



Has there ever been good evidence for a "global warming hiatus"?

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Many scientific and popular publications over the past ten years have discussed an alleged “global warming hiatus” or “global warming pause” in the early 21st Century. Here we review the evidence for (a) whether global warming did significantly slow down relative to its previous pace or (b) whether it has deviated significantly from what had been predicted by climate models. We test this with the full range of available global temperature data sets, both in hindsight (using latest data and knowledge) and with the data sets as available at the time to authors writing about the “hiatus”.

We discuss several issues affecting the evidence for a “hiatus”: updates to temperature data sets, the problem of incomplete data coverage, the problem of blending surface air temperatures with sea surface temperatures, the use of broken (unconnected) trends as well as the multiple testing problem.

We find that all of these issues, if not accounted for properly, have tended to promote the illusion of a “hiatus”. However, the dominant error in claims of a significant “hiatus” has been the well-known multiple testing fallacy of statistics: if a particularly low trend is hand-picked from many possible choices, it is not surprising that this trend appears to be a rare outlier and thus “significant”.

Many published analyses of the alleged hiatus commit the multiple testing error. When this error is avoided, it becomes clear that there is no evidence for a significant “global warming hiatus”, whether defined as a significant warming slowdown or a significant data-model discrepancy. This holds regardless of the choice of temperature data, data coverage, data blending or even the use of broken trends.