

04/01/2010 05:00 PM**Climate Catastrophe****Part 4: The Smoking Gun of Climatology**

Most of all, however, Jones controlled the "smoking gun" of climatology: the Earth's temperature curve. The temperature records dating back to the beginning of industrialization are intended to prove that the average global temperature has already increased by almost one degree Celsius since 1850.

There are various pieces of indirect evidence that support the theory of global warming. Glaciers are receding, sea levels are rising and sea ice in the Arctic regions is disappearing. But these signs are nothing compared with the readings taken at weather stations.

The problem is that the quality of the raw data derived from weather services around the world differs considerably. At a number of weather stations, temperatures rose because houses and factories had been built around them. Elsewhere, stations were moved and, as a result, suddenly produced different readings. In all of these cases, Jones had to use statistical methods to correct the errors in the temperature readings, using an approach called "homogenization."

Did Jones proceed correctly while homogenizing the data? Most climatologists still believe Jones' contention that he did not intentionally manipulate the data. However, that belief will have to remain rooted in good faith. Under the pressure of McIntyre's attacks, Jones had to admit something incredible: He had deleted his notes on how he performed the homogenization. This means that it is not possible to reconstruct how the raw data turned into his temperature curve.

'One of the Biggest Sins'

For Peter Webster, a meteorologist at the Georgia Institute of Technology in Atlanta, this course of events is "one of the biggest sins" a scientist can commit. "It's as if a chef was no longer able to cook his dishes because he lost the recipes."

While amateur climatologist McIntyre spent years begging in vain for the raw data, Webster eventually managed to convince Jones to send them to him. He is the only scientist to date who has been given access to the data. "To be honest, I'm shocked by the sloppy documentation," Webster told SPIEGEL.

Unnoticed by the public, Webster has spent several months searching for inconsistencies in the Jones curve. For example, it has been known for some time that there are noticeable jumps in ocean temperature readings. The reason for the inconsistencies is that, beginning in the 1940s, water temperature was no longer measured in buckets filled with seawater, but at the intake valves for the water used to cool ship engines.

But when he analyzed Jones's data, Webster discovered suspiciously similar jumps in temperature -- but on land. "Water buckets can't explain this," says Webster.

Curious Inconsistencies

The Jones team attributes another sudden jump in temperature readings to the decline in air pollution since the 1970s as a result of stricter emissions laws. Particles suspended in the air block solar radiation, so that temperatures rise when the air becomes cleaner. Air pollution in the south has always been much lower than in the north, because, as Webster explains, "there is less land and therefore less industry in the Southern Hemisphere."

Oddly enough, however, the temperature increase in the south is just as strong as it is in the north. "That isn't really possible," says Webster.

Webster doesn't believe that inconsistencies like these will invalidate the Jones curve altogether. "But we would like to know, of course, what's behind all of these phenomena." If a natural mechanism were at least partly to blame for the rise in temperatures, it would decrease the share of human influence in current global warming.

Urban Heat

Critics reproach Jones for not taking one factor, in particular, sufficiently into account: the growth of urban areas. Stations that used to be rural are now in cities. And because it is always warmer in cities than outside, the temperatures measured at these stations are bound to rise.

Environmental economist Ross McKittrick, one of McIntyre's associates, examined all rapidly growing countries, in which this urban heat effect was to be expected, and found a correlation between economic growth and temperature rise. He submitted his study in time for the last IPCC report.

Jones did everything he could to suppress the publication, which was critical of him. It proved advantageous to him that he had been one of the two main authors of the temperature chapter. In one of the hacked emails, he openly admitted that he wanted to keep this interfering publication out of the IPCC report at all costs, "even if we have to redefine what the peer-review literature is!"

Jones failed in the end, but he did manage to smuggle a devastating sentence into the IPCC report, which states that McKittrick's findings were "statistically insignificant" -- in other words, meaningless.

Regaining Lost Trust

German climatologist Hans von Storch now wants to see an independent institution recalculate the temperature curve, and he even suggests that the skeptics be involved in the project. He points out, however, that processing the data will take several years.

"There is no other way to regain the trust that has been lost," he says, "even if I'm certain that the new curve will not look significantly different from the old one."

And if it does? "That would definitely be the worst-case scenario for climatology. We would have to start all over again."

Other central predictions of climatologists, such as that involving a noticeable rise in sea levels, would also have to be reevaluated. How high sea levels will go in the future is already a matter of debate.

