

Earth warming myth

President Putin of Russia announced that finally he would ratify the Kyoto Protocol after claiming the opposite for months. Irrespective of the reason for this change of mind, Russia's ratification of the greenhouse gas (GHG) emissions pact may be the clincher for the application of the Protocol. Indeed, it was decided at the 1997 Rio conference, which culminated in its elaboration, that it would only be enforced if the Protocol had been signed by at least 55 countries representing 55% of emissions.

The Kyoto Protocol reflects that climate change and in particular global warming has come to represent a major concern. It is based on the principle that it is crucial for humans to change their energy consumption habits and production of greenhouse gases, which are claimed to be at the source of global warming.

["If the earth's atmosphere didn't hold any GH gases, the average temperature would be 33°C lower than it is and unlikely that life could have developed."](#)

The greenhouse effect is produced by several gases, such as steam, carbon dioxide (CO₂), methane (CH₄), nitrogen protoxyde nerve gas (N₂O), CFC gases (chlorofluorocarbons) and ozone capturing heat produced by the earth. "If the earth's atmosphere didn't hold any GH gases, the average temperature would be 33°C lower than it is and unlikely that life could have developed."¹

Given that it accounts for 60% of all additional gases present in the atmosphere and that this percentage is likely to rise due to human activity, CO₂ is usually at the heart of the matter. Approximately 80% of these gases come from burning of oil, coal and natural gas while 20% come from deforestation and other changes in the tropics.

Global warming is considered by many to be harmful because of its disastrous consequences on the environment which will be handed down to future generations. It is commonly thought that

these effects include rising sea levels and the associated impact on the coastline (flooding, increased vulnerability to storms), affected ecosystems and particularly migration of potentially harmful (to humans and plants) tropical insects, slower flow of sea water and exchanges impacting negatively the halieutique resource and the climate, and extreme weather phenomena.

By reducing carbon monoxide emissions, the Kyoto Protocol should limit global warming and its negative consequences. However, the high cost of such a treaty will be measured in the economic benefits that individuals will have to give up to ensure the treaty's correct implementation. Before imposing any growth stemming measures, it is worth posing the right questions regarding climate change and considering that an estimated 4.8% and 2.9% of Spanish and German² GDP for 2002 would not be produced by 2010.

How extensive is our knowledge of climatology? Do human beings have an effect on the climate by releasing CO₂ into the atmosphere? Are increased temperatures necessarily dangerous? Can the Kyoto Protocol really have an effect on climate change? How reliable are the models used for predictions?

["It seems as if the debate on global warming is far from over within the scientific community. This was illustrated by the Oregon Institute of Science and Medicine petition against the Kyoto Protocol, which collected over 18,000 signatures from scientists."](#)

The answers provided to these questions would go against the most widely held views. For instance, Dr Reiter³ explains that in the case of harmful insects migrating from tropical to more temperate areas such malaria-infected mosquitoes, the main transmission factor of malaria could not possibly be climate change. Records of this disease clearly indicate that malaria existed in colder times and that it has almost disappeared mostly due to improved living conditions and in particular the

² THORNING, M. "The Impact of EU Climate Change Policy on Economic Competitiveness", *International Council for Capital Formation*, 2003.

³ REITER, Paul "Could global warming bring mosquito-borne disease to Europe ?" in *Adapt or Die*, Profile Books, Great Britain, 2003, pp 19-38

¹ LOMBORG B., "The Skeptical Environmentalist, Measuring the Real State of the World, *Cambridge University Press*, Cambridge, 1998."

drying-up of marshes. Moreover, a study recently released by the Fraser Institute⁴ lists the limitations of weather-predicting models and more specifically indicates that the studied weather phenomena such as steam, clouds and aerosols are simplified to the extreme. The debate on global warming and human influence has also been fuelled by new scientific data, which has revealed that solar cycles may affect considerably temperature⁵.

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The most heated debate at the moment is about actual global warming, at the heart of the Kyoto Protocol. As recently as in the 60's, scientists were describing a global temperature drop and its dramatic consequences for humans. It seems the trend has changed since but in a recent interview to the Daily Mail (see annex), Pr Bellamy seems to say that global warming is far from demonstrated and disputes it.

Politicians don't seem very influenced by this debate, however concerned they claim to be about the cost of implementing the protocol, while scientific disagreements seem to have been settled by a study showing the correlation between increasing amounts of CO₂ in the atmosphere (+31% since the beginning of the industrial revolution) and global warming.

Allegedly the Mann, Bradley & Hughes study, published in 1998 (MBH98)⁷, brought proof that temperatures in the 20th century (period during which industrial production boomed) were abnormally high compared to those of the previous century. Their findings were also picked up in the "Summary for Policymakers" published by the United Nations Council on Climate (GIEC) for

2001⁸ and remain to this day the most well known and the most frequently used source of information by politicians to justify the Kyoto Protocol and global warming⁹.

