS (PBA)

01/JUL/1998 CLASSIFICATION Regional Forecasting Centres (RFC)

01/JUL/1998 CLASSIFICATION Surface Observations only (SO)

27/MAY/2008 OBJECT Document/066062080527perfchks

07/JUN/2011 OBJECT Document/AWS SITE AUDIT

19/JAN/2007 OBJECT Document/SKYLINE DATA



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Station Equipment History (continued)

G	- TO 4	
Statio	n Deta	nil Changes(Continued)
06/JAN	1/2011	OBJECT Document/SKYLINE DATA
08/JAN	1/2016	OBJECT Document/SKYLINE DATA
01/JAN	1/1858	STATION - (nondb seeding) Opened
01/JAN	1/1858	STATION - (nondb seeding) bar_ht Changed to 40.2
01/JAN	1/1858	STATION - (nondb seeding) bar_ht_deriv Changed to SURVEY
01/JAN	1/1858	STATION - (nondb seeding) stn_ht Changed to 39
01/JAN	1/1858	STATION - (nondb seeding) stn_ht_deriv Changed to SURVEY
01/JAN	1/1858	STATION - (nondb seeding) wmo_num Changed to 94768
01/JAN	1/1858	STATION aviation_id Changed to OBSH
01/JAN	1/1858	STATION latitude Changed to -33.86074Seeded from NonDb
01/JAN	1/1858	STATION latlon_deriv Changed to GPS
08/JAN	1/2016	STATION latlon_error Changed to 3
01/JAN	1/1858	STATION latlon_error Changed to 5
01/JAN	1/1858	STATION longitude Changed to 151.20504Seeded from NonDb
28/MA	Y/1998	STATION lu_0_100m Changed to City area, buildings > 10 metres (3 storey)
28/MA	Y/1998	STATION lu_100m_1km Changed to City area, buildings > 10 metres (3 storey)
28/MA	Y/1998	STATION lu_1km_10km Changed to City area, buildings > 10 metres (3 storey)
01/JAN	1/1858	STATION name Changed to SYDNEY (OBSERVATORY HILL)
28/MA	Y/1998	STATION soil_type Changed to black soil
28/MA	Y/1998	STATION surface_type Changed to fully covered by grass

System Changes

21/AUG/2015 SYSTEM Flood Warning Ceased
17/JUN/1996 SYSTEM Flood Warning Commenced
19/JAN/2007 SYSTEM Infrastructure Ceased
22/JUL/1997 SYSTEM Infrastructure Commenced
22/JUL/1997 SYSTEM Infrastructure Commenced
01/JAN/1913 SYSTEM Rainfall Intensity Commenced
01/JUL/1858 SYSTEM Surface Observations Commenced



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.



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).



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)



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 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 1:2500, 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
- clav
- 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