

Southern Ocean Clouds, Radiation, Aerosol Transport Experimental Study (SOCRATES) High Resolution Antarctica BUFR Format Radiosonde Data Set

1.0 Contacts:

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Original Data Source:

Bureau of Meteorology via the Global Telecommunications System

2.0 Dataset Overview

The Australian Bureau of Meteorology (BoM) routinely releases radiosondes at three stations on continental Antarctica; Casey, Davis, and Mawson (Figure 1). Casey and Davis typically release radiosondes at both 00 and 12 UTC and Mawson just at 12 UTC. This data set includes the real time high vertical resolution (2 second) BoM Antarctica soundings released from these three sites (Figure 1) during the SOCRATES field phase (1 January to 28 February 2018).

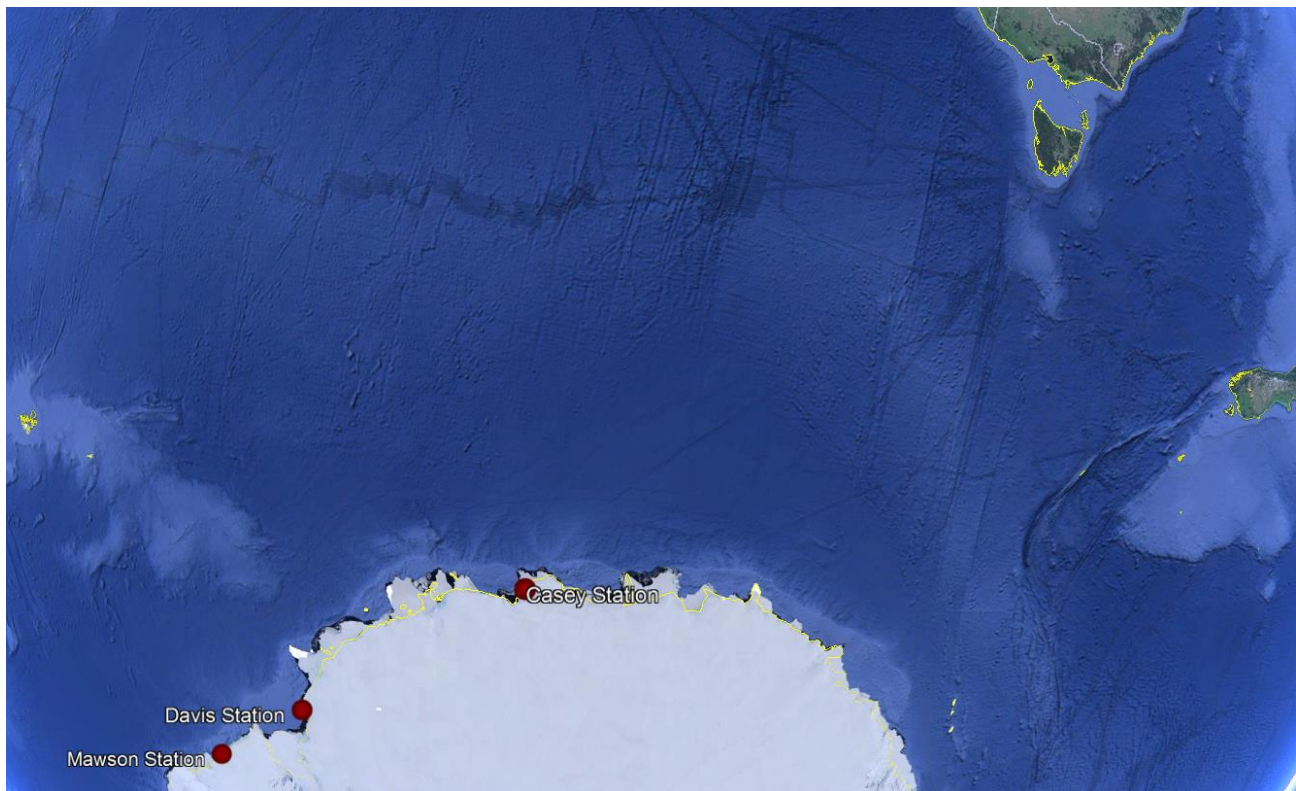


Figure 1. Location of Australian BoM Antarctica radiosonde sites.

3.0 Project Overview

The **Southern Ocean Clouds, Radiation, Aerosol Transport Experimental Study (SOCRATES)** project was conducted over the Southern Ocean to improve our understanding of clouds, aerosols, air-sea exchanges, and their interactions over the Southern Ocean. Further information on SOCRATES is available at the SOCRATES web site at NCAR/EOL: https://www.eol.ucar.edu/field_projects/socrates and information on the SOCRATES deployments is available at the SOCRATES Field Catalog: <http://catalog.eol.ucar.edu/socrates/tools/missions>.

4.0 Data Format and Remarks

These data are in the Binary Universal Form for the Representation of meteorological data (**BUFR**) format. Software such as the ECMWF ecCodes (<https://software.ecmwf.int/wiki/display/ECC/ecCodes+Home>) or NCEP BUFRLIB (<http://www.nco.ncep.noaa.gov/sib/decoders/BUFRLIB/>) can manipulate these data.

The files contain data at two-second intervals.

All three stations utilized the Vaisala RS92 radiosondes and Digicora III ground system.

The file naming convention is:

YYYYMMDDHHmm.site_cc_sounding.bufr

Where YYYYMMDDHHmm is the UTC date and time; site is the station name; cc is the country code.

4.1 Station List

Site ID	WMO ID	Site Name	Country	Latitude	Longitude	Elev (m)
	89564	Mawson	AQ	-67.6017	62.8737	9.9
	89611	Casey	AQ	-66.2827	110.523	40
	89571	Davis	AQ	-68.5752	77.9659	18

5.0 Data Quality Control Procedures

These soundings have had the solar and infrared radiation corrections applied automatically by radiosonde system.

These data are as they were retrieved from the real time Global Telecommunications System. No additional quality control has been performed by NCAR/EOL.