

# Met Office 'manipulated climate change figures' says Russian think tank linked to President Putin

By Will Stewart

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An explosive new claim that the Meteorological Office in Britain 'manipulated' climate change figures has come from a leading Russian think-tank founded by a former adviser to Vladimir Putin.

As the Copenhagen summit comes to a climax on Friday, it was alleged that Siberian weather statistics were selected in a way that masks evidence not showing global warming.

The think tank strongly disputes the use of data from the Met Office's Hadley Centre for Climate Change which were released in a bid to diffuse the recent row over hacked emails from the Climate Research Unit in East Anglia.

[Enlarge](#)



People clean the snow from a globe in Copenhagen before the start of today's round of negotiations

The emails were seized upon by global warming sceptics as evidence that academics were massaging the figures.

The Moscow-based Institute of Economic Analysis (IEA) claimed the Hadley Centre used statistics from weather stations in Russian and Siberia that fitted its theory of global warming, while often ignoring those that did not.

More...

- Brown to make 'impassioned' plea for climate change deal as Copenhagen summit teeters on a knife-edge
- **SPECIAL INVESTIGATION:** Climate change emails row deepens as Russians admit they DID come from their Siberian server

The report was seized on by media with close ties to the Kremlin, which is opposed to rigid new curbs on carbon emissions demanded by many Western countries at the Danish summit.

Most of Russia's income is derived from oil and gas, which means its economy could be hit by curbs on carbon emissions.

'Russian meteorological station data did not substantiate the global-warming theory,' stated semi-official RIA Novosti news agency.

Enlarge



Gordon Brown (R) hands the GLOBE Award for International Leadership on the Environment to Mexican President Felipe Calderon (L) at the Bella Center in Copenhagen

It went further in saying the Hadley Centre 'probably tampered with Russian-climate data' by using statistics from only a quarter of available weather stations in its report.

'Over 40 per cent of Russian territory was not included in global-temperature calculations for reasons other than the lack of meteorological stations and observations,' claimed Kommersant newspaper, owned by pro-Kremlin oligarch Alisher Usmanov.

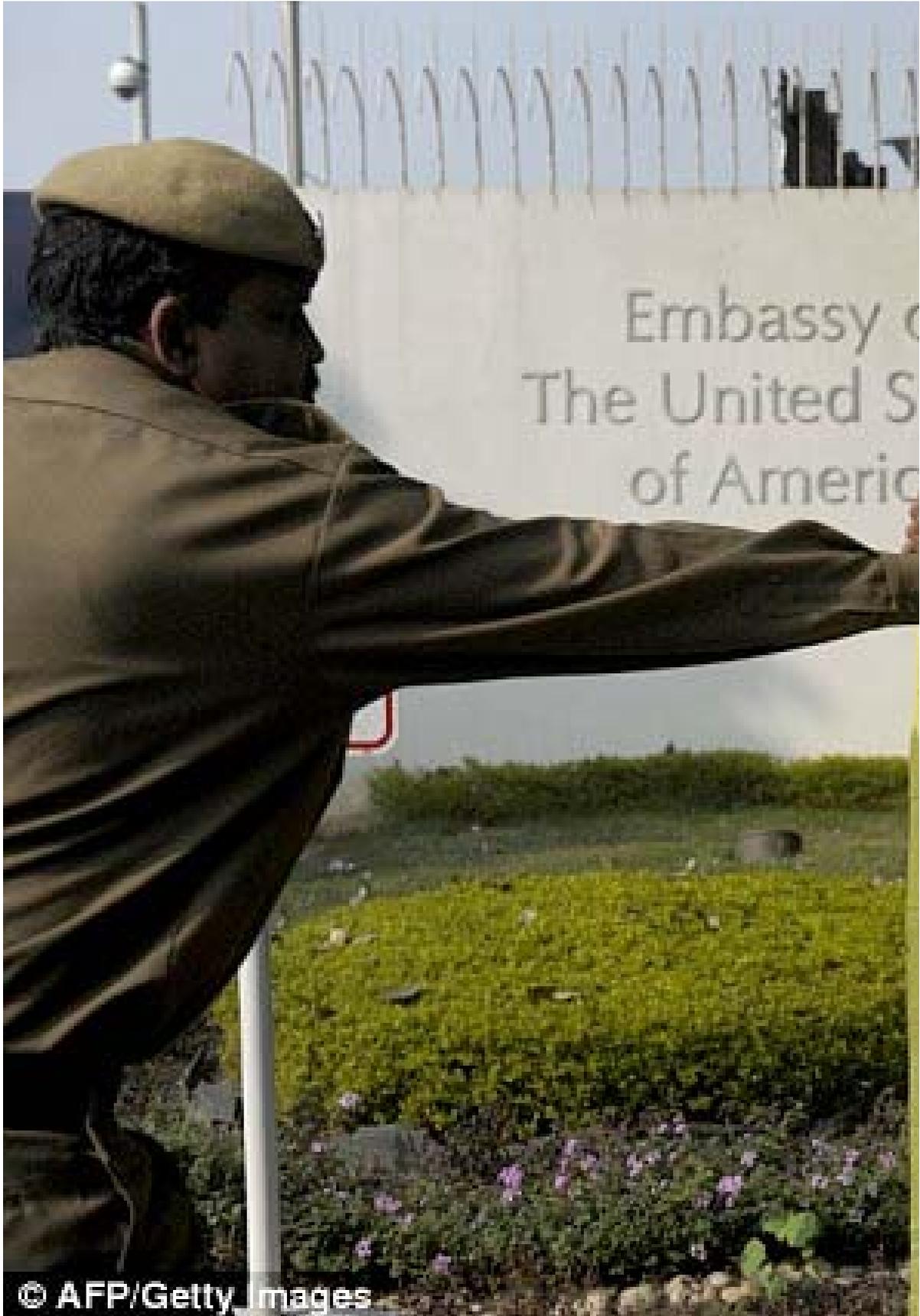
It was alleged the Hadley data known as HadCRUT used incomplete findings from Russian met stations 'far more often than those providing complete

observations'.

'When choosing between stations with breaks in measurements and those with regular measurements in same region, HadCRUT would include the station with gaps in information but with a more obvious picture of warming,' said Kommersant.

And data was also skewed to include stations in large populated areas more frequently than the correct data of remote stations, it was alleged.

Enlarge



An Indian policeman tries to grab a banner from a Greenpeace activist during a protest outside the US embassy in New Delhi today

Enlarge



© AFP/Getty Images

The protest, staged in the background of the ongoing UN climate conference in Copenhagen was held to try and get US President Barack Obama to commit to long term finance and emission targets

One account of the 21 page report said: 'The scale of global warming was

exaggerated due to temperature distortions for Russia accounting for 12.5 per cent of the world's land mass.'

