



0900	1008.6	15.3	12.7	02.6	10.4	3	13	35	7	6	SL	5	35
1200	1009.5	19.2	14.0	05.0	09.4	3	14	35	3	2	CU	1	38
1500	1008.2	22.0	13.0	09.0	03.2	3	15	40	1	1	CU	1	45
1800	Extract from A8 Form, Mildura, 28th February 2013												
2100													
REMARKS													
MUSLIN	(See Note 1) — — 15-18 19-21 Max 31.9 32.3 15.3 22.9 mercury probe												
Note 1 - Also enter this reading in Col 15-18 on previous page. Note 2 - Enter in this column the Maximum Thermometer reading taken before touching 0900 tomorrow. Note 3 - Expose as late as possible before sunset. Read after exposure.													
REMOTE SENSORS <i>Therm</i>													
	Local Time	DB	WBD										
	0900	15.4	13.0										
	1500	22.0	13.1										
CORRECTIONS													
	For Station Level	SL (hPa)											
	For MSL												
	Mean Sea Level (hPa)												
CODED SYNOPTIC REPORT													
STATION NAME	AAXX	Y	Y	G	G	iw	I	I	i	i	i	i	i
	AAXX												
	AAXX												

Hyping Maximum Daily Temperatures (Part 2)

**Publish Date:**

January 2023

Available Australian Bureau of Meteorology parallel maximum temperature data for Mildura – temperatures recorded from both a mercury thermometer and a platinum resistant probe on the same day in the same shelter – show no equivalence. They are different. Therefore, it is impossible to reliably compare official temperatures recorded from probes with historical temperatures recorded with mercury thermometers for the town of Mildura on the banks of the Murray River.

This has implications for claims of new record hot days for Mildura. If the issue of non-equivalence extends to all 700 automatic weather stations spread across the landmass of Australia, it was implications for the calculation of the global average temperature by NASA that relies on Bureau data. Indeed, if the instrument change has created a non-equivalence in the record, then no reliability can be placed on any claims by the Bureau and/or other scientists and institutions using Australian data, of record hot days, fewer extreme cold days or a claimed accelerated global warming trend.



I can't know, because I was only able to secure the data for Mildura and this was following the intervention of then Minister for the Environment Josh Frydenberg back in October 2017. The intervention occurred after then popular 2GB radio broadcaster Alan Jones wrote to the Minister on my behalf asking that this data be made available to me.

It [all began for me when on 23 September 2017](#), the Bureau reported a record hottest September day for the state of Victoria based on an instantaneous reading of 37.7 °C from its uncalibrated purpose-built temperature probe in a weather station at Mildura.

The media then repeated that this was the hottest September day ever recorded back to 1889.

Back in 1889, indeed for the period up until 1 November 1996, the Bureau used a properly calibrated mercury thermometer to measure official temperatures at Mildura.

I was sceptical of the *instantaneous* reading from the probe as representing a new record hot day. I set about getting access to the parallel data for Mildura that I hoped would allow me to see what the mercury thermometer in the same Stevenson screen had recorded on that day.

A Freedom of Information request, lodged by my husband John Abbot in December 2019, for parallel data for the other 34 official weather stations purported recording temperatures from mercury thermometers and probes in the same shelters has so far been denied by the Bureau.

Boris Kelly-Gerreyn from the Bureau initially claimed provision of the scanned A8 forms too onerous and of *no* public interest. More recently, and as preposterously, Boris Kelly-Gerreyn has claimed the information does *not* exist in the form of reports and therefore cannot be provided. On 29th November 2021, Elizabeth Hampton, Acting Freedom of Information Commissioner, absurdly sided with the Bureau. John Abbot lodged a complaint with the Administrative Appeals Tribunal that will be heard on 3rd February in Brisbane.

I received scans of the A8 Forms from Mildura at the direction of Minister Frydenberg as two tranches in October and then December 2017.

My immediate and initial analysis of the first tranche indicated that the probe was recording too cool relative to the mercury. I [wrote to the Minister](#) asking for more A8Forms and recommending that the Bureau:

1. Suspend the announcement of new record hot days;
2. Inform the World Meteorological Organisation that its temperature measurements from probes are *not* comparable with historical measurements from mercury thermometers;
3. Establish an audit mechanism.

