

Warwick S Hughes, PO Box 844, Gungahlin, A.C.T. 2912

**The Clerk
Science and Technology Committee
House of Commons
7 Millbank
London SW1P 3JA**

10th February 2010

Investigation of the unauthorised publication of data, emails and documents relating to the work of the Climatic Research Unit (CRU) at the University of East Anglia (UEA).

Dear Members of the Science and Technology Committee,

In a press release at

http://www.parliament.uk/parliamentary_committees/science_technology/s_t_cru_inquiry.cfm

your Select Committee “announces an inquiry into the unauthorised publication of data, emails and documents relating to the work of the Climatic Research Unit (CRU) at the University of East Anglia (UEA).”

And that press release also says;

“The Committee has agreed to examine and invite written submissions on three questions:

—What are the implications of the disclosures for the integrity of scientific research?

—Are the terms of reference and scope of the Independent Review announced on 3 December 2009 by UEA adequate (see below)?

—How independent are the other two international data sets?”

1 - My submission is mainly on your third question about the independence of the international data sets. There is a widespread view afoot that “the CRU – Jones et al data is basically the same as the GHCN”. Professor Jones and CRU have at times pointed people wanting station data in the direction of the US based GHCN dataset.

1.1 - I note that in his letter to your Committee on 10th December 2009, the UEA Vice Chancellor says, “It should be noted that over 95% of the data has for some years been in the public domain, such as on the NOAA site.” My position is that the NOAA / GHCN station data differs greatly from CRU station data and could not be expected to provide serious researchers with a proxy for CRU station data.

1.2 - The two datasets, CRU and GHCN have very different origins and histories, employed different methodologies and as our maps show, end up with widely contrasting grid point trends, despite drawing raw data from a similar pool of global stations. There should be nothing surprising that two separate teams produce results that are distinctively different – that sounds to me like normal science in progress.

2 - On 18th February 2005 Professor P. D. Jones of CRU replied to my emailed requests for his land station data by including, “Why should I make the data available to you, when your aim is to try and find something wrong with it.” See Appendix I for a copy of the email and Appendix II. For a reference to me and that email in the unauthorised release of CRU emails.

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2.1 - During 2005 Professor P. D. Jones of CRU was co-author of a study – (Vose et al),

Citation: Vose, R. S., D. Wuertz, T. C. Peterson, and P. D. Jones (2005), *An intercomparison of trends in surface air temperature analyses at the global, hemispheric, and grid-box scale*, *Geophys. Res. Lett.*, 32, L18718, doi:10.1029/2005GL023502. <http://www.agu.org/pubs/crossref/2005/2005GL023502.shtml>

2.2 - Vose et al concluded that there was “reasonable agreement” between GHCN and CRU at the grid-box level during the period 1976–2003. On reading Vose et al and studying their Figures 5 (next page) it is clear that outside the USA and Europe there are many areas where the grid points trends (as indicated by the size of the red circles) bear little resemblance from one map panel to the other.

2.3 Looking at the Vose et al Fig 6 (Vose et al pdf paper) and checking the scale carefully it looked to me that there was more grid point divergence between the GHCN and CRU trends than the impression given by Vose et al quoting the 9.4% number in their text. With respect to the Vose et al Fig 6 scatter plot they say at the top left of page L18718, “*9.4% of all grid-box trends differ by more than $0.100^{\circ}\text{C decade}^{-1}$ in both magnitude and sign.*”

2.4 - In 2006 Dr Russell Vose kindly sent me the GHCN and CRU 5 degree grid point trends 1976-2003 used in the Vose et al paper and I have calculated the GHCN minus CRU trend differences and present the essence of my analysis for your Committee.

2.5 - GHCN minus CRU differences for the 1976-2003 period - which was chosen by Vose et al. Their conclusion was that there is "reasonable agreement" between these datasets. There are 524 co-located grid point difference values in the file as sent and a simple sorting and counting of the grid point differences GHCN minus CRU shows that;

At 225 grid points (42.9% of 524) the difference GHCN minus CRU measures from 0.099 to -0.099 °C per decade inclusive.

