



Hon Secretary, Terry Dunleavy MBE, 14A Bayview Road, Hauraki, North Shore City 0622  
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5 August 2011

Mr Chris Mace  
Chairman  
National Institute of Water & Atmospheric Research Ltd  
Private Bag 99940  
AUCKLAND 1149

Dear Mr Mace

Our Coalition exchanged correspondence with you during March-June of last year regarding the NZ temperature record (NZTR) and our allegations of unprofessional conduct on the part of Climate Centre staff.

Your board did not accede to our request for an internal investigation, and we subsequently instigated review proceedings in the High Court. Unfortunately, that process has been subject to delays and we now understand it is unlikely to be fully heard until next year.

In the meantime, your climate scientists have undertaken a review of the NZTR. A "Review" document was published on the website last December, along with a brief letter from the Australian Bureau of Meteorology (BoM), but the promised journal article has not yet appeared.

Coalition members, along with independent statisticians and scientists, have undertaken a careful evaluation of the Review. Their findings are summarised in the attached paper, which describes the numerous flaws discovered in both the Review and its accompanying NZT7 graph.

The Coalition's core criticism is that the Review undertakes data adjustments which do not comply with "internationally accepted statistical techniques" – to use NIWA's own phrase. The scientific paper most cited by NIWA as its authority for data adjustments is Rhoades & Salinger (1993) (R&S), and the Coalition accepts the legitimacy of that paper as a template. However, the Review fails to follow R&S either in major principle or in detail.

The major departures from scientific authority are as follows:

- The series includes stations known to be contaminated by UHI or shelter impacts;
- Isolated stations are used for inter-station proxies;
- The statistical techniques used in R&S are ignored;
- Confidence levels of adjustments are not measured and published;

The Coalition has undertaken a detailed audit of the NZT7 adjustments on the basis of R&S techniques, and concludes that the maximum temperature trend during 1909-2009 was 0.34°C. After excluding contaminated stations, it effectively reduces to zero.

Our audit aligns with expectations that random adjustments should balance out, and is consistent with numerous other records.

This result strongly suggests that the 0.92°C trend achieved by NIWA was driven by bias and the desire to vindicate the previous adjustments, which date back to 1981. The suspicion of bias is supported by NIWA's continued reliance upon the disgraceful 11SS, which is also analysed in the attached paper.

The NZTR plays a key role in climate change policy, particularly in regional planning decisions on such matters as future coastal protection and stormwater requirements. These decisions involve outlays of hundreds of millions of dollars, and heavily impact the entire economy.

As we understand it, NIWA board members are responsible for the ethics, culture and professionalism of the company, and have a duty of care to the many 'customers' who are reliant upon NIWA's climate advice. No doubt they have a similar duty to shareholders.

We ask that the board appoint a sub-committee, or an independent investigator, to check and report upon the specific criticisms set out in our paper. The Coalition will be happy to co-operate with such an internal inquiry in any reasonable way.

Yours truly

A handwritten signature in black ink, reading "Terry Dunleavy". The signature is written in a cursive, flowing style with a large initial 'T'.

Terry Dunleavy MBE, JP  
Secretary