The institute - founded by Andrey Illarionov, a former pro-Western economic aide to Putin who quit the Kremlin criticising his authoritarian policies - alleges that the Hadley report over estimated warming in Russia by up to 0.64C between the 1870s and 1990s, based on fuller statistics.

Illarionov, who edited the report and is also a senior fellow at the Cato Institute in Washington, has a track record of strong opposition to the climate change lobby.

The report's language is less lurid than some accounts of it, but it stated: 'It is not easy to find a rational explanation to such a selective approach. Although one can build up a theory.

'Analysing the temperature trends received from met stations it is hard to get rid of the impression that they do not show any noticeable trend to warming in second half of the 20th and beginning of 21st centuries.'



[Enlarge](#)

© Reuters

Russia's Prime Minister Vladimir Putin is linked to the 'think tank'

It stressed: 'It is easy to see that the met stations are situated not evenly, their concentration is substantially and predictably higher in western and southern regions of the country, and notably lower in northern and eastern.'

It raises the fear that similar methods may have been used in other countries.

In releasing its report last week, the Met Office said it used a network of individual stations designated by the World Meteorological Organisation.

'The subset of stations is evenly distributed across the globe and provides a fair representation of changes in mean temperature on a global scale over land.'

The hacked emails from climate change experts at the University of East Anglia were released to the world via a Russian internet server.

Meanwhile, German Chancellor Angela Merkel this morning said that U.S. pledges to cut greenhouse gas emissions were insufficient and warned that talks at the UN Climate Conference in Copenhagen could fail.

In a speech to parliament before flying to the conference for the final two days, Merkel said failure to reach a deal to fight climate change could do lasting damage.

'The news that we've been receiving is not good,' Merkel said. 'At the moment there doesn't seem to be any reasonable negotiation process in sight but I am hoping that the presence of over 100 leaders can give the necessary impulse.'

Merkel, whose country is the world's sixth largest emitter of greenhouse gases but a leader in renewable energy technology, said the commitment to reduce greenhouse gas emissions by the United States and other industrial nations had to be improved.

'I must say very honestly that the United States offer to cut (emissions) by 4 per cent compared to 1990 levels is not ambitious,' she said.

There would be no agreement unless developing nations, especially China and India, were included, she added.

Enlarge



© Reuters

Smokes billow from chimneys at a chemical factory in Yiyang county of Shangrao, Jiangxi province, China

[Enlarge](#)



German Chancellor Angela Merkel gives a government declaration on the Copenhagen climate summit at the Reichstag

People around the world were looking to the leaders meeting in Copenhagen to reach an agreement, she said. It was essential that nations agreed to strive to limit a rise in global temperatures to two degrees Celsius.

'All (scientific) reports make clear that if we can't agree to limit global warming to two degrees then the costs will be far greater than a change in our lifestyles,' she said.

'Therefore we need first a commitment from all countries to the two-degree

goal - that means limiting global warming to a maximum of two degrees Celsius compared to pre-industrial levels.

'If we are not able to achieve this, then the summit in Copenhagen will be a failure. At this time, I'm not sure if we can achieve it. But I will do all I can together with our environment minister to ensure we do get there.'

## Climate chief dismisses e-mail outrage

By Hilary Whiteman, CNN

December 8, 2009 -- Updated 1242 GMT (2042 HKT)



IPCC chairman talks to CNN

### STORY HIGHLIGHTS

- Climate chief says controversial e-mails were friends, colleagues "letting off steam"
- Leaked or stolen e-mails allegedly suggest that scientists manipulated climate data
- Pachauri says "certainly would" use data from East Anglia's Climatic Research

Unit

- Watch "Campbell Brown" tonight at 8 ET in the U.S. for more on global warming  
Watch "Trick or Truth?" on "Campbell Brown" tonight at 8 ET for a look into the science, skepticism and secrets surrounding global climate change.

(CNN) -- One of the world's leading authorities on climate change has dismissed the contents of controversial e-mails leaked from the University of East Anglia as nothing more than friends and colleagues "letting off steam."

"Well, I can tell you, privately when I talk to my friends, I use language much worse than that. This was purely private communications between friends, between, colleagues, they were letting off steam. I think we should see it as nothing more than that," Rajendra Pachauri, the Chairman of the Intergovernmental Panel on Climate Change (IPCC) told CNN.

In late November, a substantial file including more than 1,000 e-mails either sent from or to

members of the University's Climatic Research Unit (CRU) in eastern England were allegedly hacked and leaked on the Internet.

They contained language seized upon by climate skeptics who say they offer evidence that scientists have manipulated climate data to exaggerate the threat of global warming.



Video: Climate change controversy

The affair has been covered extensively in the global press under the moniker, "Climategate."

Q&A: "Climategate" explained

One e-mail allegedly sent by the head of the CRU, Professor Phil Jones, refers to using "Mike's Nature trick of adding in the real temps to each series for the last 20 years ... to hide the decline."

As one of the world's leading research bodies on climate change, the CRU's research was used in the IPCC's Fourth Assessment Report released in 2007, which is considered to be the most authoritative report on climate change to date.

Explainer: What is at stake in Copenhagen?

Pachauri told CNN there was no way that unreliable climate data could have made its way into the IPCC report.

This was purely private communications between friends, between, colleagues, they were letting off steam

--Rajendra Pachauri

"There are so many checks and balances in the processes and procedures that we follow at the IPCC, there is not one iota of possibility that something like this would happen," he said.

He added he would not hesitate in using the unit's information in any future IPCC reports.

"Well why not, if they are qualified in professional terms I certainly would," Pachauri said.

"I don't see any reason why they should be excluded. The fact is that their actions, their contributions have been totally above board. And they've been completely objective in what

they've carried out. So I don't have any reason whatsoever to leave them out if there's a requirement and they qualify," he added.

Last week, Jones stepped down from his position as head of the CRU while a review is conducted into claims of data tampering.

The e-mails were released just three weeks before the start of the United Nations climate summit in Copenhagen where around 100 heads of state are meeting to agree on a new climate deal.

## Was Russian secret service behind leak of climate-change emails?

FSB accused of paying hackers to discredit scientists after stolen correspondence traced to server in Siberia

By Shaun Walker

Monday, 7 December 2009



Tomcity's offices in Tomsk, Siberia, from where the leaked emails were posted

-  enlarge

The news that a leaked set of emails appeared to show senior climate scientists had manipulated data was shocking enough. Now the story has become more remarkable still.

The computer hack, said a senior member of the Inter-governmental Panel on Climate Change, was not an amateur job, but a highly sophisticated, politically motivated operation. And others went further. The guiding hand behind the leaks, the allegation went, was that of the Russian secret services.

