



Australian Government
Bureau of Meteorology

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SPECIAL CLIMATE STATEMENT 36

Unseasonal cold in southeast Australia

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Overview

On 11 January 2012, and into the morning of the 12th, southeast Australia experienced very cold temperatures for January, with areas of northeast Victoria and eastern NSW breaking low minimum and maximum temperature records that have stood for several decades.

The unseasonal cold was due to a low pressure system and associated strong cold front which crossed the south-eastern states (Victoria, Tasmania and NSW) and Bass Strait on the morning of 11 January. Behind the cold front strong, cold southwesterly winds from the Southern Ocean were directed over southeast Australia. These cool gusty conditions combined with a significant cold pool of air, contributed to record low January maximum temperatures in the Alpine areas of Victoria and New South Wales (see Table 1) as well as some record low minimum temperatures at lower elevations (see Table 2). At some sites these records extend back more than 50 years. The timing of the front and coldest air was ideal for record low temperatures. In New South Wales the cold air penetrated as far north as the Central Tablelands and Central West Slopes and Plains, which is unusual for this time of the year. Whilst not record breaking, Sydney's minimum temperature of 13.9 °C was its lowest January temperature since 1997.

Of particular significance is the record low January maximum temperature of 0.6 °C at Mount Hotham, which sets a new lowest January maximum temperature record for Australia, breaking the previous of 1.9 °C at Thredbo and Mount Hotham on 11 January 1983 and 9 January 1994 respectively. Mount Buller also broke the previous Australian record with its maximum of only 0.9 °C, as did Mount Baw Baw with 1.0 °C.

The event produced snow showers in alpine areas, though the amount of snow that fell was modest owing to rather dry air away from the immediate coast, with only light settling above (about) 1400 metres. Snow in summer is fairly common in alpine southeast Australia, falling in most years.

Daytime temperatures were well below average at lower elevations, but not generally cold enough to set records owing to the cloud cover and rainfall that the front and low produced. Overall, daytime temperatures over the Victoria and southern New South Wales were at least 6 °C below average and more than 12 °C below average in some highland areas (see Figure 1).

Record lowest January maximum (daytime) temperature					
Station	Location	State	Years of record	Maximum temperature on 11 January 2012 (°C)	Previous lowest maximum for January (°C)
70310	Tidbinbilla	ACT	27	13.0	14.5 on the 8th in 1990
71032	Thredbo Top Station	NSW	32	1.3	1.9 on the 11th in 1983
83024	Mount Buller	VIC	25	0.9	3.0 on the 8th in 1994
83085	Mount Hotham	VIC	21	0.6	1.9 on the 9th in 1994

Table 1: Record lowest January daily maximum temperatures recorded on 11 January 2012 at stations with more than 20 years of record. The values at the three alpine sites are all below the previous record low maximum recorded in Australia during January.

Record lowest January temperature					
Station	Location	State	Years of record	Minimum temperature on 12 January 2012 (°C)	Previous lowest temperature for January (°C)
49019	Ivanhoe Post Office	NSW	49	8.0	8.2 on the 17th in 1985
51049	Trangie Research Station	NSW	44	6.2	8.0 on the 3rd in 1977
61089	Scone SCS	NSW	48	8.2	8.2 on the 29th in 1979
61363	Scone Airport	NSW	21	6.4	7.6 on the 14th in 1997
62100	Nullo Mountain	NSW	21	4.4	5.5 on the 13th in 2002
63039	Katoomba	NSW	49	4.2	4.6 on the 18th in 1975
63063	Oberon	NSW	28	-0.5	1.1 on the 8th in 1965
63291	Bathurst Airport	NSW	21	2.6	4.4 on the 4th in 2002
63292	Mount Boyce	NSW	21	4.5	5.7 on the 12th in 1997
65026	Parkes (Macarthur Street)	NSW	55	6.8	8.7 on the 2nd in 1970
65070/ 65012	Dubbo Airport	NSW	92	5.8	6.1 on the 28th in 1924 (at station 65012)
67105/ 67033	Richmond	NSW	76	8.6	8.9 on the 8th in 1997 and the 4th in 1930 (at station 67033)
70080	Taralga	NSW	51	1.1	1.7 on the 19th in 1966
70263	Goulburn TAFE	NSW	35	3.8	4.2 on the 23rd in 1987
70330	Goulburn Airport	NSW	21	-0.1	1.4 on the 4th in 2002
70351/ 70014	Canberra Airport	ACT	71	1.6	1.8 on the 1st in 1956 (at station 70014)
72161/ 72091	Cabramurra	NSW	51	-0.7	-0.5 On the 18th in 2010 and the 13th in 1983 (at station 72091)
73007	Burrinjuck Dam	NSW	46	5.9	6.9 on the 2nd in 1972

Table 2: Record lowest January daily temperatures recorded on 12 January 2012 at stations with more than 20 years of record.

