

From: Phil Jones <p.jones@uea.ac.uk>
To: "Michael E. Mann" <mann@virginia.edu>, "Folland, Chris" <ckfolland@meto.gov.uk>
Subject: Re: FW: Mann et al
Date: Fri, 11 Aug 2000 13:40:30 +0100
Cc: jfbmitchell@meto.gov.uk, k.briffa@uea.ac.uk

Chris and John (and Mike for info),

I'm basically reiterating Mike's email. There seem to be two lots of suggestions doing the rounds. Both are basically groundless.

1. Recent paleo doesn't show warming.

This basically stems back to Keith Briffa's paper in Nature in 1998 (Vol 391, pp678-682). In this it was shown that northern boreal forest conifers don't pick up all the observed warming since about the late 1950s. It was suggested that some other factor or a combination of factors related to human-induced pollution (e.g. nitrogen deposition, higher levels of CO₂, ozone depletion etc). Hence in a new paper submitted to JGR recently we develop a new standardization approach (called age banding) and produce a large-scale reconstruction (calibrated over the period 1881-1960 against NH land north of 20N) back to 1402. If you want a copy of this can you email Keith and he'll send copies once he's back from holiday.

This background is to illustrate how Singer et al distort things. The new reconstruction only runs to 1960 as did earlier ones based solely on tree-ring density. All the other long series (Mike's, Tom Crowley's and mine) include other proxy information (ice cores, corals, historical records, sediments and early instrumental records as well as tree-ring width data, which are only marginally affected). All these series end around 1980 or in the early 1980s. We don't have paleo data for much of the last 20 years. It would require tremendous effort and resources to update a lot of the paleo series because they were collected during the 1970s/early 1980s.

It is possible to add the instrumental series on from about 1980 (Mike sought of did this in his Nature article to say 1998 was the warmest of the millennium - and I did something similar in Rev. Geophys.) but there is no way Singer can say the proxy data doesn't record the last 20 years of warming, as we don't have enough of the proxy series after about 1980.

<http://www.co2.science.org/edit/editor.html> takes the argument further saying that as trees don't see all the warming since about 1960 the instrumental records recently must be in error (i.e. this group believes the trees and not the instrumental records). This piece by Idso and Idso seems to want to have the argument whichever suits them.

2. Everyone knows it was cooler during the Little Ice Age and warmer in the Medieval Warm Period.

All of the millennial-long reconstructions show these features, but they are just less pronounced than people believed in the 1960s and 1970s, when there was much less paleo data and its spatial extent was limited to the eastern US/N.Atlantic/European and Far East areas. The issue seems to revolve around the average temperatures we have for earlier centuries in the millennium. I use the argument that for the instrumental period we need sites located over much of the NH (land and marine) regions in order to claim we have a reasonable record for the whole hemisphere. We wouldn't dream of extending the NH series based on longer European records and in the extreme just CET, so with the paleo data we need records from as many regions as possible. The coverage still could be better, but it is far better than it was 25 years ago, when the ideas embodied in the MWP and LIA became sort of mainstream.

The typical comments I've heard, generally relate to the MWP, and say that crops and vines were grown further north than they are now (the vines grown in York in Viking times etc). Similarly, statements about frost fairs and freezing of the Baltic so armies could cross etc. Frost

fairs on the Thames in London occurred more readily because the tidal limit was at the old London Bridge (the 5ft weir under it). The bridge was rebuilt around the 1840s and the frost fairs stopped. If statements continue to be based on historical accounts they will be easy to knock down with all the usual phrases such as the need for contemporary sources, reliable chroniclers and annalists, who witnessed the events rather than through hearsay. As you all know various people in CRU (maybe less so now) have considerable experience in dealing with this type of data. Christian Pfister also has a lifetime of experience of this. There is a paper coming out from the CRU conference with a reconstruction of summer and winter temps for Holland back to about AD 800, which shows the 20th century warmer than all others. Evidence is sparser before 1400 but the workers at KNMI (Aryan van Engelen et al.) take all this into account.

I hope this is of use and hasn't been a total waste of time.

In Victoria last month, did you discuss how the policymaker's summary will report the millennial temperature series ? Are there any tentative phrases you're working on a la Balance of evidence etc ? Is Chapter 12 thinking of a new sentence to supercede the above ? Any sentence on the millennium record should be in Ch. 2.

Cheers
Phil

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