The leaked emails, which claimed to provide evidence that the unit's head, Professor Phil Jones, colluded with colleagues to manipulate data and hide "unhelpful" research from critics of climate change science, were originally posted on a server in the Siberian city of Tomsk, at a firm called Tomcity, an internet security business.

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The FSB security services, descendants of the KGB, are believed to invest significant resources in hackers, and the Tomsk office has a record of issuing statements congratulating local students on hacks aimed at anti-Russian voices, deeming them "an expression of their position as citizens, and one worthy of respect". The Kremlin has also been accused of running co-ordinated cyber attacks against websites in neighbouring countries such as Estonia, with which the Kremlin has frosty relations, although the allegations were never proved.

"It's very common for hackers in Russia to be paid for their services," Professor Jean-Pascal van Ypersele, the vice chairman of the Inter-governmental Panel on Climate Change, said in Copenhagen at the weekend. "It's a carefully made selection of emails and documents that's not random. This is 13 years of data, and it's not a job of amateurs."

The leaked emails, Professor van Ypersele said, will fuel scepticism about climate change and may make agreement harder at Copenhagen. So the mutterings have prompted the question: why would Russia have an interest in scuppering the Copenhagen talks?

This time, if it was indeed the FSB behind the leak, it could be part of a ploy to delay negotiations or win further concessions for Moscow. Russia, along with the United States, was accused of delaying Kyoto, and the signals coming from Moscow recently have continued to dismay environmental activists.

When Ed Miliband, the Secretary of State for Climate Change, visited Moscow this year, he had meetings with high-level Russian officials and pronounced them constructive. But others doubt that Russia has much desire to go green.

Up in the far northern reaches of Russia, there are stretches of hundreds of miles of boggy tundra; human settlements are few and far between. Often, the only inhabitants are indigenous reindeer herders, who in recent years have reported that their cyclical lifestyle is being affected by the climate: they have to wait until later in the year to migrate to winter camps, because the rivers do not freeze as early as they used to. In spring, the snow melts quickly and it becomes harder for reindeer to pull sleds.

Much of Russia's vast oil and gas reserves lie in difficult-to-access areas of the far North. One school of thought is that Russia, unlike most countries, would have little to fear from global warming, because these deposits would suddenly become much easier and cheaper to access. It is this, goes the theory, that underlies the Kremlin's ambivalent attitudes towards global warming; they remain lukewarm on the science underpinning climate change, knowing full well that if global warming does change the world's climate, billions of dollars of natural resources will become accessible. Another motivating factor could be that Russia simply does not want to spend the vast sums of money that would be required to modernise and "greenify" Russia's ageing factories.

But global warming also brings with it a terrifying threat for Russia, the melting of permafrost, which covers so much of the country's territory. Cities in the Siberian north such as Yakutsk are built entirely on permafrost, and if this melts, are in danger of collapsing, along with railways and all other infrastructure.

But many in Russia's scientific community are deeply sceptical of the threat from global warming. And only 40 per cent of Russians believe climate change is a serious threat, a survey shows

Russia's commitments ahead of Copenhagen have been modest. In June, the President, Dmitry Medvedev, said Russia would reduce emission levels by 10 to 15 percent from 1990 levels by 2020. But what this actually means is a whopping 30 per cent rise from the present levels.

Using the 1990 figures as a benchmark is a way to gain extra leeway, because emissions in Russia have tumbled since the Soviet Union collapsed and much of its polluting industrial complex went down with it.

Of course, Russia is not alone in falling short on climate commitments. But nor does it have a track record for openness for dismissal of the claims against the FSB to be straightforward. The Tomsk hackers in the message along with their leak, wrote of their hopes that the release would "give some insight into the science and the people behind it". Similar insights into the hackers themselves look extremely unlikely.

## Did the Russian Secret Service Mastermind 'Climategate'?

More

By John Hudson on December 07, 2009 10:16am

Were Russian spies behind the hacking that kicked off the Climategate scandal? Suspicions are swirling following a statement by Jean-Pascal van Ypersele, a vice-chairman of the Intergovernmental Panel on Climate Change (IPCC), alleging that 'Climategate' was engineered by sophisticated, well-funded operatives attempting to "destroy public confidence" in the science of climate change. He argued that because the e-mails "were first uploaded to a skeptic website from a computer in Russia" it indicates the hackers were paid. The British press in particular has latched onto the issue, accusing Russia of engineering Climategate to jeopardize a global climate treaty in Copenhagen. The putative motive? Global warming might paint Siberia green. But many are calling the accusation baseless and irresponsible:

- Not the Work of Amateurs, writes Charles Johnson at Little Green Footballs: "I don't know if Russia was responsible, but this has never looked like a simple case of computerized vandalism to me. After looking through the stolen data, it's very clear that whoever did it spent a lot of time picking out the bits that would look the most incriminating, specifically to sabotage the Copenhagen summit."

- A Nefarious Russian Plot, suggests Shaun Walker at The Independent: "This... could be part of a ploy to delay negotiations or win further concessions for Moscow. Russia, along with the United States, was accused of delaying Kyoto, and the signals coming from Moscow recently have continued to dismay environmental activists." The UK's Daily Mail adds that Russia is one of the world's largest oil producers and has a "vested interest in opposing sweeping new agreements to cut emissions."

- Pure, Unsubstantiated, Speculation, writes Richard at EU Referendum: "The fact that the material was placed on a Russian server gives no clue whatsoever as to the identity of the person (or persons) who uploaded the material, or of their location. The newspapers, therefore, have to invent a connection and a 'motive' in order to forge a link."

- An Attempt to Discredit Climategate, writes James Delingpole at The Telegraph: "The fact that Climategate was tactically planned and politically motivated doesn't suddenly make it a spy-story, or a crime-story, or – as the IPCC would so dearly love to pretend, a non-story. We shall see a lot more of this in the coming weeks: desperate attempts by various interested parties to pretend that Climategate is something that it is not."

5 December 2009

## UN hits back at climate sceptics amid e-mails

## row



The e-mails were posted on the internet last month

The UN's official panel on climate change has hit back at sceptics' claims that the case for human influence on global warming has been exaggerated.

The Intergovernmental Panel on Climate Change (IPCC) said it was "firmly" standing by findings that a rise in the use of greenhouse gases was a factor.

It was responding to a row over the reliability of data from East Anglia University's Climatic Research Unit

Leaked e-mail exchanges prompted claims that data had been manipulated.

Last month, hundreds of messages between scientists at the unit and their peers around the world were put on the internet along with other documents.

Some observers alleged one of the e-mails suggested head of the unit Professor Phil Jones wanted certain papers excluded from the UN's next major assessment of climate science.