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These findings show a slow temperature drop from 1000 to 1900 AD followed by a sharp rise during the 20th century. The curve allows the GIEC to conclude that not only was the last century the hottest in the millennium but that "the 90's was the hottest decade, and 1998 the hottest year"¹⁰ in the Northern hemisphere.

However influential these observations might have been in the debate, they have recently been questioned by McKittrick and McIntyre, two Canadian researchers, who reveal that in fact several calculation errors and incorrect data are contained in the Mann et al. study and the selection of weather data was biased.

"The paper's authors, Toronto-based analyst Steve McIntyre and University of Guelph economics professor Ross McKittrick, obtained the original data used by Michael Mann of the University of Virginia to support the notion that the 20th-century temperature rise was unprecedented in the past millennium. A detailed audit revealed numerous errors in the data. After correcting these and updating the source records they showed that based on Mann's own methodologies, his original conclusion was flawed. Mann's original version resulted in the famous "hockey stick" graph that purported to show 900 years of relative temperature stability (the shaft of the hockey stick) followed by a sharp increase (the blade) in the 20th century (see graph). The corrected version of the last thousand years actually contradicts the view promoted by the Intergovernmental Panel on Climate Change (IPCC), and removes the foundation for claims of 20th-century uniqueness."¹¹

In "Corrections to the Mann et al." an article

⁴ BALL T. , GREEN K., SCHROEDER S., "The Science Isn't Settled: The Limitations of Global Climate Models", *Public Policy Sources*, No 80, June 2004, Fraser Institute, Vancouver, available from: <http://www.fraserinstitute.ca/admin/books/files/ScienceIsntSettled.pdf>

⁵ SVENSMARK H. and FRIIS-CHRISTENSEN E., "Variation of Cosmic ray Flux and Global Cloud Coverage - a Missing Link in Solar-Climate Relationships", *Journal of Atmospheric and Solar-Terrestrial Physics*, 59 (11), 1997, pp 1225-1232.

⁶ <http://www.oism.org/pproject/index.htm>

⁷ MANN M.E., BRADLEY R.S. & HUGHES, "Global-Scale Temperature Patterns and Climate Forcing Over the Past Six Centuries", *Nature*, No 392, 1998, pp 779-787.

⁸ GIEC, *Summary for Policymakers, a report of Working Group I of the Intergovernmental Panel on Climate Change*, 2001.

⁹ This data is also available in diagrams 2-20 & 2-21 of chapter 2 of the GIEC assessment report, in diagram 5 of the GIEC's technical summary and in diagrams 2-3 & 91B of the report. See MCINTYRE S., MCKITTRICK R., "Corrections to the Mann et al (1998) Proxy Data and Northern Hemispheric Average Temperature Series", *Energy & Environment*, Vol. 14, No 6, 2003, p. 752.

¹⁰ GIEC, *Ibid.*, p. 3

¹¹ PATTERSON, T., "Kyoto Debunked : a Pillar of the Kyoto Accord is Based on Flawed Calculations, Incorrect Data and an Overtly Biased Selection of Climate Records, an Important New Paper Reveals", *National Post*, 29 October 2003.

published in the renowned journal "Energy and Environment", McKittrick and McIntyre list the main errors under 9 points. Mann's observations are based on 112 sets of information most of which aren't temperature records but proxies or substitutes.

The systematic and widespread use of thermometers began 150 years ago although the first temperatures recorded in central England date back to 1659¹². Long-term study of climate therefore requires other natural indicators, or substitutes, besides temperature, which may have been altered by thermal evolution. Mann has analysed data from many substitutes including trees and the size of the growth rings, a wider ring indicating a hotter year, or the different layers of ice¹³.

The first of the errors committed by Mann et al. is the unjustified elimination of data in 3 sets. In one of these are recorded the temperatures for central England since 1659 but the study only uses this source as far back as 1730, thereby omitting important data regarding the cold period at the end of the 17th century. This is also a criticism made by Lomborg in that the Mann data doesn't demonstrate that temperatures decreased faster in the period 1400-1900. It is however undoubtedly true that the past centuries were much colder and are also known as the "Little Ice Age".

Furthermore, in some cases, Mann limited himself to seasonal temperatures when yearly data was available. The sets for air temperature in central England and central Europe refer to the June/July and August averages. As a first consequence, annual data was available, secondly, the other sets of data used in the study (when identi-

fied) are annual and finally Mann declares that he has compiled an index of annual temperatures.

Further mistakes were made when 18 sets were shifted to the previous year and when values for 1980 were copied from the wrong set, thereby distorting 13 sets out of 112.

In order to finish 19 incomplete sets, Mann et al. have extrapolated and interpolated data in unjustified and useless ways. In a rather inexplicable move, the authors substituted available data for artificial values for the period 1962 to 1964.

Moreover, Mann's observations include errors in geographical locations or a lack of information to enable proper identification of these locations.

