

<http://www.cbc.ca/thesundayedition/shows/2012/08/12/richard-muller-the-blondes-hour-one/>

Global Warming

[2:45]

Well, climate change is for real, which won't be news to most of you ... everyone from Al Gore to the UN's Intergovernmental Panel on Climate, the IPCC, has been trumpeting that from the mountaintops for years.

But when **Richard Muller** says it, people tend to sit up and take notice. That's because up until he made that statement, Professor Muller had been one of the leading voices in the climate change skeptics' camp. He's a professor of Physics at the University of California at Berkeley, and runs the Berkeley Earth Science Temperature Project. His research is funded by the Charles Koch Foundation, an arm of the billionaire oil industrialists Charles and David Koch. ...

[3:33]

Q: So, is this the end of the debate? Is climate change, OK, it's established, boom, let's move on?

A: ... I hope it will be the end when people read our papers and recognize our scientific content and answer the question of whether the temperature is really going up and whether it's being caused by humans. ... I'm hoping that this will settle the science on whether the temperature is going up and what causes that. That leads us then to the much more difficult subject of what can we do about it, what should we do about it, what is worth doing.

[4:10]

Q: Now let's talk about the information in your findings. What exactly did you look at and what did you find?

A: If you had asked me three years ago about global warming I would have said that I looked at it very hard, that the data for it were largely uncertain, that there were valid issues raised by thoughtful skeptics that had not been clearly answered by the people who analyze the data.

So for example there was very poor station quality - several degrees Celsius, when they were claiming to see a rise - the IPCC - of only two-thirds of a degree Celsius. There were adjustments being made to the data. There was a selection - they only used a tiny fraction of the available temperature stations. So there were all sorts of problems that I felt threw doubt on the whole issue.

Now if you had asked me nine months ago, I would have said we had looked at all those very carefully, we had addressed them, we had done our own analysis and, yes, temperature is going up, but I wouldn't know how much was due to humans.

And then just in the last three to six months, due to some superb work done by our young scientist Richard Rohde, we were actually able how much of the warming was due to changes in the sun, how much was due to volcanoes, how much was left over. And the leftover part when we looked at it was a perfect fit to carbon dioxide. It was just too good a fit to be accidental. And based on that I reached the conclusion that not only do we have global warming, but now we know that most of it is due to humans, all of it actually, essentially all of it.

[5:48]

Q: Does your study support then - even though you saw that I guess that the methodology had been flawed in the IPCC - does it support that or does it replace that, do you think?

A: Oh, I think we make a stronger conclusion. The IPCC basically goes back to the late 1800s. We could push ours back to 1753. We have a record going all the way back. We have better precision than they were able to get by using the best possible statistical methods and using all the data. So I believe we now have created the best temperature record of the earth - actually we only did the land surface where people live - for the last 260 years. ... It's a wonderful achievement. I think most of the credit goes to Robert Rohde for having led the way in developing methods of mathematical analysis that could give us this great precision and this very long record.

[6:44]

Q: Now what were you using, I guess, as raw information though that was different from the IPCC that could allow you to go back, as you say, another 80 or 90 years in the record of global warming.

A: Well the key thing was that we found, we developed, we adopted a method that allowed us to use all the data. One of the IPCC groups, the one that got the most attention, is less than 10% of the data, of the stations. We were able to use all of them.

[7:15]

Omitted - formatting of data, op-ed, "traditional review", peer review.

[9:40]

Q: Now I wanted to ask you ... I guess a lot of surprise for a number of people as well as was that the funding for this was from the Koch brothers. ... Was there ever any influence ... Was there anything that surprised them and maybe angered them about your results?

A:

No not at all. I mean, they're made caricatures in the media. They're actually very thoughtful people. You should read some of the books that Charles Koch has written. He's very thoughtful, very deep. And from the beginning, he [Charles Koch] and I shared a concern there were issues that had not been addressed in a clearly transparent and objective way. And he wanted those answered. And no he never gave any hint whatsoever what answer he was hoping for, if any. ... He knew that the science was in trouble, there were things wrong with it. People called him a denier because he was being properly skeptical about things that hadn't been answered. That was silly. And from the beginning he made it absolutely clear all he wanted to do was good science.

[10:58]

Q: And that was one of the distinctions that you make even in your op-ed piece the difference between being a denier and skeptic - that there's a kind of a political nuancing of the debate in the public that's different from the way it's happening in the scientific community.

A: I'll even go beyond that and I would even say that there are deniers on both sides. If we take the standard, the consensus prior to our work as being what the IPCC had reported, then there are deniers who say: "There's no global warming it's all political". And there are also deniers who say: "Oh, the IPCC is completely wrong - the situation is much, much worse than they say". If they are denying the IPCC by saying it's worse, they should be called deniers too. And that includes Al Gore and Tom Freidman as people who deny the IPCC report.

[11:45]

Q: You say there are a number of open questions that still remain. There's actually an interesting New York Times op-ed this week again from James Hansen who is the head of Goddard Institute at NASA. And one of the things he says is that now we've established that human activity is the cause. Now there is a definite link for him between let's say current weather problems like the summer we've been having and global warming. Do you see a link there?

A: No, no, Jim and I disagree on that one. Because of the peer review system, we've been looking at his papers for several months now. And we got the data, did our own analysis and we concluded that his conclusion that weather variability is increasing is not correct. There've been several papers written now that say this - that the actual variation is actually going down a little bit.

... The last year in the United States was the warmest on record. And that sounds really important and people attributed that to global warming. The odd thing was that the world, the globe, wasn't the warmest on record, it actually cooled a little bit. So what we were having is usually called a heat wave.

To call that [summer 2012] global warming when the globe isn't warming, at least not in recent years, is just a misattribution. I think there's way too many people who, every time say a bad weather event, whether it's a tornado or hurricane Katrina, they want to blame it on global warming. It's an attempt to grab the attention of the public. But the public doesn't like to be fooled. And when they learn, eventually, that polar bears are not dying from receding ice, they overreact and they think "Well I'm going to ignore the problem now - someone had tricked me". I think that's bad. I think we have to be honest and not exaggerate and not put spin on these things.