“ The body of evidence is the result of the careful and painstaking work of hundreds of scientists worldwide ”

Professor Thomas Stocker and Professor Qin Dahe, IPCC

Professor Jones, who denies this was his intention, has stood down from his post while an independent inquiry takes place.

In a statement, Professor Thomas Stocker and Professor Qin Dahe, co-chairmen of the IPCC's working group 1, condemned the act of posting the private e-mails on the internet, but avoided commenting on their content.

They went on to point to a key finding that states: "The warming in the climate system is unequivocal.

"[It] is based on measurements made by many independent institutions worldwide that demonstrate significant changes on land, in the atmosphere, the ocean and in the ice-covered areas of the Earth.

"Through further independent scientific work involving statistical methods and a range of different climate models, these changes have been detected as significant deviations from natural climate variability and have been attributed to the increase of greenhouse gases."

They added: "The body of evidence is the result of the careful and painstaking work of hundreds of scientists worldwide.

“ There is an anti-science group, there is a flat Earth group, if I may say so, over the scientific evidence for climate change ”

Gordon Brown, Prime Minister

"The internal consistency from multiple lines of evidence strongly supports the work of the scientific community, including those individuals singled out in these e-mail exchanges."

The row comes ahead of the Copenhagen climate summit which starts on Monday. Earlier, Climate Change Secretary Ed Miliband told the BBC he would be "very surprised" if there had been any wrongdoing on the part of the East Anglia University scientists.

"We're in a moment when the world is about to make some big political decisions," he said. "And there will be people who don't want the world to make those big decisions and they are trying to use this in part to say somehow this is all in doubt and perhaps we should put the whole thing off.

"Well, I just think they're wrong about that."

Prime Minister Gordon Brown said the scientific evidence was "very clear" and called doubters a "flat Earth group".

He said: "There is an anti-change group. There is an anti-reform group. There is an anti-science group, there is a flat Earth group, if I may say so, over the scientific evidence for climate change."

'Open and transparent'

Meanwhile, the Met Office said it would publish all the data from weather stations worldwide, which it said proved climate change was caused by humans.

Its database is a main source of analysis for the IPCC.

It has written to 188 countries for permission to publish the material, dating back 160 years from more than 1,000 weather stations.

John Mitchell, head of climate science at the Met Office, said the evidence for man-made global warming was overwhelming 5 December 2009

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John Mitchell, head of climate science at the Met Office, said the evidence for man-made global warming was overwhelming - and the data would show that.

"So this is not an issue of whether we are confident or not in the figures for the trend in global warming, it's more about being open and transparent," he told the BBC.

The Met Office said it had already planned to publish the material long before the row and denied reports that government ministers had tried to block the publication.

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4 December 2009

## Colleague defends 'ClimateGate' professor



A colleague of the UK professor at the centre of the climate e-mails row says "sceptics" have embarked on a "tabloid-style character assassination".

Professor Andrew Watson rallied to the defence of climate scientist Phil Jones, whose e-mail exchanges prompted claims that data had been manipulated.

There was no evidence of attempting to mislead people, Professor Watson added.

The University of East Anglia has commissioned an independent inquiry into the affair.

"Despite the best efforts of the sceptics, there is no instance in these e-mails that anyone has found so far - and there are millions of people looking - that suggests the scientists manipulated their fundamental data," Professor Watson, from the university's School of Environmental Sciences, stated.

### 'CLIMATEGATE' TIMELINE

19 Nov - Rumours appear on blogs that a hacker had obtained emails from CRU computers

20 Nov - UEA confirms emails and documents from CRU had appeared illegally on the internet

23 Nov - Climate "sceptics" say the e-mails show that data is being manipulated and call for an inquiry

1 Dec - Man at centre of row, Professor Phil Jones, stands down while inquiry is conducted

3 Dec - Saudi chief negotiator says row proves climate change is not caused by humans

3 Dec - UEA commission Sir Muir Russell, a former civil servant, to chair an independent inquiry

4 Dec - Head of UN climate science body says matter cannot be swept "under the carpet"

Chair for climate e-mail review

Data row 'will affect Copenhagen'

E-mail row scientist steps down

UK climate unit's e-mails hacked

Copenhagen: What's your solution?

The row broke out last month when hundreds of messages between scientists at the University of East Anglia's Climatic Research Unit (CRU) and their peers around the world were put on the internet along with other documents.

Some observers allege that one of e-mails suggested CRU head Professor Phil Jones wanted

certain papers excluded from the UN's next major assessment of climate science.

Professor Jones, who has stood aside from his job pending the results of an internal review, strenuously denies this was his intention and says other e-mails have been taken out of context. Critics of the scientific consensus have claimed that the e-mails undermine the case that greenhouse gas emissions from human activities are causing global warming, and have dubbed the issue "ClimateGate".

Professor Watson added: "The climate sceptics would have us believe the e-mails invalidate the CRU data set, but they don't.

"They would have us believe that the warming that has occurred during the 20th Century is a construct entirely in the minds of a few climate scientists.

"But this point of view surely has some difficulty in explaining why Arctic sea ice is declining so rapidly, mountain glaciers around the world are retreating so rapidly, and Spring is coming much earlier now than it did 50 years ago."

'Serious issue'

Earlier, the head of the UN's climate science body said the issue should be investigated.

#### HAVE YOUR SAY

How does the average Joe decide if his efforts of recycling and cutting energy use is at all worth it?

Paul Price, Carmarthen, UK

Send your comments

Dr Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change (IPCC), said the matter could not be swept "under the carpet".

"We will certainly go into the whole lot and then we will take a position on it," he said.

Saudi Arabia's lead climate negotiator told BBC News that the e-mail row will have a "huge impact" on next week's UN climate summit in Copenhagen.

Mohammad Al-Sabban said that he expected it to derail the single biggest objective of the summit - to agree limitations on greenhouse gas emissions.

"It appears from the details of the scandal that there is no relationship whatsoever between human activities and climate change," he suggested.

However, the UK's Energy and Climate Change Secretary, Ed Miliband, said the idea that the e-mail row would derail the Copenhagen summit was "nonsense".

#### CLIMATE ANIMATION



A journey through climate history

"One string of e-mails does not undermine the global science on climate change," he told BBC News.

"There will be people who want to use it to say that this somehow casts doubt on Copenhagen or the scientific evidence; frankly, I think that is nonsense and I think we need to resist listening to those siren voices."

The University of East Anglia has commissioned an independent review into how the e-mails ended up on the internet, in addition to a police investigation into how the material was obtained.

The review will cover a number of areas, including whether there is evidence of suppression or manipulation of data, and make recommendations about the management of its data.

