

## The Gergis Paper Debunking – Peer Review is Inadequate June 11, 2012

The withdrawal of a climate science paper by Gergis et al from the American Meteorological Society's Journal of Climate, after a team of scientists at the Climate Audit blog found several major errors, demonstrates that the peer-review process is totally inadequate. The paper titled "Evidence of unusual late 20th century warming from an Australasian temperature reconstruction spanning the last millennium" which was accepted for publication has been "put on hold" further review.

The study claimed to show warming in Australasia since 1950 is the greatest in 1000 years. The paper used 27 proxy data sets to show that average temperatures 1961 to 1990 were 0.09 degrees Celcius greater than the temperatures of the 1200s. All the major newspapers and radio in Australia ran alarmist stories declaring that recent temperatures in Australia are the warmest in a millennium. None of the stories bothered to mention that the reported temperature increase was an only 0.09 °C.

Like so many other climate paper using proxy data, the science blog Climate Audit revealed that the paper had several major errors. Papers published in major scientific journals are supposed to be reviewed anonymously by scientists who are experts in the field. Climategate emails reveal that peer-review of climate science is mostly pal-review, and papers supporting the catastrophic anthropogenic global warming theory get only a cursory review. The reviewers never asked to see the data on which the paper is based, and no attempt is made to replicate the results prior to the paper being accepted for publication.

The authors used 27 proxies from tree rings, coral and ice core data, but they selected these proxy series from a much larger set. Trees growth depends on many factors besides temperature, especially the available moisture. The temperature signal is small compared to other factors, so much care is required to find the temperature signal hidden with the random noise. But how did they select which proxies to use?

The pre-selection is a critical step in the analysis, because just using the data that supports your pre-conceived ideas and throwing out data that contracts your position is "cherry picking", a serious no-no in science. The authors wanted to select proxies that correlated to the 20th century instrument temperature record. But if you just select a series that have a 20th century uptick, you may be selecting series that by random change had that uptick. The Bishop Hill blog explains **"This flaw has been demonstrated by studies in which the proxy series are replaced with dummy data series that wiggle up and down at random. In these studies, it has been shown that most of the time the resultant "reconstruction" is a hockey stick."**

The authors claimed that they avoided that problem by detrending the instrument temperature record and the proxy record before determining how well they matched. After detrending, the time series would fluctuate up and down around a horizontal line. That way, they were

comparing the short term fluctuations of the proxies to instrument temperature measurements, rather than the longer term trends. They claimed to have selected the proxies that have a high correlation to instrument temperature reading during the period 1921–1990. This might be a valid procedure if done correctly.

The real science review is performed by unpaid scientists at climate blogs. While the authors refused to release the rejected proxy data, it was possible to calculate how well the 27 selected proxies correlated to temperature. Several scientists attempted this, but they consistently got results that showed insignificant correlations, completely contradicting the paper. This means that the paper's declaration that the proxy selection was based on detrended data was false, and the selected proxies have little to do with temperature. The scientists found significant correlations only by using the proxy data before detrending. But the paper authors acknowledged that this is an invalid procedure. Therefore, the paper does not describe what was actually done, and the results are invalid. The finding of unprecedented warmth in the 20th century is not in the original data, but is only an artifact of their faulty methodology.

Climate Audit also found that some of the correlations were actually negative, that is, they used the proxy data upside down. Tree ring data is used as a proxy for temperature because the scientists expect the high temperatures causes fatter tree rings. But the negative correlation means as tree rings get larger, temperatures declined. These proxies should have been discarded, but instead, they were used upside down.

Blogger Joanne Nova reports that the study cost \$340,000 and three years to produce, but lasted only 3 weeks. The study was funded by the Australian Research Council to provide support for the government's carbon tax policies. Australians will be subject to a carbon tax starting July 1, 2012. The media rushed out with alarmist stories without asking any hard question. To date, none of the alarmist stories have been withdrawn.

The scientific method requires that the full data set be made available so that other scientists are able to replicate the work. Steve McIntyre of Climate Audit requested the rejected proxy data from lead author Joelle Gergis, who is an alarmist environmentalist. She refused to provide it. Unfortunately, this is standard practice in climate science.

The carbon tax is being imposed because climate alarmists lead by the International Panel on Climate Change predicted rising temperatures and continuing drought in Australia. In fact, Australia has just had its wettest two years on record, and temperatures are well below seasonal averages. It was 20 C colder in Sidney, Australia on June 3, 2012 than 89 years ago on June 3, 1923.

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## References:

Climate Audit:

<http://climateaudit.org/2012/06/08/gergis-et-al-put-on-hold/>

<http://climateaudit.org/2012/06/06/gergis-significance/>

JoNova:

<http://joannenova.com.au/2012/06/300000-dollars-and-three-years-to-produce-a-paper-that lasted-three-weeks-gergis/#more-22055>

Bishop Hill:

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