

Interactive comment on “The “Dirty Weather” diaries of Reverend Richard Davis: insights about early Colonial-era meteorology and climate variability for Northern New Zealand, 1839–1851” **by A. M. Lorrey and P. R. Chappell**

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We are very thankful to have a recently established expert in the field of historical climatology of Australasia review our fledgling work. Overall we are very encouraged by the remarks made, and feel that many of them can help improve the work. The reviewer is correct in retaining a degree of skepticism about the reliability of the measurements that were made by Davis as they were not obtained to what we would consider a modern institutional standard – yet there is still recognition Davis did his very best to obtain these data, they have great value and there is recognition that we have not

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pushed our interpretations too far. Below we address the major comments–

S2.1. Happy to shift this reference forward in this section.

S3.2 This is an issue picked up on by one of the anonymous referees, and we are currently in discussion with Rob Allan, Phil Brohan and Clive Wilkinson about calibration and recalibration issues related to ship barometers. In a comment to another reviewer, we note that some members of the church mission society were making dual measurements with mercury and aneroid barometers, and that ships would have likely cross checked their measurements when in port against the harbormaster or other ships nearby.

We are happy to discuss the details of the Kaikohe and Waimate North data in more detail here or in the supplement; however the reference to the climate database would probably also help as others could view metadata associated with both sites.

P3807, L4. Another reviewer has also asked for more information about the relationships, which we will present in the supplement.

P3811 S4.2.2. We agree with the reviewer – it would make a lot of sense to undertake that edit.

P3812, L8. Happy to add the reduction reference here, but for this initial investigation where we examine the pressure series in native (raw) format it is accurate to indicate these are station data. We simply reduced the mean to compare it to modern climatology and mentioned that first – we can see how that might be confusing, and would suggest moving that salient detail to the end of the paragraph if that is important for clarity.

S4.3.1. Thanks for this reference, we will look it over and incorporate this in here.

S4.3.2. We examined only 9am temps because it was the easiest thing to do based on available instantaneous 9am daily VCSN temperatures.

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S4.3.3. We are happy to mention this element of potential bias (and examine the references you have provided) for this result, but we temper that admission by recognizing the warm/cool anomalies could actually be real.

S5.3.1. As per the previous comment, we agree with the cautious stance taken by the reviewer here and will do justice to their concern by mentioning the exposure issues again here.

Minor edits: These minor edits can be easily worked through in the editorial process and most seem very straightforward to undertake.

Interactive comment on Clim. Past Discuss., 11, 3799, 2015.