## Why there's no sign of a climate conspiracy in hacked emails

- 18:36 04 December 2009 by Michael Le Page
- For similar stories, visit the [Climate Change Topic Guide](#)

The leaking of emails and other documents from the Climate Research Unit (CRU) at the University of East Anglia, UK, has led to a media and political storm. The affair is being portrayed as a scandal that undermines the science behind climate change. It is no such thing, and here's why.

We can be 100 per cent sure the world is getting warmer

Forget about the temperature records compiled by researchers such as those whose emails were hacked. Next spring, go out into your garden or the nearby countryside and note when the leaves unfold, when flowers bloom, when migrating birds arrive and so on. Compare your findings with historical records, where available, and you'll probably find spring is coming days, even weeks earlier than a few decades ago.

You can't fake spring coming earlier, or trees growing higher up on mountains, or glaciers retreating for kilometres up valleys, or shrinking ice cover in the Arctic, or birds changing their migration times, or permafrost melting in Alaska, or the tropics expanding, or ice shelves on the Antarctic peninsula breaking up, or peak river flow occurring earlier in summer because of earlier snowmelt, or sea level rising faster and faster, or any of the thousands of similar examples.

None of these observations by themselves prove the world is warming; they could simply be regional effects, for instance. But put all the data from around the world together, and you have overwhelming evidence of a long-term warming trend.

We know greenhouse gases are the main cause of warming

There are many ways, theoretically, to warm a planet. Orbital changes might bring it closer to its star. The star itself might brighten. The planet's reflectivity – albedo – can change if white ice is replaced by darker vegetation or water. Changes in composition of the atmosphere can trap more heat, and so on.

It could even be that Earth isn't really warming overall, just that there has been a transfer of heat from the oceans to the atmosphere.

Researchers have to look at all of these factors. And they have. Direct measurements since the 1970s make it certain, for instance, that neither the sun's fluctuating brightness nor changes in the number of cosmic rays hitting Earth are responsible for the recent warming. Similarly, direct measurements over the past century show that the oceans have warmed dramatically. The planet as a whole is getting warmer.

That leaves the rising levels of greenhouse gases in Earth's atmosphere – which have been directly measured – as the main suspects. Working out how these changes should affect the planet's temperature in theory is extremely complicated. The only way to do it is to plug all the detailed physics into computers – create computer models, in other words. The results show that the only factor that produces anything like the temperature rise seen is the observed increase in greenhouse gases.

How do we know the models aren't wrong? From studies of past climate. To take one example, ice cores drilled from the Antarctic ice-sheet show a surprisingly close correlation between

greenhouse gas levels and temperature over the past 800,000 years.

During this time, greenhouse gases have never risen as high or as fast as they are now. That means there is still a lot of uncertainty about the extent of future warming – estimates of the effect of doubling CO<sub>2</sub>, including all feedback processes, range from 2°C to 6°C. But the big picture is clear.

Is it possible that tens of thousands of scientists have got it wrong? It is incredibly unlikely. The evidence that CO<sub>2</sub> levels are rising is irrefutable, and the idea that rising levels lead to warming has withstood more than a century of genuine scientific scepticism.

So why are scientists "fixing" the temperature data?

Some of the contents of the hacked email material, such as the "Harry\_read\_me.txt" file, might appear shocking, with its talk of manipulation and "tricks". But raw data almost always has to be "fixed".

For example, suppose you and your neighbour keep a record of the temperature where you live, and decide to combine your records to create an "official" record for your locality. When you compare records, however, you're surprised to find they are very different.

There are many reasons why this might be so. One or other thermometer might be faulty. Perhaps you placed your thermometer in an inherently warmer place, or where it was sometimes in direct sunshine, or took measurements at a different time of day, and so on. To combine the two records in any meaningful way, you'll need to adjust the raw data to account for any such factors.

Not doing so would be pretty dumb. Where possible, scientists should always look at their data in the context of other, comparable data. Such scrutiny can often reveal problems in the way one or other set of data was acquired, meaning it needs adjusting or discarding. Some apparent problems with the predictions of climate models, for example, have actually turned out to be due to problems with real-world data caused by the failure to correct for factors such as the gradual changes in orbits of satellites.

The tricky question is where to draw the line. There is a continuum from corrections based on known problems (essential), to adjustments based on probable errors in the data (good practice as long as all assumptions are made clear), to adjustments done solely to make the data fit a hypothesis (distinctly dodgy).

It remains to seen if any of the adjustments described in the hacked material fall into this last category. But the mere fact that the leaked material reveals climate researchers "fixing" data is not proof of fraud. Manipulating data is what scientists do.

But what about that "trick" to "hide the decline"?

One of the leaked emails refers the "trick" of adding the real temperatures, as recorded by thermometers, to reconstructions of past temperatures based on looking at things such as growth rings in trees.

The problem is that some sets of tree-ring data suggest temperatures start falling towards the end of the 20th century, which direct temperature measurements show was not the case. So the researchers instead replaced the reconstructed temperature data for this period with the directly measured temperature data.

Is this an unjustified "fix"? No, because some sets of tree-ring data can be compared with the direct records of local temperature for the past century. Up until the 1960s, there is a very close correlation between the density of growth rings in trees in northern latitudes and summer temperatures, but after this it starts to break down.

We don't know why. It might be that the correlation breaks down whenever it gets too hot, in which case reconstructions of past temperature that rely heavily on tree-ring data will give a misleading picture. Or it might be due to some factor unique to the 20th century, such as changes in the timing of the snow melt, in which case it will not affect reconstructions.

The issue has not yet been resolved but there has been no attempt to conceal this or any of the

many other problems with temperature reconstructions. On the contrary, the head of the Climate Research Unit at East Anglia, Phil Jones, and others whose emails were hacked, have published papers discussing it in prominent journals such as Nature.

What really matters is not how hot it is now or how hot it was a few hundred years ago, but how hot it is going to get. Campaigners have highlighted temperature reconstructions like the "hockey stick" graph because they are easy for people to understand, but in scientific terms they are not of great significance. We know the world is warming and we know that the main cause is rising CO<sub>2</sub> levels. So with CO<sub>2</sub> levels rising ever faster, we can be sure things are going to get a lot hotter.

But surely any attempt to block publication of sceptical scientific papers is indefensible?

Some of the leaked emails reveal the climate researchers' unhappiness with the publication of scientific papers questioning the global warming consensus, and seem to indicate a desire to remove editors at journals they perceived as being sympathetic to global warming sceptics. This sounds horrifying to many non-scientists. But that is confusing two very different things: attempting to block publication in certain scientific journals and the suppression of information. Scientific journals are only supposed to publish papers that meet certain scientific standards. Researchers work for years on papers and then submit them to the top journals in their field. The editors select the ones they think are most important or noteworthy, and send them to a handful of reviewers - scientists working in the same areas. Each reviewer sends back a report suggesting acceptance, rejection or revisions, and the editor decides whether to publish based on these reports. Most papers sent to leading journals get rejected.