I was ignored by the Minister. Australian science writer and blogger [Joanne Nova did publish](#) something at her blog. It was most disheartening when Bill Johnston in the same thread set about discrediting my findings.

After receiving the second tranche, and tediously manually transcribing more mercury and probe



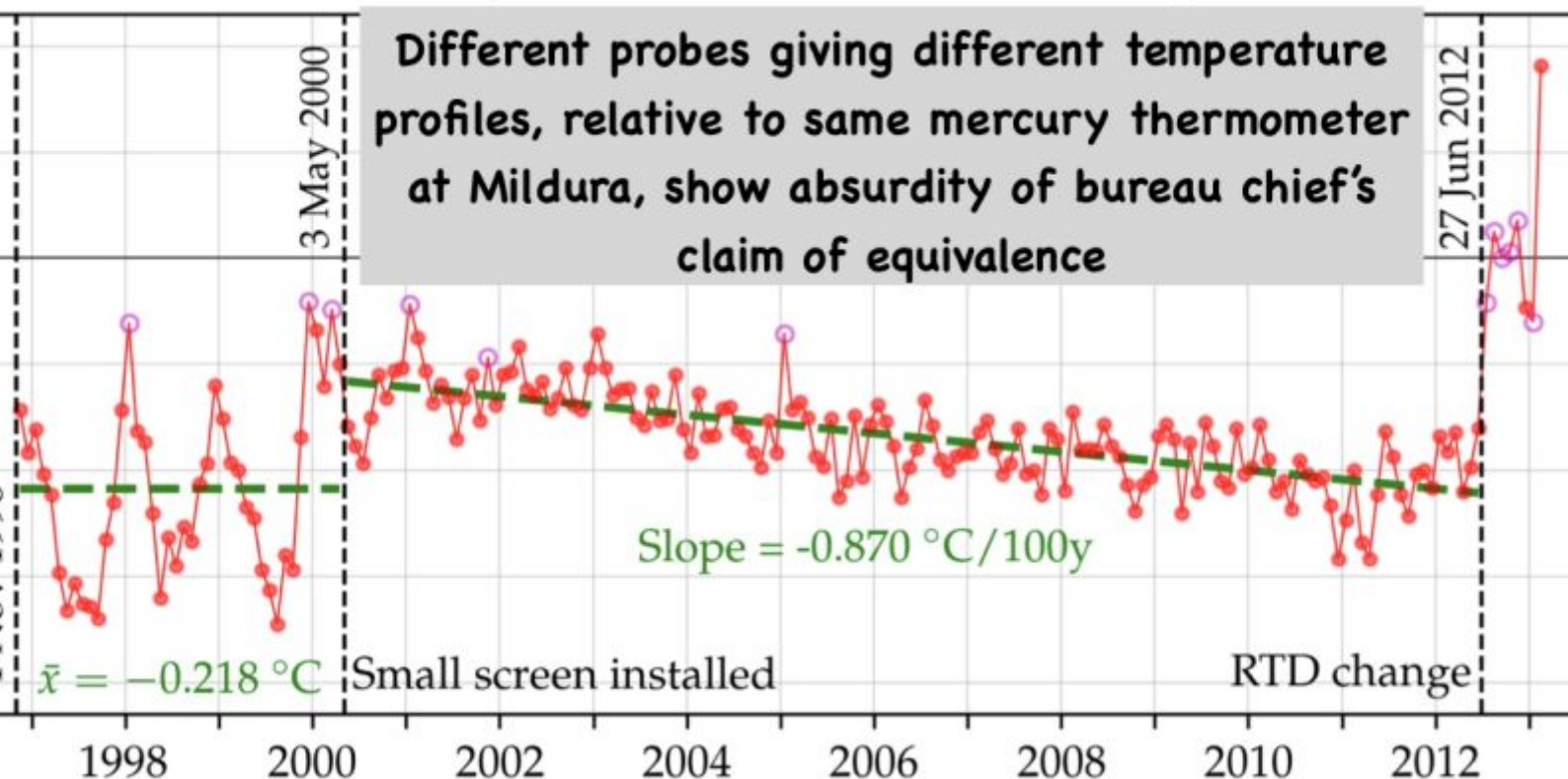
values from the scanned A8 Forms from Mildura, my second go at analysis again confirmed that the first probe – recording official temperatures from 1 November 1996 until 3 May 2000 – erroneously recorded temperatures too cool by 0.2 °C, and with a strong seasonal variation. The difference is statistically significant.

