

Interactive comment on “Impact of the Atlantic Multidecadal Oscillation (AMO) on deriving anthropogenic warming rates from the instrumental temperature record” by G. R. van der Werf and A. J. Dolman

Anonymous Referee #1

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In the study is investigated the role played by the Atlantic Multidecadal Oscillation (AMO) signal in estimating the anthropogenic influence on global temperature trend over the past 30 years, by using multiple linear regression (MLR). It is shown that the identification of the anthropogenic temperature trend depends linearly on the choice of the AMO description. Based on the historic instrumental record it is estimated a 1.3°C warming in response to a CO₂ doubling.

The scientific objective of the study is relevant and important for a better estimation of the anthropogenic influence on climate. The advantage of the MLR method is that it

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may provide a better isolation of the considered forcing factors.

In order to test the dependence of the results on the dataset, would be useful to test the inferences derived from GISS fields on other temperature data also. This would also increase the confidence in the results, qualitatively and quantitatively.

What is the influence on the results if the data is filtered (for example to remove inter-annual variability) before MLR is applied?

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