At 154 grid points (29.4% of 524) the difference GHCN minus CRU measures 0.1 and above °C per decade.

At 145 grid points (27.7% of 524) the difference GHCN minus CRU measures -0.1 and below °C per decade.

To sum up paragraph 2.5 - 57.1% of grid point values for GHCN trend minus CRU trend are 0.1 °C per decade or greater, regardless of sign.

Note: 0.1° C per decade can be compared to 1° C per century which is greater than the rate of IPCC global warming.

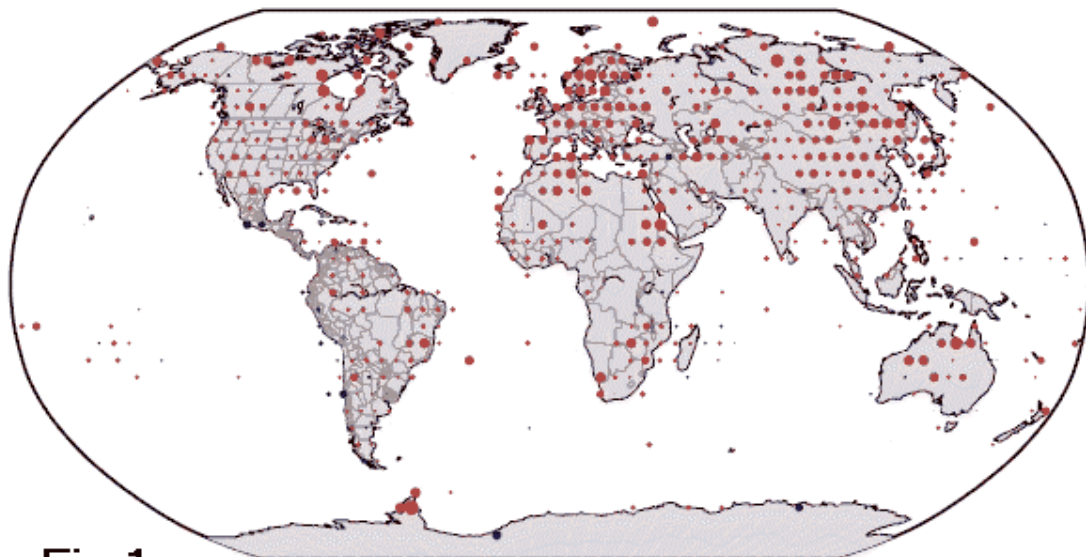
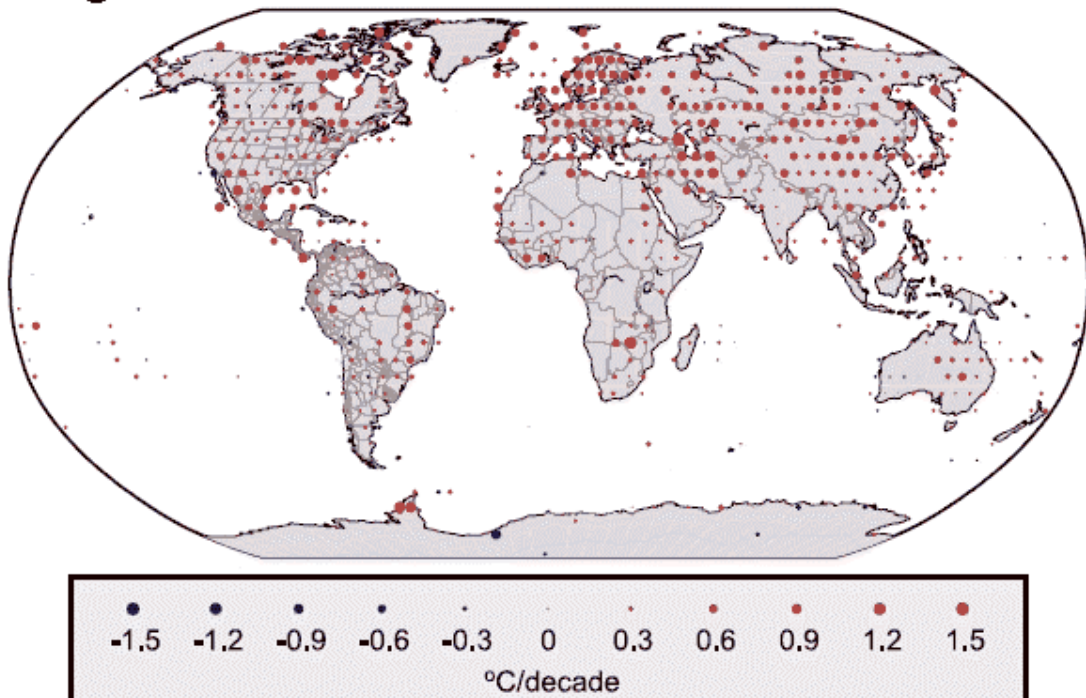