This system of "peer review" has its critics, but is generally regarded as the least-worst system to ensure the quality of published scientific research. Researchers whose work is rejected can resubmit their papers to other, less high-profile journals. Failing that, anyone is free to publish their views on global warming online, or in books and newspapers if they can.

Respected scientists have agreed that the papers mentioned in the emails had serious scientific flaws and possibly should not have been accepted by the journals in question. If this were the case, it would raise questions about the role of the editors at those journals. It is hardly outrageous behaviour to call for the replacement of people who are, in your personal view, not doing their jobs properly.

What about apparent attempts to avoid freedom of information requests?

In some emails, Jones – who has stepped down pending a review of what went on – discusses ways not to fulfil requests made under the UK's freedom of information laws. In one, he calls on other researchers to delete certain emails. While on the face of it that does not look good, whether they broke any laws or breached any university guidelines remains to be determined. In other cases, however, it is clear that researchers could not comply with freedom of information requests because they did not have the right to release all the data in question. There is also no doubt that climate change deniers have been using freedom of information requests to harass researchers and waste their time, with the CRU receiving more than 50 such requests in one week alone this year.

What's more, individual researchers have little to gain from giving away data and software they have spent years working on. Scientific careers depend on how many papers you publish. If you keep data to yourself, no one else can publish papers based on it before you do.

This does not mean researchers should be allowed to hold onto their data. It is undoubtedly in the public interest for there to be full disclosure of the measurements upon which climate scientists are basing their conclusions. In fact, much of it is already freely available. But the pressures climate researchers are under does help to explain why many are so reluctant to make all data public.

Clearly the leaked emails have caused disquiet in some quarters. There's no doubt there are concerns about the content of some of the emails – even when you know the way science really

works – as laid out above. The Intergovernmental Panel on Climate Change and the University of East Anglia are now holding investigations to determine if anything unethical did go on. If these dispel uncertainty and restore the credibility of science, that can only be a good thing.

3 December 2009

## Climate e-mail hack 'will impact on Copenhagen summit'

By Richard Black

Environment correspondent, BBC News website



Saudi Arabia is the world's leading producer of oil

E-mails hacked from a climate research institute suggest climate change does not have a human cause, according to Saudi Arabia's lead climate negotiator.

Mohammad Al-Sabban told BBC News that the issue will have a "huge impact" on next week's UN climate summit, with countries unwilling to cut emissions.

Scientists say the e-mails from the University of East Anglia do not alter the picture of man-made warming.

Meanwhile, India has set a target for curbing the rise in its CO2 emissions.

Environment minister Jairam Ramesh pledged to cut India's emissions intensity - the amount of greenhouse gases produced for every unit of GDP - by 20-25% by 2020, "if we get support from the international community".

Human impact denied

The e-mails issue arose two weeks ago when hundreds of messages between scientists at the university's Climatic Research Unit (CRU) and their peers around the world were posted on the world wide web, along with other documents.

“ It's a transparent attempt to discredit the scientific evidence base and sow confusion ahead of the talks in Copenhagen ”

Malini Mehra

Centre for Social Markets

Chair for climate e-mail review

It appears that the material was hacked or leaked; a police investigation has yet to reveal which. CRU maintains one of the world's most important datasets on how global temperatures have changed.

Climate "sceptics" have claimed that the e-mails undermine the scientific case for climate change being caused by humanity's greenhouse gas emissions, dubbing the issue "ClimateGate".

But it has not until now materialised as an issue likely to influence the Copenhagen negotiations, which are supposed to agree a new global deal on combating climate change to supplant the Kyoto Protocol.

Saudi Arabia is an influential member of the G77/China bloc which leads the "developing world" side in many elements of the UN negotiations.

Mr Al-Sabban made clear that he expects it to derail the single biggest objective of the summit - to agree limitations on greenhouse gas emissions.

#### CLIMATE CHANGE GLOSSARY

Select a term from the dropdown:

Glossary  
Adaptation  
Annex I countries  
Annex II countries  
Anthropogenic climate change  
Aosis  
AR4  
Atmospheric aerosols  
Bali action plan  
Bali roadmap  
Baseline for cuts  
Biofuel  
Black carbon  
Boxer–Kerry bill  
Business as usual  
Cap and trade  
Carbon capture and storage (CCS)  
Carbon dioxide (CO<sub>2</sub>)  
Carbon dioxide (CO<sub>2</sub>) equivalent  
Carbon footprint  
Carbon intensity  
Carbon leakage  
Carbon neutral  
Carbon offsetting  
Carbon sequestration  
Carbon sink  
Certified Emission Reduction (CER)  
Clean Coal Technology  
Clean Development Mechanism (CDM)  
Climate change  
CFCCO<sub>2</sub>  
Commitment period  
COP15  
Country in transition  
Dangerous climate change  
Deforestation  
Emission Trading Scheme (ETS)  
EU Burden–sharing agreement  
Feedback loop  
Flexible mechanism  
Fossil\_fuels  
Geological sequestration  
Global average temperature  
Global energy budget  
Global dimming  
Global warming  
Global Warming Potential (GWP)  
Greenhouse gases (GHGs)  
Greenhouse effect  
Hockey stick  
IPCC  
Joint implementation  
Kyoto Protocol  
LDCs  
LULUCF  
Major Economies Forum on Energy and Climate  
Methane  
Mitigation  
Nairobi work program  
Natural greenhouse effect  
Non-annex I countries  
Ocean acidification  
ppm (350/450)  
Per-capita emissions  
Pre-industrial levels of carbon dioxide  
REDD  
Renewable energy  
Stern review  
Technology transfer  
Tipping point  
Twenty–twenty–twenty (20–20–20)  
UNFCCC  
Waxman–Markey energy bill  
Weather

Carbon intensity - A unit of measure. The amount of carbon emitted by a country per unit of Gross Domestic Product.

"It appears from the details of the scandal that there is no relationship whatsoever between human activities and climate change," he told BBC News.

"Climate is changing for thousands of years, but for natural and not human-induced reasons.

"So, whatever the international community does to reduce greenhouse gas emissions will have no effect on the climate's natural variability."

Some other countries shared this view, he said; and as a result, governments would not be prepared to countenance agreeing anything that would affect economic growth for many years, until "new evidence" settled the scientific picture.

However, governments might be willing to commit to "no-cost" measures to constrain emissions, he said, while Western nations should be prepared to assist poor vulnerable countries financially as they prepared for impacts of "the already happening natural climate change".

Mr Al-Sabban said the UN summit should encourage a "full investigation" of the CRU e-mails affair.