On 3 May 2000, the Bureau changed the Stevenson screen to a smaller design, and while there is no record of a change in the type of probe, this almost certainly also occurred based on the very different recording pattern relative to the mercury that I found through analysis of the data after transcribing the values from the scanned A8 Forms.

Initially the temperatures as recorded at Mildura, from what I am assuming was a new second probe in the new shelter, were more consistent with the measurements from the mercury thermometer. But then I could see from the data that the temperatures from the probe started to cool relative to the mercury thermometer for the period to 27 June 2012. Cooling was at a rate of nearly 1°C per 100 years.

Then on 27 June 2012 the probe which had now been recording the official temperature at Mildura for 12 years while drifting to record ever cooler, was changed.

The limited available parallel data indicates that this third probe records too hot relative to the same mercury thermometer – often by 0.4 °C.



The changing pattern in the difference between recordings from the mercury versus probe for maximum daily temperatures shown as monthly averages.



After the 27 June 2012, the Bureau stopped recording parallel data every day, particularly on hotter days. To be clear, on the hottest days from the period 27 June 2012 through until 31 January 2015 there are no recordings from the mercury thermometer and so this data is not normally distributed. I explained all of this in a blog [post on 11 February 2018](#), that again received surprising little attention.

I notified mainstream climate scientists and various journalists but they didn't seem to want to understand what it all meant. I had been concerned about the issue since 2014, when [I wrote to Australia's Chief Scientist, Alan Finkel](#). Now I felt I had some more and compelling proof. I was concerned that the entire historical temperature record for Australia was becoming compromised, and I lost interest in my weather forecasting using machine learning so dependent on reliable temperature data.

Meanwhile, these same university professors who showed *no* interest in any of the quality assurance issues associated with the change in instrumentation that I was alerting them to by email, claimed that it had suddenly got a lot hotter here in Australia.

Sophie C. Lewis and Andrew D. King, for example, publishing in *Geophysical Research Letters* (volume 42, Issue 18) conclude that it has gotten significantly hotter here in Australia since 2012. They attribute the 'dramatically increased rate of observed hot record breaking in recent Australian temperatures' to human-caused global warming.

I wrote to Dr Lewis suggesting the step-up in temperatures could be because of changes in how temperatures are measured, specifically a change over to a third probe design. She never replied.

The World Meteorological Organisation provides a definition of daily maximum temperature: the highest temperature in that 24-hour period that can be read directly from a mercury thermometer, but when using a temperature probe 'instantaneous' values must be averaged over one to ten minutes.

Ignoring all of this, the Australian Bureau of Meteorology uses purpose-built probes and takes instantaneous readings. These are then used uncritically to claim catastrophic human-caused global warming – and record new hot days, including at Mildura.

I predict that this is going to all come crashing down one day, including on the careers of Sophie Lewis, Andrew King, Boris Kelly-Gerreyn and Elizabeth Hampton.

It could have started to be put right by Josh Frydenberg back in 2017, but he obfuscated. Much thanks to Alan Jones for at least trying to get something done.

There is still time for the current director of the Bureau, Andrew Johnston, to help me work out the extent of the problem by making all the parallel data public. But so far, he won't even meet with me; all-the-while emailing that the bureau's purpose designed probes are equivalent to the old mercury thermometers making numerical averaging unnecessary. Except the limited data that I have obtained, transcribed and analysed for Mildura tells a completely different story. A story of



incompetence, as much as malfeasance.

The feature image, at the top of this blog post, shows two values

Image not found or type unknown

The feature image, at the top of this blog post, shows two values on the A8Form, 31.C recorded by the mercury and 32.3C recorded by the probe. It is the higher instantaneous value of 32.3C recorded by the uncalibrated purpose-designed probe that has been recorded in the official database that will be incorporated into IPCC reports.

**Original Link:**

<https://jennifermarohasy.com/2023/01/hyping-maximum-daily-temperatures-part-2/>

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