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The Hon. Bob Baldwin MP

Parliamentary Secretary for the Minister to Environment

PO Box 6022

House of Representatives

Parliament House

CANBERRA ACT 2600

Dear Mr. Baldwin

Re: Lack of Transparency Associated with Change in Mix of Weather Stations used to calculate the National Average /Actual Temperature

When the Bureau of Meteorology transitioned to the new ACORN-SAT system for calculating the national average / actual temperature it removed 57 stations from its calculations, replacing them with 36 on-average hotter stations. I calculate that this has had the effect of increasing the recorded Australian average temperature by 0.42 degree Celsius, independently of any actual real change in temperature, Attachment 1. Of the 57 stations removed from the calculation of the national average temperature, only 3 of these have actually closed as weather stations.

My first question to the Bureau, perhaps through your newly formed panel established to audit ACORN-SAT, is thus:

- 1. Why was the mix of stations changed with the transition to ACORN-SAT, and why was this not explained and declared, particularly given that it has resulted in a large increase in the 2013 annual temperature for Australia . I calculate .56 degree Celsius.**

I have calculated the net change in actual temperatures in 2013 for each of Australian state and territory, including the area weighting used by the Bureau, Attachment 2. The most significant changes occurred in the mix of stations used to calculate the annual temperature for South Australia. The addition of four new sites and the deletion of 3 resulted in a net gain of 3.9 degree Celsius. This is because the stations added are so much hotter than those dropped. For example, Oodnadatta in South Australia now holds the record for the hottest recorded temperature in Australia. Oodnadatta was not part of the original national network of stations used to calculate the national average/ actual but was added with the transition to ACORN-SAT in 2011/12.

My second question to the Bureau:

- 2. What criteria is used to determine whether or not a station becomes part of the national network, and specifically, why was Oodnadatta added to the national network in 2011/12?**

It might be assumed that given the mix of stations has changed dramatically in the last few years that the earlier annual/ average temperatures for Australia would also be recalculated. I have attempted to establish whether or not this is the case through the calculation of temperature anomalies for the periods designated by the Bureau, Attachment 3, 4. It would appear that no such recalculation has occurred.

My third question to the Bureau is thus:

- 3. Wouldn't it be misleading to report new annual average temperatures calculated from a new mix of stations, without first recalculating all annual average / actual temperatures based on the new mix of stations?**

I ask these questions as a self-funded retiree and retired Certified Practising Accountant. The questions are the result of a self-funded audit of ACORN-SAT. What I have documented here is by no means a complete list of apparently errant procedures used by the Bureau in the calculation of the mean annual temperature for Australia, but simply one of many so far not raised in any of the public discussions so far facilitated by *The Australian* newspaper.

Yours Sincerely

Merrick Thomson

Self-funded retiree, CPA retired.

Attached:

1. Comparison state by state of the ACORN-SAT and HQAATD sites for average temperatures. (5 pages)
2. Comparison state by state of 2013 actual recorded temperature
3. Average and anomaly check state by state.
4. Calculation of Australian mean temperature anomaly from 1998.