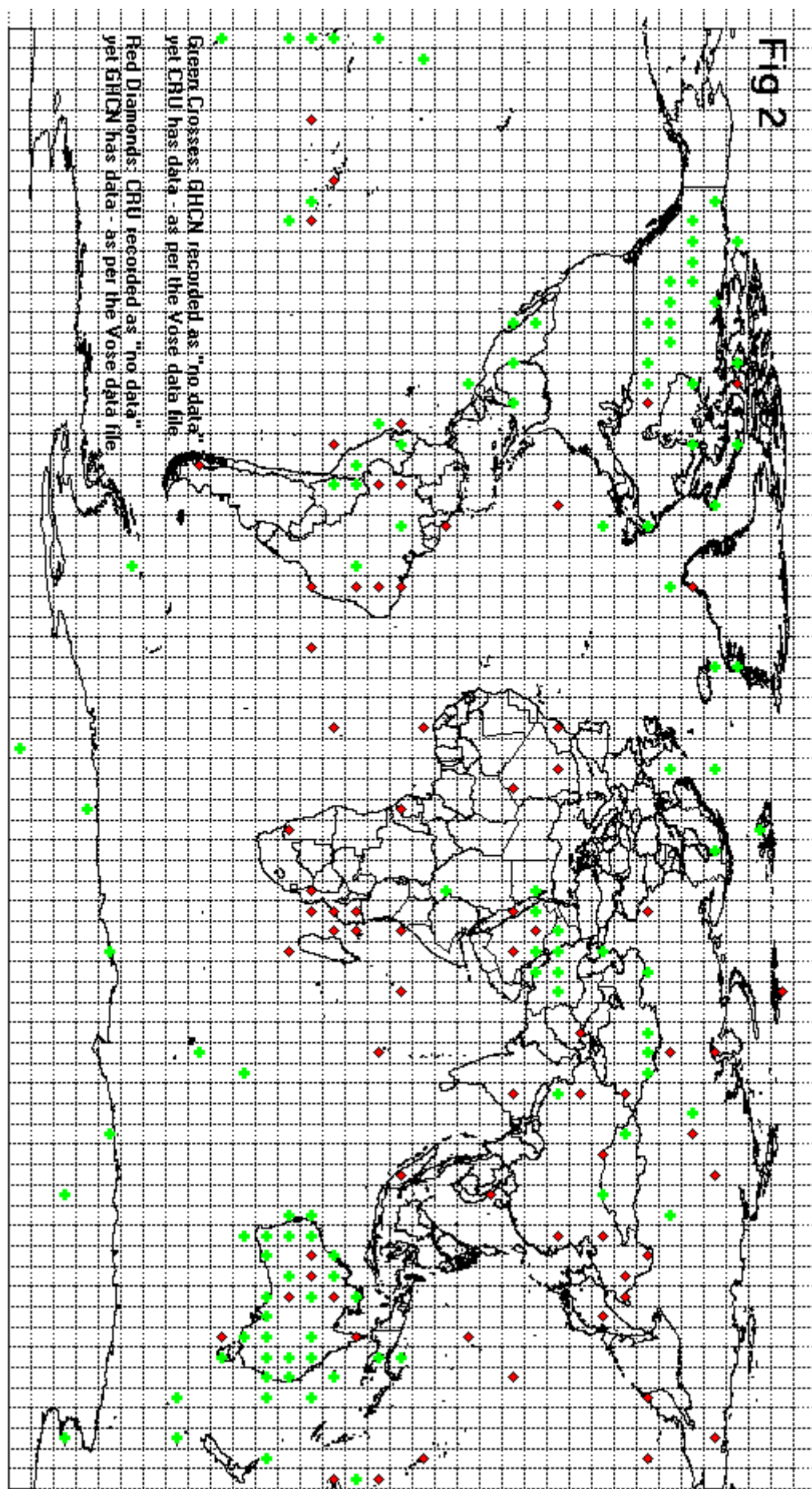
Fig 1



Vose et al Fig 5

Figure 5. Map of least-squares trends in 5° by 5° grid boxes for the period 1976–2003 for GHCN (top panel) and CRU (bottom panel).

3 - **Fig 2** (next page) shows the grid points for which each dataset has no data while the other dataset does find data. - as per the file sent by Dr Vose in 2006. To make that clear, the Green Crosses indicate grid points of 5 degree latitude and longitude where GHCN finds no data but CRU does have data. The Red Diamonds indicate grid points where CRU finds no data but GHCN does have data. This map by itself reveals significant differences between the GHCN and CRU datasets.



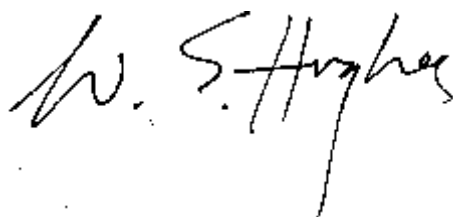
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4 - Conclusions: With respect to your Committee's question three "How independent are the other two international data sets?" We believe our analysis demonstrates that the GHCN and CRU datasets at the grid point scale are robustly independent.

Any agreement on hemispheric or global scales is simply due to the cancelling out of large positive and negative differences at the grid point level. It follows that these differences would be even more marked at the station level, if indeed all the CRU station data was made freely available.

I have a geology degree with honours from the University of Auckland and have been analysing the Jones et al / CRU temperature compilations since 1991. My refereed published papers are listed in Appendix III.

Yours faithfully,



Warwick Samuel Hughes

Appendix I

Text of email to me from Professor P. D. Jones of CRU.

Date: Mon, 21 Feb 2005 12:12:22 +0000
From: Phil Jones <p.jones@uea.ac.uk>
To: "wshughes@inet.net.au" <wshughes@inet.net.au>
Subject: Re: WMO non respondo

Warwick,

Hans Teunissen will reply. He'll tell you which other people should reply.

Hans is "Hans Teunissen" <HTeunissen@wmo.int> .

I should warn you that some data we have we are not supposed to pass on to others. We can pass on the gridded data - which we do. Even if WMO agrees, I will still not pass on the data. We have 25 or so years invested in the work. Why should I make the data available to you, when your aim is to try and find something wrong with it. There is IPR to consider.

You can get similar data from GHCN at NCDC. Australia isn't restricted there. Several European countries are. Basically because, for example, France doesn't want the French picking up data on France from Asheville. Meteo France wants to supply data to the French on France. Same story in most of the others.

