

## **What's Going on Behind the Curtain? Climategate 2.0 and Scientific Integrity**

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Climategate, both 1 and 2, are textbook cases of gross lapses in professional ethics and scientific malfeasance. To understand why, one must first understand what science is and how it is supposed to operate. Science is the noble pursuit of knowledge through observation, testing and experimentation. Scientists attempt to explain, describe and/or predict the implications of phenomena through the use of the scientific method.

The scientific method consists in gaining knowledge or explanatory power through a process. Progress is made in science by proposing a hypothesis, and developing a theory to explain or understand certain phenomena, and then testing the hypothesis against reality. A particular hypothesis is considered superior to others when, through testing, it is shown to have more explanatory power than competing theories or hypotheses and when other scientists running the same testing regime can reproduce the results of the original test. Every theory or hypothesis must be disconfirmable in principle, which means that, if the theory predicts that "A" will occur under certain conditions, but instead, "B" and sometimes "C" result, then the theory has problems. The more a hypothesis's predictions prove inconsistent with or are diametrically opposed to the results that occur during testing, the less likely the hypothesis is to be correct.

Which brings us to Climategate. Climategate parts one and two are a series of leaked e-mails from arguably the most prominent researchers promoting the idea that humans are causing catastrophic global warming. The e-mails show the scientists involved to be violating their professional ethics with the result that climate science in particular and science as an institution more generally is brought into question.

The first group of e-mails released in 2009 showed scientists attempting to suppress or alter inconvenient data, destroying raw data so that others would be unable to analyze it, using tricks to change reported outcomes, conspiring to avoid legally required disclosure of taxpayer-funded data, and trying to suppress dissent by undermining the peer review process. On the latter point the researchers involved threatened to boycott and get editors fired at journals publishing findings questioning the urgency of the climate crisis.

Climategate 2 is a second release of e-mails, in November 2011, from the same cabal of scientists exposed in Climategate 1. There is little new to the revelations—just more hiding data, trying to figure out how to downplay dissent or have papers that would seem to undermine one part or another of anthropogenic global warming theory ignored or discredited.

To be clear, these e-mails do not disprove that humans are causing potentially catastrophic global warming. Whether or not humans are or are not, in fact, causing or contributing to dangerous climate change, the only thing clear that emerges from the Climategate e-mails is that the scientists claiming that “the science is settled” and that there is “consensus” among scientists that humankind are acting as planet killers, can’t be trusted, nor can their research be pointed to as solid proof of anthropogenic global warming.

Some examples of the Climategate 2 e-mails will serve to make the point [“<>” show the number of the e-mail and the name of the researcher]:

The following three e-mails show dissent in the climate ranks -- some researchers are concerned that in portraying the current state of climate science in journals, to the press, to politicians and to the general public, lead climate researchers are not being honest and are downplaying significant uncertainty. The concerned researchers note the risk to such a strategy:

<1939> Thorne/MetO

Observations do not show rising temperatures throughout the tropical troposphere unless you accept one single study and approach and discount a wealth of others. This is just downright dangerous. We need to communicate the uncertainty and be honest. Phil, hopefully we can find time to discuss these further if necessary [...]

<3066> Thorne:

I also think the science is being manipulated to put a political spin on it which for all our sakes might not be too clever in the long run.

<2884> Wigley:

Mike, The Figure you sent is very deceptive [...] there have been a number of dishonest presentations of model results by individual authors and by IPCC [...]

The next couple of e-mails show researchers putting their political goals before scientific integrity in part by cherry-picking which data to focus on:

<4755> Overpeck:

The trick may be to decide on the main message and use that to guid[e] what’s included and what is left out.

<0170> Jones:

Kevin, Seems that this potential Nature paper may be worth citing, if it does say that GW [global warming] is having an effect on TC [tropical cyclone] activity.

The next bunch of e-mails discuss specific instances wherein global warming has been claimed to be causing a particular climactic change, but in which the data either don’t support human activities as the cause of the change or where the change does not fit the predictions.

<5111> Pollack:

But it will be very difficult to make the MWP [medieval warm period] go away in Greenland.

<1682> Wils:

[2007] What if climate change appears to be just mainly a multidecadal natural fluctuation? They'll kill us probably [...]

<5315> Jenkins/MetO:

would you agree that there is no convincing evidence for kilimanjaro glacier melt being due to recent warming (let alone man-made warming)?

<2292> Jones:

[tropical glaciers] There is a small problem though with their retreat. They have retreated a lot in the last 20 years yet the MSU2LT data would suggest that temperatures haven't increased at these levels.

The next few e-mails are interesting because they indicate that critical research, findings that were the cornerstone of the last two IPCC reports, while being defended against critics in public, were, in fact, considered to be unsupportable, indicative of shoddy work, in private.

<4693> Crowley:

I am not convinced that the "truth" is always worth reaching if it is at the cost of damaged personal relationships

I'm sure you agree—the Mann/Jones GRL paper was truly pathetic and should never have been published. I don't want to be associated with that 2000 year "reconstruction".

<4369> Cook:

I am afraid that Mike is defending something that increasingly cannot be defended. He is investing too much personal stuff in this and not letting the science move ahead.

<0850> Barnett:

[IPCC AR5 models] clearly, some tuning or very good luck involved. I doubt the modeling world will be able to get away with this much longer

<4443> Jones:

Basic problem is that all models are wrong – not got enough middle and low level clouds.

Finally, some e-mails detailing leading climate scientists' efforts to prevent the release of their raw data and/or methodologies for critical review.

<2440> Jones:

I've been told that IPCC is above national FOI Acts. One way to cover yourself and all those working in AR5 would be to delete all emails at the end of the process

<1577> Jones:

[FOI, temperature data]

Any work we have done in the past is done on the back of the research grants we get – and has to be well hidden. I've discussed this with the main funder (US Dept of Energy) in the past and they are happy about not releasing the original station data

While all of these e-mails paint a troubling betrayal of the scientific method, the last two are particularly troubling to me. The pursuit of knowledge through science can't proceed if scientists refuse to share data and methods. In defense of their refusal to share data, suppress its release or even destroy it, climate scientists have claimed that because those asking for the data are skeptics, they will only use the data to try and undermine their results. So what? Either the data and methods stand up to scrutiny and the results are robust or they are not. Either way, the skeptics have done the world a service. If the skeptics' attempts to recreate the results end up confirming the results, then the findings are on more solid ground and the public can lend the work greater credence. If, on the other hand, skeptics do find flaws in the data, methods or results, then from the point of view of knowledge, the world is still better off. Rather than continuing down a blind path, or worse, making policy based on flawed research, scientists can reassess where the original research went wrong and determine if it can be corrected or if an entirely new hypothesis, or research methodology, is called for.

The term skeptic has historically been a badge of honor proudly worn by scientists as indicating their commitment to the idea that in the pursuit of truth, nothing is beyond question, every bit of knowledge is open to improvement and/or refutation as new evidence or better theories emerge. However, in the topsy-turvy field of climate science, "skeptic" is a term of opprobrium and to be labeled a skeptic is akin to being a heretic in the Middle Ages – you may not be literally burned at the stake, but your reputation will be put to flames.

The Climategate scientists continue to claim that the actions disclosed are not bad as they seem and that nothing contained in the e-mails is really important. But this is like the Wizard of Oz saying "pay no attention to the man behind the curtain," when in fact the real action is going on behind the curtain.