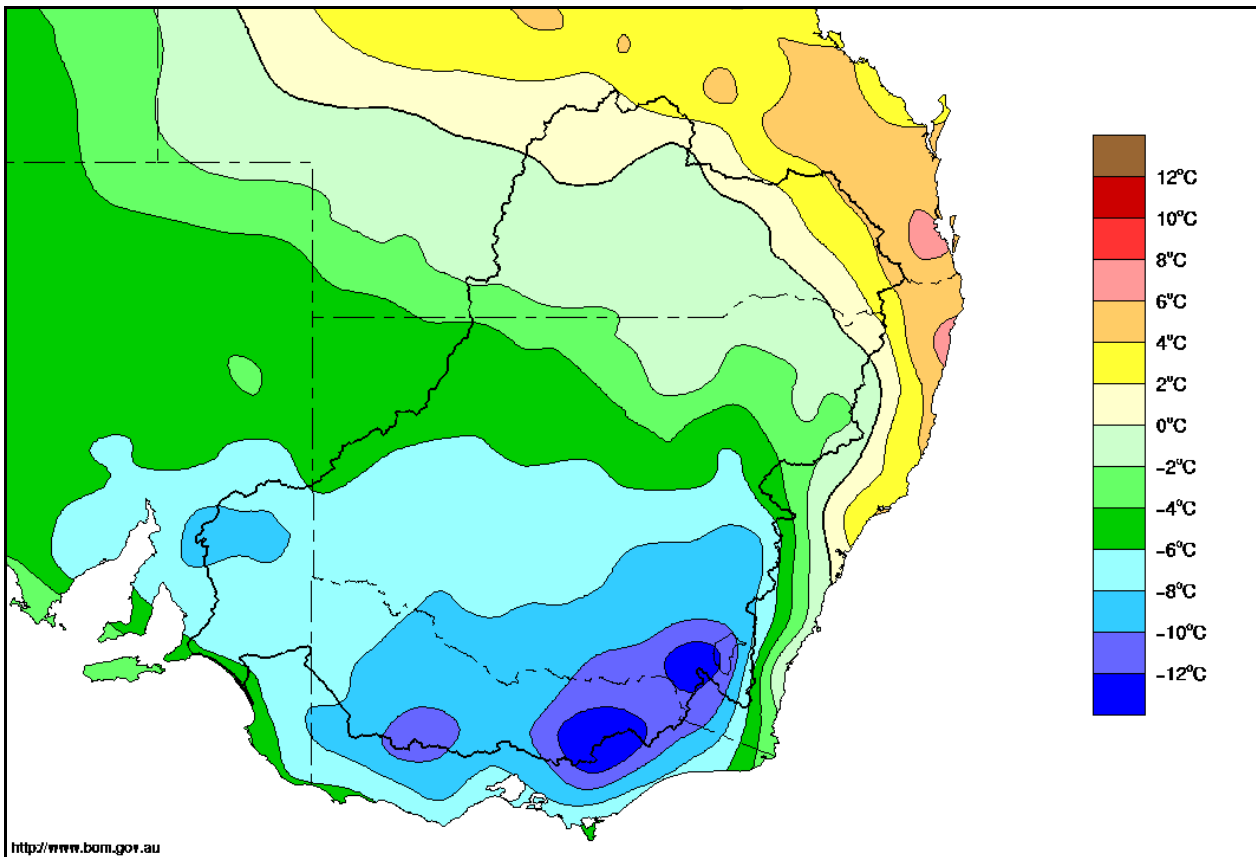


Figure 1: Maximum temperature anomalies for 11 January 2012 (difference between maximum temperature on 11 January 2012 and 1961-90 January average). In the blue shaded areas temperatures were significantly colder than normal.

Contacts for further information

The following climatologist may be contact for further information about this event:

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General notes

This statement is based on information as of 13 January 2012. This is preliminary data, and may change as further observations are obtained and quality assurance is undertaken.

Maximum and minimum temperatures prior to 1910 have not been considered for inclusion unless they are known to have been measured in a standard Stevenson screen or similar.