Finally, the Mann study uses obsolete data in at least 24 sets of data. The World Data Center for Paleoclimatology (WDCP), as requested by McIntyre and McKittrick, confirmed that updated data had been available since 1991-1992 for at least 4 sets used in the study.

This updated information supplied by the WDCP provides figures up to 1992 and illustrates huge differences with the contents of the Mann study. The latter suggests that tree growth rings increased between 1902 and 1980 whilst the WDCP data on the other hand suggests that the rings decreased in the first decades of the 20th century and also during the 1980's.

McKittrick and McIntyre also draw the list of substitutes mentioned in the Mann study which are not used at all and point out the errors in the principal components analysis¹⁴ of the tree growth rings.

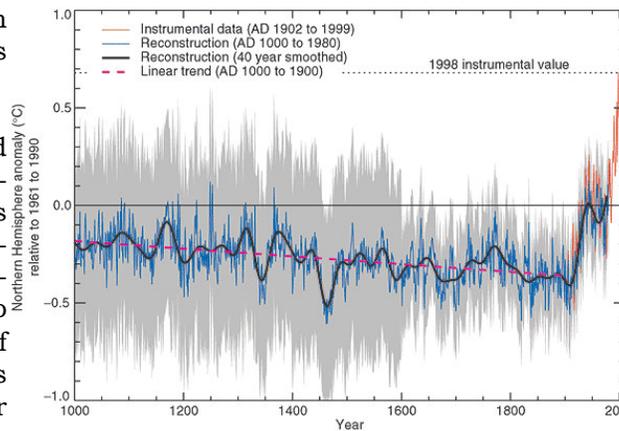


FIGURE 1. NH Temperature Reconstruction - IPCC Version of MBH98, MBH99

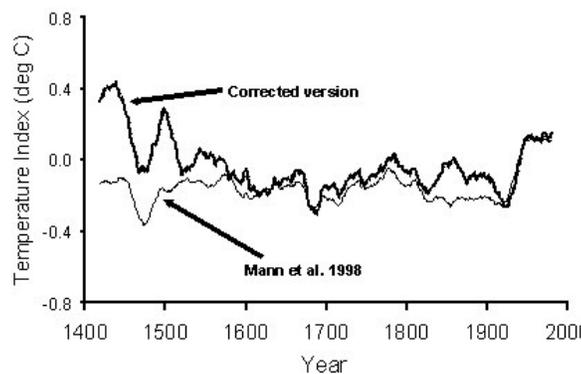


FIGURE 2. NH Temperature Reconstructions from MM03. decreased in the first decades of the 20th century and also during the 1980's.

¹² Met Office, 2001.

¹³ LOMBORG, *Idem*, p. 444

¹⁴ The principal components analysis is a mathematical technique which enables to reduce a complex system of correlations to a smaller number of dimensions.



Having identified all these mistakes, McKitrick and McIntyre then attempted with corrected data to reproduce the Mann methodology as faithfully as possible and reached the conclusion that "based on corrected and updated data, 15th century temperatures are actually higher than 20th century values, thereby contradicting MBH98's conclusion that the 20th century's climate is unique."¹⁵

"The study questions the fact if global warming is indeed taking place, it is far from established that human beings have a decisive impact on this change."

The most fascinating aspect of the McKitrick and McIntyre study is that it openly questions, as other studies do¹⁶, the link between global warming and increasing GH gases. Moreover, if global warming is indeed taking place, it is far from established that human beings have a decisive impact on this change. In 1999, a report concluded that "at present, it is debatable whether there is enough temperature proxy data to be representative of hemispheric, let alone global, climate changes given the lack of large spatial scale coherence in the data"¹⁷.

One may wonder at the foundation of a protocol which suggests gobbling up billions worth of resources to fight the ill-defined cause (human emissions of CO₂) of global warming, a problem which may not even exist. While undoubtedly emissions of GH gases have increased, today nobody knows what the consequences will be. However the cost of this fight is all too real.

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¹⁵ McINTYRE S., MCKITRICK R., *Ibid.*, p 765.

¹⁶ See also LEGATES R. "Breaking the "Hockey Stick"", National Center for Policy Analysis, Brief Analysis, No 478, July 2004; SOON W., L.S., BALIUNAS B.S., IDSO C., IDSO R.D., LEGATES, "Reconstructing Climatic and Environmental Changes of the Past 1000 years: a reappraisal", *Energy and Environment*, Vol. 4, issues 2&3, April 2003.

¹⁷ BARNETT T.P., HASSELMAN K., CELLIAH M., DELWORTH T., HEGERL G., JONES P., RASMUSSEN E., ROECKNER E., ROPELEWSKI C., SANTER B., SETT S., "Detection and Attribution of Recent Climate Change: a Status Report", *Bulletin of the American Meteorological Society* 80 (12), 1999, p. 2635.

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