

Research pair finds global warming matched predictions from 1990

December 10 2012, by Bob Yirka

(Phys.org)—A pair of researchers has found that an estimate made in 1990 by a team of global scientists regarding how much temperatures would rise due to increasing amounts of carbon dioxide in the atmosphere, is very close to what actually happened. The two, David Frame, of New Zealand's Victoria University and Daithi Stone, of Lawrence Berkeley National Laboratory, have published their findings in *Nature Climate Change*.

In 1990, a team of scientists with members from across the globe published a paper called the [Intergovernmental Panel on Climate Change \(IPCC\)](#); the paper was to be the first of many published over many years to track, assess and make predictions regarding the progress of global warming. In their paper, the group estimated that average [global temperatures](#) would increase by approximately 1.1 degrees Celsius by 2030 – the halfway point, which would be 2010 would, they argued, be about a .55 degree increase.

To find out how close the earlier team was to its estimates, Frame and Stone gathered [statistical data](#) collected by various agencies around the world which are used to provide data for calculating average global temperatures and any changes that occur year to year – for the period 1990 through 2010. They discovered that there were actually two sets of averages – one showed an increase in average global temperature of 0.35 degrees Celsius the other 0.39. The researchers then added what they called an adjustment to the numbers to reflect naturally occurring [fluctuations](#) in global temperature averages and found that the results fit

almost perfectly with the predictions made 22 years ago.

The accuracy of the estimates were all the more impressive, the teams says, when noting the earlier researches had no way of knowing about some of the climate changing events that would occur during the time period that would follow – the eruption of Mt. Pinatubo, the sudden reduction in [gasses](#) from Russia or the rise of China as an industrial giant, etc. This, they say, is partly due to the high caliber of the people working on the original estimates and the fact that the level of carbon dioxide in the atmosphere appears to overshadow more localized events.

The IPCC has continued to publish reports; each with estimates for the future, with the most recent issued in 2007. This is the first time that the estimates the group has made have been compared with real world changes in average global temperatures however, and because they were so close the first time, it's likely their reports will take on added weight with the scientific and geopolitical community as time marches on.

More information: Assessment of the first consensus prediction on climate change, *Nature Climate Change* (2012) (2012)
[doi:10.1038/nclimate1763](https://doi.org/10.1038/nclimate1763)

Abstract

In 1990, climate scientists from around the world wrote the First Assessment Report of the Intergovernmental Panel on Climate Change. It contained a prediction of the global mean temperature trend over the 1990–2030 period that, halfway through that period, seems accurate. This is all the more remarkable in hindsight, considering that a number of important external forcings were not included. So how did this success arise? In the end, the greenhouse-gas-induced warming is largely overwhelming the other forcings, which are only of secondary importance on the 20-year timescale.

[Press release](#)

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