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Cheers
Phil

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Appendix II

Brief extract from CRU email in file number 1256765544.txt at this URL;
<http://www.eastangliaemails.com/emails.php?eid=1065&filename=1256765544.txt>

>Patrick J. Michaels
>
> Imagine if there were no reliable
>records of global surface temperature. Raucous
>policy debates such as cap-and-trade would have
>no scientific basis, Al Gore would at this point
>be little more than a historical footnote, and
>President Obama would not be spending this U.N.
>session talking up a (likely unattainable)
>international climate deal in Copenhagen in
>December. Steel yourself for the new reality,
>because the data needed to verify the
>gloom-and-doom warming forecasts have disappeared.
>
> Or so it seems. Apparently, they were
>either lost or purged from some discarded
>computer. Only a very few people know what really
>happened, and they aren't talking much. And what
>little they are saying makes no sense.
> In the early 1980s, with funding from
>the U.S. Department of Energy, scientists at the
>United Kingdom's University of East Anglia
>established the Climate Research Unit (CRU) to
>produce the world's first comprehensive history
>of surface temperature. It's known in the trade
>as the "Jones and Wigley" record for its authors,
>Phil Jones and Tom Wigley, and it served as the
>primary reference standard for the U.N.
>Intergovernmental Panel on Climate Change (IPCC)
>until 2007. It was this record that prompted the
>IPCC to claim a "discernible human influence on global climate."
> Putting together such a record isn't at
>all easy. Weather stations weren't really
>designed to monitor global climate. Long-standing
>ones were usually established at points of
>commerce, which tend to grow into cities that
>induce spurious warming trends in their records.
>Trees grow up around thermometers and lower the

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>afternoon temperature. Further, as documented by
>the University of Colorado's Roger Pielke Sr.,
>many of the stations themselves are placed in
>locations, such as in parking lots or near heat
>vents, where artificially high temperatures are bound to be recorded.
> So the weather data that go into the
>historical climate records that are required to
>verify models of global warming aren't the
>original records at all. Jones and Wigley,
>however, weren't specific about what was done to
>which station in order to produce their record,
>which, according to the IPCC, showed a warming of
>0.6° +/- 0.2°C in the 20th century.
>
> **Now begins the fun. Warwick Hughes, an
>Australian scientist, wondered where that "+/-"
>came from, so he politely wrote Phil Jones in
>early 2005, asking for the original data. Jones's
>response to a fellow scientist attempting to
>replicate his work was, "We have 25 years or so
>invested in the work. Why should I make the data
>available to you, when your aim is to try and find something wrong with it?"
> Reread that statement, for it is
>breathtaking in its anti-scientific thrust. In
>fact, the entire purpose of replication is to
>"try and find something wrong." The ultimate
>objective of science is to do things so well that, indeed, nothing is wrong.**

Appendix III

Refereed Published Papers:

1992 Robert C. Balling, Jr., Sherwood B. Idso, and Warwick S. Hughes. "Long-Term and Recent Anomalous Temperature Changes in Australia." Geophysical Research Letters, Vol. 19, No. 23, pp. 2317-2320.

1995 Robert C. Balling, Jr. and Warwick S. Hughes. "Comments on "Detecting Climate Change Concurrent with Deforestation in the Amazon Basin: Which Way Has It Gone ?" Bulletin of the American Meteorological Society, Vol. 76, No. 4, 9. 559.

1995 Warwick S. Hughes. Comment on D.E. Parker, "Effects of Changing Exposure of Thermometers at Land Stations." International Journal of Climatology, Vol. 15, pp. 231-234.

1996 Warwick S. Hughes and Robert C. Balling, Jr. "Urban Influences on South African Temperature Trends." International Journal of Climatology, Vol. 16, No. 8, pp. 935-940. Online at <http://www.john-daly.com/s-africa.htm>

1997 Warwick S. Hughes. Comment on, "Historical Thermometer Exposures in Australia." by N. Nichols et al. International Journal of Climatology, Vol. 17, pp. 197-199.

End of submission