



Australian Government
Bureau of Meteorology

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**Peer Review of the NIWA "Seven-station" series: Temperature Data for Auckland,
Wellington, Dunedin, Nelson, Masterton and Lincoln ("Christchurch")**

Dear David,

This Bureau of Meteorology peer review of the National Institute of Water & Atmospheric Research Ltd (NIWA) "seven station" series is a scientific review of the station reports for the Auckland, Wellington, Dunedin, Nelson, Lincoln ('Christchurch') and Masterton sites as provided by NIWA to the Australian Bureau of Meteorology. In this context 'scientific review' means a critical inspection/examination of the station reports taking into account the range of supporting evidence provided. The ideas, methods and conclusions of the papers are assessed for scientific error, internal consistency, clarity and scientific logic.

The data and methodology provided in the reports from NIWA are taken as an accurate representation of the actual analyses undertaken. We are not in a position to question all of the underlying analyses and data that have contributed to the final results, such as methods used to compile raw data taken at stations. We do, however, perform some independent analyses as appropriate to the aims of the review as outlined above.

The review does not constitute a reanalysis of the New Zealand 'seven station' temperature record. Such a reanalysis would be required to independently determine the sensitivity of, for example, New Zealand temperature trends to the choice of the underlying network, or the analysis methodology. Such a task would require full access to the raw and modified temperature data and metadata, and would be a major scientific undertaking. As such, the review will constrain itself to comment on the appropriateness of the methods used to undertake the 'seven station' temperature analysis, in accordance with the level of the information supplied.

In general, the evidence provided by NIWA supports the homogeneity corrections that have been applied to the temperature record to create the 'seven station' series. The scientific papers clearly report on major issues which have been identified in the metadata and past scientific literature. It is also clear that a number of significant adjustments (as identified by NIWA in the reports) are clearly required for the raw/composite station series owing to inhomogeneities which would otherwise artificially bias results.

Yours sincerely,

Neil Plummer
Acting Assistant Director (Climate Information Services)
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