

Comments to the Author,

The authors addressed most of my questions and concerns. The manuscript is greatly improved. However, it is still one suggestion that needs the author's attention before accepting the manuscript.

The authors use the Himawari-8/9 (H8/9) clear-sky TPW product as the foundational reference for both bias correction and spatial downscaling, from which the fused TPW data under cloudy conditions are subsequently derived. Therefore, it is recommended that the authors provide a separate evaluation of the fused TPW specifically under clear-sky and cloudy conditions to more comprehensively assess its accuracy and reliability.

In the current version of the manuscript, although the authors evaluate the fused TPW data under all-weather conditions for the period 2016–2022, the separate evaluations for clear-sky and cloudy conditions are only provided for the year 2017. It is recommended that the authors extend this separate evaluation to the same years (2016–2022) to ensure the robustness and consistency of the dataset.