'Out of step'

As the world's leading oil producer, Saudi Arabia has previously fought attempts to agree curbs on emissions, and has also argued that it should receive financial compensation for "lost" revenue, given that constraints on emissions might restrict oil sales.

To some long-time observers of the UN negotiations, Mr Al-Sabban's comments indicate a continuation of this strategy.



What 'ClimateGate' means

"It's a transparent attempt to discredit the scientific evidence base and sow confusion ahead of the talks in Copenhagen; most of us have seen this all before," said Malini Mehra, founder and CEO of the Centre for Social Markets in India.

"[The Saudis] appear to have regressed to the days when they were out-and-out climate deniers - not surprising for a fossil fuel dependent economy, but not far-sighted and certainly out of step with the rest of the developing world."

A spokeswoman for the European Commission said that with or without the CRU hack, evidence for man-made climate change was "irrefutable".

"The world's leading scientists overwhelmingly agree that what we're experiencing is not down to natural variation in the climate over time, but due to human activities," she said.

"If we do not act, climate change will continue apace and lead to major damaging impacts to the natural world and society."

The UK government has not yet responded to a request for a response.

Aim to fail

Earlier in the week, CRU's director, Phil Jones, stood aside from his post pending the results of a review.

The university has just announced that the review will be chaired by Sir Muir Russell, a former civil servant.

Other academics prominent in developing the mainstream view of climate science maintain that the contents of the stolen documents make no difference to the picture outlined by the Intergovernmental Panel on Climate Change (IPCC) in its landmark 2007 assessment.

IPCC PROJECTIONS FOR 2100

Probable temperature rise between 1.8C and 4C

Possible temperature rise between 1.1C and 6.4C

Sea level likely to rise 28-43cm

Arctic summer sea ice disappears in second half of century

Increase in heatwaves very likely

Increase in intensity of tropical storms likely

Climate, from Bali to Copenhagen

India pledges to slow emissions rise

"There is a consensus among the world's scientists that climate change is real and there's a need to confront it," said Michael Mann from Pennsylvania State University in the US, a leading palaeoclimatologist.

"Those who are advocating inaction, that don't want to see progress in Copenhagen, don't have science on their side.

"Instead they've manufactured this false controversy to distract the public and to distract policymakers, to try to thwart progress in Copenhagen."

Meanwhile another leading US climate scientist, Nasa's James Hansen, has said it would be better if the Copenhagen summit failed.

In an interview with The Guardian, Dr Hansen said that any agreement likely to emerge from

the meeting would be so flawed that it would be better to start again.

"I would rather it not happen if people accept that as being the right track, because it's a disaster track," he told the newspaper.

The last few days have seen intense discussions in Copenhagen between representatives of a few countries considered to be particularly important in the issue.

EU delegates have been asking China to increase its offer of reducing carbon intensity by 40-45% by 2020, while China and other major developing countries have rejected elements of a draft deal proposed by the Danish hosts that would see global emissions peaking in 2020 en route to a 50% cut by 2050.

The Indian pledge of cutting emissions intensity by 20-25% is less than the Chinese figure, and Mr Ramesh's words make clear that the cuts will be on this scale only if western countries provide financial assistance.

Richard.Black-INTERNET@bbc.co.uk

27 November 2009

## Inquiry into stolen climate e-mails

By Roger Harrabin

Environment analyst, BBC News



The supposed e-mails have been widely circulated on the web

Details of a university inquiry into e-mails stolen from scientists at one of the UK's leading climate research units are likely to be made public next week.

Announcement of a chair of the inquiry and terms of reference will probably be made on Monday, a source says.

The University of East Anglia's (UEA) press office did not confirm the date.

But a spokesperson said information about the investigation into the hack at UEA's Climatic Research Unit (CRU) would be made public very soon.

Scientists will be scrutinising the choice of chair and the terms of reference.

One senior climate scientist told me that the chair would have to be a person accepted by both mainstream climate scientists and sceptics as a highly respected figure without strong connections to either group.

BBC News understands that senior individuals at UEA have acknowledged the potential damage to the university's reputation from the CRU affair and are anxious to clear the institution's name.

But there is a risk that some people will not accept the findings of any inquiry unless it is fully independent, as demanded by the former UK Chancellor Lord Lawson earlier in the week.

A petition is running on the 10 Downing Street website calling for CRU to be suspended from preparation of any government climate statistics until the allegations have been fully investigated.

Some researchers would not comment until they had seen UEA's nominated chairman and terms of reference.

But Professor Sir John Houghton, chair of the IPCC's first science panel, said he would not support an inquiry as many of those demanding one were biased.

Phil Willis MP said the House of Commons Science and Technology Select Committee - of which he is chair - had written to UEA asking for copies of the e-mails and an explanation.

Depending on the response, the committee will decide whether to proceed further.

Professor Sir David King, the former government chief scientist, told BBC News there are three key issues:

- how did the leakage occur - was there any payment in the process?
- the alleged behaviour of the scientists indicated by the e-mails
- does this have any impact on the scientific conclusion?

If an independent inquiry encompassed all three aspects, Professor Sir David said he would support it.

## **A climate scandal, or is it just hot air?**

By [Eloise Gibson](#)

4:00 AM Saturday Nov 28, 2009



### **Leaked emails were this week used to allege that scientists hyped evidence of man-made global warming. Photo / Supplied**

Before this week, few New Zealanders knew who Phil Jones was.

Now the British scientist is at the centre of an email scandal after about 1000 emails spanning a decade were stolen from the Climate Research Unit he leads at the University of East Anglia.

Emails seen by the Herald, from New Zealand scientists, reveal little apart from some grumbling about a research paper they had already publicly panned, by Auckland University's Chris de Freitas.

But some of the conduct hinted at in the emails is more difficult to explain.

In one of the stolen emails, Dr Jones appears to suggest he and his colleagues should delete emails lest they fall into the hands of climate-change deniers.

In another, he discusses blocking a research paper questioning global warming from being published in a scientific journal.

Climate experts in several countries went into damage control - stressing that while the emails were personally embarrassing for three or four scientists, they did not undermine the evidence of man-made global warming gathered by hundreds of top scientists over many years.

Article continues below

But while the scientific questions were answered, the "delete the emails" message left questions which prompted Guardian columnist George Monbiot - a strong supporter of action to fight man-made global warming - to call for Dr Jones' resignation.

"No one has been as badly let down by the revelations in these emails as those of us who have championed the science," he wrote on Guardian.co.uk.

"There are some messages that require no spin to make them look bad."

One of the hacking victims, Kevin Trenberth of the National Centre for Atmospheric Research in Boulder, Colorado, pointed out that the timing of the attacks seemed calculated to create doubt ahead of the Copenhagen climate talks, which start in just over a week.

