Climate Change Ideas Meet the Scientific Method

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ABSTRACT

There are many claims, i.e. hypotheses, embedded in the issue of human-caused climate change. We shall apply the scientific method to some of the more prominent claims. Regarding the physical science of climate, we will describe the basics of the enhanced greenhouse effect and present claims that are testable of how the climate is expected to respond to extra greenhouse gases. We shall show the results of hypothesis testing on features of the climate system that were hypothesized to change significantly in magnitude and speed, demonstrating that such claims can generally be falsified. This is particularly evident in tropical atmospheric temperature which represents the region hypothesized to warm most rapidly. We shall also show results of impacts of various changes in emissions (due to international agreements or U.S. regulations). In general, the impacts are so small as to be not only undetectable against the background of natural variability, but also unattributable to the regulation designed to 'make a difference.'

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