

Ann. Geophys. Discuss., referee comment RC2  
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## **Comment on angeo-2021-50**

Anonymous Referee #2

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Referee comment on "Estimating the impact of the 1991 Pinatubo eruption on mesospheric temperature by analyzing HALOE (UARS) temperature data" by Sandra Wallis et al., Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2021-50-RC2>, 2022

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In this manuscript, the authors studied the impact of Pinatubo volcanic eruption on the mesospheric temperature obtained from the HALOE instrument. They observed warming in the mesosphere and compared with the Na lidar temperature results published earlier. As the number of profiles is less in HALOE observations, it is difficult to believe the results. As the eruption occurred much earlier before the HALOE observations start, the state of the mesosphere prior to the eruption and the evolution and decay of the temperature perturbations could not be captured. The authors may use TIMED SABER or similar temperature data sets for any recent major volcanic eruptions to further strengthen the result. Also, the authors need to explain how the volcanic eruption can cause warming in the mesosphere.