

Editor:

Thank you for revising your manuscript and addressing the concerns of the reviewers. To proceed with publication, I request that you make some technical changes to your manuscript:

1) Remove the acronym GMR and RT from the abstract. Write out the acronym STD in full in the abstract.

Answer: Corrected. See Abstract in the revised manuscript.

2) Line 31: GMR has merged with the reference to Vural et al.

Answer: The sentence is changed to 'It has been demonstrated that directly assimilating BTs from two channels has a positive impact on forecasting temperature and humidity in the PBL (Vural et al., 2024).' See Lines 31-33 in the revised manuscript.

3) Section 2.3 and Section 3: Please remove the colons before the equations.

Answer: Corrected. See Eq. (1-15) in the revised manuscript.

4) Please ensure that all units use exponential notation (i.e., $g\ m^{-2}$, not g/m^2).

Answer: Corrected throughout the manuscript.

Add a date of access in the bibliography for online entries without a doi: Hocking (2014) and Cady-Pereira et al. (2021)

Answer: Corrected. See Lines 456-458, 508-510 in the revised manuscript.

5) The entry for Mlawer et al. is missing a doi. Please add this.

Answer: Corrected. See Lines 545-547 in the revised manuscript.

We appreciate the Editor very much for constructive comments.