Bob Ward, director of policy and communications at the Grantham Research Institute on Climate Change, told the Guardian newspaper that, while he was sorry for the scientists who had suffered years of attacks by "so-called sceptics", there should be an independent investigation of their conduct. As for Dr Jones, he issued a statement on his unit's website saying some of the emails were "clearly" written in the heat of the moment and he regretted any confusion. "My colleagues and I accept that some of the published emails do not read well."

### **Who's who**

\* Phil Jones

Head of the CRU at the University of East Anglia in Britain.

\* Kevin Trenberth

New Zealand-born head of climate analysis section at the National Centre for Atmospheric Research in Boulder, Colorado.

\* Michael Mann

Professor at Pennsylvania University and director of its Earth System Science Centre.

### **THE EMAILS, THE CRITICISM AND THE DEFENCE**

**OCTOBER 2008**

*From: Kevin Trenberth*

*To: Michael Mann (and others)*

*Subject: Re: BBC u-turn on climate*

*Date: Mon, 12 Oct 2009 08:57:37 -0600*

"The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't.

"The CERES data published in the August BAMS 09 supplement on 2008 shows there should be even more warming: but the data are surely wrong. Our observing system is inadequate."

**Critics say:**

This proves that the world is not warming and leading IPCC scientists cannot explain why.

**The defence:**

(Background: Clouds and the Earth's Radiant Energy System (CERES) is a network of Nasa scientific satellite instruments designed to help understand the role clouds and the sun's energy cycle play in global climate change.)

Trenberth is talking about the inability of climate observations to account for all of the sun's energy. Because these observations are not perfect, scientists cannot fully explain, for example, why 2008 was as cool as it was.

Dr Gavin Schmidt, a climate modeller at the Nasa Goddard Institute for Space Studies in New York, said the comment makes perfect sense if you read Trenberth's paper on quantifying changes in the Earth's energy budget.

"He is concerned about our inability currently to track small year-to-year variations in the radiative fluxes," he said on climate comment website Realclimate.

**AUGUST 2008**

*From: Phil Jones*

*To: Gavin Schmidt*

*Subject: Re: Revised version the Wengen paper*

*Date: Wed Aug 20 09:32:52 2008*

*Cc: Michael Mann*

"... Keith/Tim still getting FOI requests as well as MOHC and Reading. All our FOI officers have been in discussions and are now using the same exceptions not to respond - advice they got from the Information Commissioner ...

The FOI line we're all using is this. IPCC is exempt from any countries FOI - the sceptics have been told this. Even though we (MOHC, CRU/UEA) possibly hold relevant info the IPCC is not part our remit (mission statement, aims etc) therefore we don't have an obligation to pass it on.

Cheers Phil"

**MAY 2008**

*From: Michael Mann*

*To: Phil Jones*

*Subject: Re: IPCC & FOI*

*Date: Thu, 29 May 2008 08:12:02 -0400*

"Hi Phil,

laughable that CA would claim to have discovered the problem. They would have run off to the Wall Street Journal for an exclusive were that to have been true. I'll contact Gene about this ASAP. His new email is: xxx

talk to you later,

mike

... *Phil Jones wrote:*

Mike,

Can you delete any emails you may have had with Keith re AR4? Keith will do likewise. He's not in at the moment - minor family crisis. Can you also email Gene and get him to do the same? I don't have his new email address. We will be getting Caspar to do likewise."

## **FEBRUARY 2005**

*From: Phil Jones*

*To: Michael E. Mann*

*Subject: Re: For your eyes only*

*Date: Thu Feb 3 13:11:46 2005*

"...

*At 09:41 AM 2/2/2005, Phil Jones wrote:*

"Mike,

... Just sent loads of station data to Scott. Make sure he documents everything better this time! And don't leave stuff lying around on ftp sites - you never know who is trawling them.

The two MMs have been after the CRU station data for years. 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. Does your similar act in the US force you to respond to inquiries within 20 days? - ours does !"

### **Critics say:**

Scientists have been caught conspiring to delete emails and documents to prevent them being released. Even some supporters of the scientists involved called the suggestion to delete emails ill-advised, and one former supporter, climate blogger George Monbiot, called for Jones to resign.

### **The defence:**

CRU Pro-Vice Chancellor of Research, Trevor Davies, said despite the suggestion, no records were deleted, altered or "otherwise dealt with in any fashion with the intent of preventing the

disclosure".

Phil Jones said CRU had been bombarded with freedom of information requests to release temperature data from meteorological services around the world which it did not own. "This information is not ours to give ... we hope to gain permission from each of these services to publish their data in the future," he said.

## **JULY 2004**

*From: Phil Jones*  
*To: Michael Mann*  
*Subject: HIGHLY CONFIDENTIAL*  
*Date: Thu Jul 8 16:30:16 2004*

"... The other paper by MM is just garbage - as you knew. De Freitas again. Pielke is also losing all credibility as well by replying to the mad Finn as well - frequently as I see it. I can't see either of these papers being in the next IPCC report. Kevin and I will keep them out somehow - even if we have to redefine what the peer-review literature is!

Cheers

Phil"

### **Critics say:**

The trio were trying to keep dissenting views on global warming out of an IPCC report by suppressing scientific research.

### **The defence:**

There was no attempt to keep material out of IPCC assessments. Both papers discussed in the email - by McKittrick and Michaels (2004) and Kalnay and Cai (2003) - were cited and discussed in Chapter 2 of the IPCC AR4 report.

## **NOVEMBER 1999**

*From: Phil Jones*  
*To: ray bradley, mann, mhughes*  
*Subject: Diagram for WMO Statement*  
*Date: Tue, 16 Nov 1999 13:31:15 +0000*

Dear Ray, Mike and Malcolm,

"... I've just completed Mike's Nature trick of adding in the real temps to each series for the last 20 years (ie from 1981 onwards) and from 1961 for Keith's to hide the decline. Mike's series got the annual land and marine values while the other two got April-Sept for NH land N of 20N."

### **Critics say:**

A top scientist fudged the data to hide an inconvenient patch of temperature decline.

**The defence:**

(Background: Scientists sometimes use historical records stored in nature to track temperature changes before thermometers. One of three well-known historical series tracks temperature using tree-rings.)

The "trick" Jones used is quite common - in order to give a picture of how temperatures have varied over the past 1000 years, he stopped using tree-ring data from 1960 onwards and switched to directly measured temperatures. That is done because tree-ring records match real temperatures (measured by thermometers) very well until about 1960, when tree-rings show temperature declining while real historical measurements from thermometers do not.

This may be because trees were affected by environmental upheaval but, whatever the reason, the authors of the tree-ring data do not recommend using it after 1960. "Hiding" may have been a poor choice of words, but Jones was correct to switch to real temperatures.

By [Eloise Gibson](#) | [Email Eloise](#)