

**Sent:** December 17, 2003 5:48 PM

**To:** Ziemelis, Karl

**Cc:** Ross McKittrick

**Subject:** Re: Materials Complaint

Thank you for this reply. We have enclosed some further particulars on our concerns. Regards, Steve McIntyre and Ross McKittrick  
[Inclusion]

December 17, 2003

Karl Ziemelis,

Physical Sciences Editor

Nature Magazine

Dear Dr. Ziemelis,

Thank you for your email of December 9, 2003. For greater certainty, we confirm our request for disclosure of the following information:

- 1) identification of the 159 series now said to be used in MBH98, together with a reconciliation to previous disclosure of the number of proxies available on various sub-intervals as set out in SI;
- 2) the computer programs used to read in the 159 series, calculate the temperature index and to calculate the residuals;

Further review of the materials has shown that, although there are references to the calculation of residuals in MBH98 and claims are made therein as to the properties of these residuals, there is no disclosure of the residuals themselves or evidence of their derivation in any existing supplementary information. These residuals are used to estimate confidence intervals. Accordingly, we additionally request disclosure of:

- 3) all residual series, together with programs used in the derivation of residuals and confidence intervals in MBH98.

We plan to submit a Communications Arising in which we analyze the most important issues resulting from our consideration of MBH98. In that paper, we stay away from disclosure inconsistencies and the usage/deletion of data. However, since they pertain to this materials complaint, we summarize those issues here and amplify the issues raised in our prior email.

1. The disclosure of data used in MBH98 at the Nature Supplementary Information (“SI”) appears to be materially incorrect. We have attached as Appendix 1 a listing of no fewer than 38 cases in which the series listed in the Nature Supplementary Information were not actually used in MBH98 (as evidenced at the UVA ftp site). This is obviously something that a reviewer would have been unable to identify since the UVA site was unavailable until at least the summer of 2002.
2. There is evidence that some of these series were intentionally deleted. In this respect, we have attached as Appendix 2 the text of an email message in which an MBH98 co-author proposed the deletion of a series (arge030) as being “better for our purposes”. This series was deleted in the actual calculations, but was shown in Nature SI as being included. Under the circumstances, a full explanation is surely required as to the “purposes” involved.
3. MBH98 states that “the dendroclimatic data used were carefully screened for conservative standardization and sizeable segment lengths.” We have attached as Appendix 3 the text of an email in

which the term “wild guess” was used to describe the inclusion or exclusion of certain series. In this case, the deletion of various series is recommended, but this recommendation is not implemented in the work shown at the FTP site.

4. MBH have deleted portions of at least 3 series without explanation to the reader. In each case, the FTP site contains a parallel series with the correct data. The deletions include the first 70 years of the Central England historical temperature series, the first 25 years of the Central Europe historical series and the first 2 years of chin04. In the first 2 series, the issue is not merely that early decades were removed but that summer (JJA) data was substituted for annual data without notice to the reader.

5. MBH have recently stated that the UVA FTP site is the repository of data actually used in MBH98. This site contains at least 10 series not used in MBH98 (see Appendix 4), including an instrumental temperature series with decreasing 20<sup>th</sup> century temperatures.

6. Some series in the North American PC region occur in duplicate versions, as summarized in Appendix 5. There is no rational description of the reasons for inclusion or exclusion as individual proxies.

7. The SWM region used in MBH98 includes a site (Spruce Canyon CO), which is not in the site roster of the original article and which is in the roster of the NOAMER region. This apparently small point has a significant impact on 15th century values and we refer to this in our Communication Arising.

8. Some data versions used in MBH98 were obsolete when the paper was published. Many more versions are now obsolete. The SI refers to WDCP as a reference for tree ring data, but this reference is inaccurate given the material differences between the version used in MBH98 and the version actually archived. Again, the differences can be material and we refer to one such example in our Communication Arising. There are other inaccuracies in the references of MBH98: for example, the citation Bradley-Jones 1992 does not contain several instrumental sites referred to in MBH98.

9. The disclosure of methodology for calculating temperature principal components is inaccurate. MBH98 describe their methodology as “conventional”. Conventional principal components fail with missing data. The underlying data set contains much missing data and some other procedure was necessarily used.

10. The disclosure of methodology for calculating tree ring principal components is inaccurate. Again MBH98 methodology is not “conventional”. In this case, the FTP site contains computer programs which show that the data was transformed in ways not disclosed in MBH98. These undisclosed transformations have a material impact on the final results. We discuss this in our Communications Arising.

The last examples are of particular significance. As noted above, we have requested complete disclosure of the computer programs used in MBH98. Items (9 and 10) above shows that the disclosure of methods in MBH98 was either incomplete or misleading with respect to the principal components calculations. Given the influence of MBH98, meticulous verification should be possible and this cannot be accomplished with the requested disclosure.

We believe that the other issues identified herein merit careful consideration as well.

Yours truly,

Stephen McIntyre

Ross McKittrick