

DISCUSSION OF: A STATISTICAL ANALYSIS OF MULTIPLE TEMPERATURE PROXIES: ARE RECONSTRUCTIONS OF SURFACE TEMPERATURES OVER THE LAST 1000 YEARS RELIABLE?¹

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This article (MW) has stimulated much valuable discussion and helped to focus attention on an important area for the application of statistics. Given the short amount of space, however, we reluctantly comment only on the second and last sections.

Excursions in the history of science. Although Section 2 of this paper is lively reading, we feel that the viewpoint is not balanced and emphasizes statistical correctness over the broader issues of scientific understanding. Recounting a controversy that has both a political dimension and involves scientific issues from several disciplines is perhaps better left to a historian of science. Wegman's quote on page 9 of the article is actually from a later written response to Representative Stupak, not from the original testimony [see Questions surrounding the hockey stick (2006)]. We encourage readers to also read the transcript of the congressional hearings and the contemporaneous report by the National Academies, NRC (2006) to follow this debate.

Paleoclimate reconstructions. The Wegman committee's original report stopped short of redoing the temperature reconstruction with Mann's data and with the correct centering of the principal components. Although this exercise was beyond the report's charge, it is sound statistical practice to evaluate changes in intermediate methodology by their influence on the final statistical inference. The string of references that are cited by MW on page 10 beginning with Mann and Rutherford (2002) established the robustness of the reconstruction with respect to centered versus noncentered methods if several PCs are included. This is a finding that might have been uncovered by the Wegman committee as well. In this context, we applaud MW for carrying through to a reconstruction to assess the impact of methodological choices. We term the model used in Section 5 a *direct* approach because it builds a predictive regression model for temperature directly from the

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