

South-eastern Australia's 2014 heat wave in perspective

"Anything under 110 [43.3C] is now beginning to be looked at as contemptibly cool." – 1896

In January 2014 parts of south-eastern Australia experienced a severe heat wave. For several locations the heat wave started around January 11 and lasted about a week then with just a few days pause returned and extended into the first week of February. Temperatures in Melbourne exceeded 40C (104F) on four successive days during the first period and temperatures were lower during the second period. In contrast Bourke, in northern New South Wales, experienced 21 successive days above 35C (96F) and seven successive days above 40C (104F) in the second period.

As hot as these conditions were they were still lower than during January 1896 when a hot spell gripped New South Wales.

Newspaper records contain reports of the period. In my case I consulted the Victorian State Library's microfilmed records of Melbourne's Age newspaper. (Ironically, these days The Age seems to support those who predict dangerously rising future temperatures, driven by greenhouse gas emissions.)

Australia switched to metric in 1975 so the earlier newspaper reports give temperatures in Fahrenheit, to which I've added the Celsius equivalents in square brackets.

January 15: Some maximum temperatures in the shade, around the state of New South Wales were Cowra 109 [42.8], Coonabarabran 110 [43.3], Bourke 118 [47.8], Bingara 109 [42.8], Cobar 110 [43.3], and Brewarrina 119 [48.3]

January 17: *"At Condobolin the readings of the glass for the last 12 days have ranged from 105 [40.6] to 117 [47.2]. During the whole period, night or day, the glass never fell below 91 [32.8]. Today the reading stood at 110 [43.3]."*

January 18: Headlines "Terrific Heat in New South Wales" and "Death Toll increasing". Several deaths due to "heat apoplexy" were reported. Some of the listed maximum temperatures were Bourke 120 [48.9], Forbes 110 [43.3], Condobolin 118 [47.8] and Brewarrina 120 [48.9]

January 19: *"Brewarrina on Sunday sweltered in a shade temperature of 122.5 [50.3] and today was 115 [46.1]."*

And later ... *"At Bourke there has been no relief from the fearful heat. On Sunday the glass registered 119 [48.3] and today 114 [45.6]."*

January 21: *"To a deputation today, which included 10 members of parliament, the Railway Commissioners promised to provide trains at cheap excursion rates from the western districts at present afflicted with excessive heat to cooler mountain regions."*

January 22: Some of maximum temperature around the state were Willcania 123 [50.6], Warren 110 [43.3], Bourke 119 [48.3], Tocumwal 115 [46.1], Albury 111 [43.9], Forbes 111 [43.9], Gundagai 112 [44.4]

The report also noted that for the previous fortnight, the average maximum in Albury was 102 [38.9]. The range of maximum temperatures over the previous week for Deniliquin was 108 [42.2] to 112 [44.4] in the shade. For Wilcannia this was the fourth week of intense heat, with the previous day's maximum 117 [47.2] and that day's 125 [51.7].

January 25: *"Anything under 110 [43.3] is now beginning to be looked at as contemptibly cool." And later "The amount of sickness due to the heat, but not proving actually fatal, is simply incalculable."*

Almost all of the reports since January 15 had detailed a number of deaths due to the heat.

January 29: *"Reports from White Cliffs state that last week as high as 125 [51.7] in the shade was registered in the daytime and on one occasion 110 [43.3] in the middle of the night."*

And later ... *"The Colonial Secretary today promised that in the event of another heat wave affecting the west of the colony [of New South Wales] he will have free railway passes to the coast issued to the indigent persons in the suffering districts."*

Bear in mind also that this was a time of no electricity, which meant no air-conditioning, no fans, basic refrigeration and horses provided transportation. The opportunities for even temporary relief from the heat were severely limited.

The likely cause can also be deduced from accompanying reports in the newspaper, especially late in the period, when the Queensland drought broke. On January 27th we find *"Clare [near Ayr], on the Lower Burdekin River, reports that a south-east gale has been blowing since yesterday and that 15 inches [300mm] of rain have fallen. Bowen reported 7 1/2 inches [188mm] of rain yesterday and Cairns 6 3/4 [170mm]."*

This looks like the arrival of the monsoon rains was very late. The reports are from late January and the Queensland drought had just broken. Before the drought broke Queensland had warmed in the summer sun then northerly winds dragged that hot dry air down onto New South Wales, the dry air absorbing very little of the sun's heat. Those northerly winds were very likely due to a strong High off the coast of NSW, with its anticlockwise winds taking not just the heat south but also, eventually, moist air onto northern Queensland and causing all the rain.

As you might guess, these conditions were very similar to those of the heat wave of January 2014.

In several cases the heat wave started about January 11 and continued to about January 19, then there was only a brief respite before the heat returned around January 26 for another heat wave that ran into February. The table below shows how some locations fared in the heat waves, the first and second two of hot weather being identified in the table by (1) and (2).

Location	Longest spell Max temp >35	consecutive days >40	Maximum max temp	Maximum min temp
Bourke (2)	21 days	7 days	44.9	30.0
Wilcannia (2)	20 days	9 days	45.1	26.9
Deniliquin (2)	8 days	7 days	44.3	25.9
Albury (1)	9 days	5 days	43.6	23.0
Broken Hill (1)	9 days	6 days	43.6	29.7
Mildura (Vic) (1)	10 days	5 days	45.2	25.5
Melbourne (Vic)(1)	4 days	4 days	43.9	28.6

Compare these to the temperatures for the 1896 heat wave shown above and to my mind the heat wave of 1896 still has the dubious honour of being the hottest period.

If only Australia's climate alarmists would reflect on this before spouting their tales of doom and gloom.
