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Subject: Nature paper and beyond
Date: Fri, 03 Mar 2000 13:04:24 +0000
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Dear Shaopeng and Henry,

First, congratulations on the Nature paper. Can you send me some reprints when you get them ?

I was at a meeting this week with Tom Crowley and we were discussing ways to reconcile the high-freq proxies with your borehole data. Here are a couple of our thoughts. Involving Mike Mann and others here in CRU, as they all have an input.

1. I've shown that the borehole data in Europe agree well with the long instrumental data in both the UK and Europe. The biggest differences/problems seem to come with the North American borehole data, which show the 16/17/18th data much cooler than the European/Asian/African data in the 16/17th century. I'm still reminded by the potential effects of land-use changes, principally in the eastern US, which could be making your North American series too cool. I realise you've taken great care with the selection, but this is a nagging doubt and will be picked up by the few skeptics trying to divide us all about the course of change over the last millennium. Is it possible to subdivide the North American borehole data into regions where we can be confident of no land-use changes (possibly and thinking aloud say Canada and the western US and Alaska) ? The aim of this (possibly joint) work is to try and reconcile the low- and high-freq proxies. Tom Crowley has a series for the NH where he's combined about 20 series (a few of which are in Mike's and the series we've produced here but he has over half the series from less-well resolved proxies - shallow marine and lake sediments) and he gets something very similar to Mike and CRU.

2. As all our (Mike, Tom and CRU) all show that the first few centuries of the millennium were cooler than the 20th century, we will come in for some flak from the skeptics saying we're wrong because everyone knows it was warmer in the Medieval period. We can show why we believe we are correct with independent data from glacial advances and even slower responding proxies, however, what are the chances of putting together a group of a very few borehole series that are deep enough to get the last 1000 years. Basically trying to head off criticisms of the IPCC chapter, but good science in that we will be rewriting people's perceived wisdom about the course of temperature change over the past millennium. It is important as studies of the millennium will help to show that the levels of natural variability from models are reasonable. Tom has run his EBM with current best estimates of past forcing (Be-10 as a proxy for solar output and Alan Robock's ice core volcanic index) and this produces a series similar to all series of the last 1000 years.

The above is just ideas of how we, as a group, could/should try and reduce criticisms etc over the next year or so. Nothing is sacred. Your North American borehole series could be correct as it is annual and most of the high-freq proxy series respond mainly to summer variations. Is yours really annual when there is a marked seasonal snow cover season ?

Cheers
Phil

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