



Climategate:

What we've learned so far

Chris Berg and **Sinclair Davidson** look through the leaked Climategate emails and find that global warming science is more uncertain than we've been told.

The exposure of thousands of emails and documents from the Climatic Research Unit (CRU) at the University of East Anglia is one of the biggest developments in the climate change debate for the last ten years.

The emails—now dubbed 'Climategate'—reveal a pattern of behaviour. These emails describe attempts to subvert the peer-review process, refusal to make data available to journals, attempts to manipulate the editorial stance of journals, attempts to avoid releasing data following freedom of information requests, rejoicing at the deaths of opponents, and manipulation of results.

But more than anything this illustrates how politicised, manipulated and ultimately uncertain much of the global warming science is.

Statements suggesting 'the science is settled' can no longer be sustained. In an email from Mick Kelly (a reader with the CRU) to Phil Jones (director of the CRU) dated October 26, 2008, we find this gem, 'I'll maybe cut the last few points off the filtered curve before I give the talk again as that's trending down as a result of the end effects and the recent cold-ish years.' While on July 5, 2005, Phil Jones wrote: 'The scientific community would come down on me in no uncertain terms if I said the world had cooled from 1998. OK it has but it is only seven years of data and it isn't statistically significant.' Kevin Trenberth, head of climate analysis at the National Center for Atmospheric Research (and a lead author of the IPCC's 2001 and 2007 Scientific Assessment of

Climate Change), writes on 12 October 2009 that 'we can't account for the lack of warming at the moment and it is a travesty that we can't.' Trenberth went on to argue in a 2009 paper in *Current Opinion in Environmental Sustainability* that it is not enough to claim that natural variability accounts for the lack of warming in recent years—something specific must cause the decline.

Much has been made of an email by Jones where he says: 'I've just completed Mike's Nature *trick* of adding in the real temps to each series for the last 20 years (i.e. from 1981 onwards) and from 1961 for Keith's to *hide the decline*.' (emphasis added) The word 'trick' doesn't suggest anything untoward, rather being somewhat clever about some technique. But 'hide' is a problem.

Similarly concerning is the apparent destruction of data. The CRU has argued that a lot of their early raw data was destroyed because they couldn't store it. That explanation is, unfortunately, all too plausible. We live in a world where as recently as 20 years ago, data would have been thrown away for want of storage space. But why then find a 2005 email from Phil Jones, which states: 'If they ever hear there is a Freedom of Information Act now in the UK, I think I'll delete the file rather than send to anyone?'

The latest development is that the CRU have promised to make their data available—but we know that a lot of the historical raw data has been thrown away. This makes re-

Chris Berg is editor of the IPA Review. Sinclair Davidson is a Senior Fellow with the Institute of Public Affairs.

construction and audit of the CRU research much more difficult. It is going to be impossible to reconstruct an unbiased temperature record based on instrumental observations.

There are numerous emails trying to alter the editorial line of peer-reviewed climate journals. This would be trivial, if it weren't for the fact that peer-review is treated by the IPCC as the gold standard for academic neutrality. Attempts to subvert the peer-review process show the politicisation of the supposedly unbiased IPCC.

But the most concerning revelations aren't contained in the emails. They're in the files detailing the complexity and

The data underpinning CRU's climate model has been manipulated, manually altered and patched together.

uncertainty of climate modelling. The contortions which CRU programmers have had to make to force their data into what appears to be a predetermined conclusion underlines just how little we actually know about past and present global climate.

Some of the comments made by programmers contained within the released files (see accompanying box) reveal how unstable the CRU model actually is. It is clear that the data underpinning the CRU's model has been manipulated, manually altered and patched together.

The data is incomplete, inconsistent, and—too often—contradicts observed temperatures.

This is not a trivial problem. It goes to the heart of the international debate about climate change. The CRU model is one of the foundations of the IPCC's entire climate framework. If the IPCC is no longer able to rely on the CRU, it will be substantially less assured.

With what we have so far learnt from the CRU emails and documents, we can no longer be as confident in the IPCC—or, indeed, the popular view that there is a 'consensus' on climate change.

But these are just the early revelations from Climategate. What we will learn once the CRU releases its raw data—or at least, what data hasn't already been destroyed—may completely reshape the global debate.

Climatologist (and target of many of the CRU's most vociferous internal emails) Pat Michaels has said that 'This is not a smoking gun, this is a mushroom cloud.' We haven't yet seen how far the fallout from that cloud will reach.



Fiddling with climate data

The leaked Climatic Research Unit files contain more than just emails. They also contain the working notes of the CRU's climate model programmer, Ian 'Harry' Harris. These notes detail Harris' methodology as he fed raw meteorological data into the CRU's model of the global climate. (Spelling and grammar errors in the original.)

All the CRU's leaked files are available for download at: <http://tinyurl.com/CRU-emails>

"OH F**K THIS. It's Sunday evening, I've worked all weekend, and just when I thought it was done I'm hitting yet another problem that's based on the hopeless state of our databases. There is no uniform data integrity, it's just a catalogue of issues that continues to grow as they're found."

From: HARRY_READ_ME.txt

"Apply a VERY ARTIFICIAL correction for decline!!"

From: briffa_sep98_d.pro

"getting seriously fed up with the state of the Australian data. so many new stations have been introduced, so many false references.. so many changes that aren't documented. Every time a cloud forms I'm presented with a bewildering selection of similar-sounding sites, some with references, some with WMO [World Meteorological Organisation] codes, and some with both."

From: HARRY_READ_ME.txt

"I am very sorry to report that the rest of the databases seem to be in nearly as poor a state as Australia was. There are hundreds if not thousands of pairs of dummy stations, one with no WMO and one with, usually overlapping and with the same station name and very similar coordinates. I know it could be old and new stations, but why such large overlaps if that's the case? Aarrggghh! There truly is no end in sight."

From: HARRY_READ_ME.txt

"Here, the expected 1990-2003 period is MISSING - so the correlations aren't so hot! Yet the WMO codes and station names /locations are identical (or close). What the hell is supposed to happen here? Oh yeah - there is no 'supposed', I can make it up. So I have :-)"

From: HARRY_READ_ME.txt