Last Name, First Name

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Professor Fulton

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title

The “Hockey Stick” Graph has raised controversy over the validity of Mann’s reputation. Many climate scientists and nonscientists casted doubt on the reliability of his overall research. M&M, who consisted of an Canadian skeptic, Steve Mckitrick, and an economist, Ross McIntyre, were among some of the few who criticized his findings. Many criticisms have been brought up to go against Mann’s intelligence in his field. Although, he was able to forthcome them, but the issue of global climate change still remains.

In general, global warming has been a controversial issue in the United States for a long time which stressed many concerns about our future climate. Global warming is a manmade issue in our society today. The Palaeocene-Eocene Thermal Maximum, PETM, “was triggered by massive releases of carbon into the atmosphere and climate researchers have long identified it as a time that could in some ways be analogous to today’s global warming” ( University). It is believed that because of the release of these damaging chemicals into our atmosphere, it is destroying our climate slowly. This as a result, has been increasingly warming our climate which can cause other consequences. A professor from the University of Purdue Gary Shaffer exclaimed “that climate sensitivity increases with the temperature, it means that it is all more urgent to limit global warming as soon as possible by reducing the human-made emissions of greenhouse gases” (University). These chemicals are consecutively worsening our climate as long as we use the same chemicals that harm it. Without this, our climate would have overall warmer global warming than ever before.

For instance, M&M questioned the liability of the different proxy evidence used in Mann’s statistical methods. As a result, they led to believe that the “Hockey Stick” Graph was an artifact because of these techniques. While replicating Mann’s study, “M&M repeated Mann’s analysis using different statistical methods they said they found a big rise in temperature in the middle ages” (Pearce 93). Since there was no correspondence to Mann’s graph, M&M believed that he was at fault. They thought that since his procedure was not an accurate way in accessing his research that he was wrong.

Conversely, the statistical methods used by man were inaccurate. However, this criticism is unfounded because they themselves did not perform the same study. In fact, climate scientist and associate of Mann, Caspar Ammann notes that “the M&M case boiled down to...whether tree rings should have been included, not...a mathematical flaw in Mann’s analysis” (Pearce 94). As a result, Mann’s study was not inaccurate because of that fact that Ammann had not completely replicated Mann’s study. Ammann excluded a piece of evidence that Mann had included in his own study which differentiated both studies. This meant that there was indeed no mathematical error in Mann’s study.

In addition, when smoothing a graph relating temperatures, it must generally be subjected to the same kind of smoothing. Although, M&M exclaims that the data on the graph had only been smoothed down partially. Moreover, M&M exclaimed that “the shaft had been smoothed, but the blade was not” (Pearce 93). This resulted in illustrating a dramatic spike in the shape of the hockey stick graph which reflected the increase in temperatures in the 20th century. They ultimately believed that this error led to the over exaggerated flattening of the graph.

On the other hand, Mann’s graph of the hockey stick was interpreted as invalid because of its inexact shape. Although, further studies concluded that all reconstructions of the hockey stick were similar to that of Manns. These different techniques used all concluded “that the 1990s was then probably the warmest decade for 1000 years” (Pearce 94). Afterall, many of the studies conducted resulted in the same looking graph. Each of these studied included a hockey stick shaft and a blade which were in accordance to Manns. It is important to know that M&M are not even scientists which means they are not credible as Mann who is a climate scientist. These men do not have the credentials on the field that Mann does. According to the science community, science is only accounted for if the findings can be imitated by others.

Furthermore, A piece of proxy evidence that the M&M thought raised reliability was the use of tree rings to measure change in climate. Tree rings have been known to provide us with knowledge about the different climate changes that the tree grew in. Even though, tree rings have been used for years to measure change in temperature, “but since around 1960...most tree ring data sets do not reflect the warming seen in thermometer readings” (Pearce 93). Tree rings have consistently shown a good representation to the change in temperatures overtime but not and M&M criticized the reliability of tree rings before the time thermometers were invented. Although, this error also raised the question about whether or not Mann was a good decision maker in choosing his data sets for this graph.

In contrast, Mann had included the tree rings anyway even if they were viewed as unreliable to use for the graph by M&M. However, tree rings were unreliable and were believed to mess with the results of the data. According to the US National Academy of Sciences, “ there is sufficient evidence...of past surface temperatures to say with a high level of confidence that the last few decades of the 20th century were warmer than any comparable period in the last 400 years” (Pearce 95). Ultimately, tree rings were found to be an accurate piece of evidence that it was a vital piece of data to the graph by concluding the overall theory that the 20th century was indeed the warmest period.Also, the researchers of their particular set of research are open to the idea of cherry-picking their data. In fact, “the choices made about which data to include and which not seem to based on researchers’ hunches” (Pearce 94). The choice of data used for studies is solely based on the scientist himself and it implies the same for M&M.

Overall, the “Hockey Stick” Graph was a repeated replication which certified its reliability. Even though nonscientists had criticisms that pointed out different flaws in Mann’s findings, others were still able to perform the same study using different techniques which resulted in the same conclusion. Mann’s study

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