

Dear Authors,

Thank you for responding to all the comments made by reviewers and introducing the corresponding changes in the manuscript, which has improved it. Before accepting the revised manuscript, please make the following editorial and grammar changes, and upload the final version as soon as possible.

**Reply:** Thank you for your positive feedback. We greatly appreciate your time and effort. We have completed all the requested editorial and grammatical changes. The final version of our manuscript (essd-2025-760) has now been uploaded.

1. -pg 1 Abstract: The 2 final sentences need a bit of re-structuring to improve clarity; I include suggestions that you may consider: Replace “Based on dataset, it captures the frequent surface-based inversions, occurred from 6% in summer to 68% in winter. ” by “The dataset captures changes in the frequency of surface-based inversion, from 6% in summer to 68% in winter.”

**Reply:** Done.

2. Also please replace: “Critically, surface based inversions (SBI) occurrence increases with PM2.5 levels, reaching >60% under severe pollution (>250  $\mu\text{g m}^{-3}$ ). ” by “More frequent surface-based inversions (SBI) are associated with higher PM2.5 values, reaching > 60% of the most severe pollution events (>250  $\mu\text{g m}^{-3}$ ). ”

**Reply:** Done.

3. -pg 16 Table 2: Make sure that the title of columns “k(%)” are similar, removing the words “improvement rate”

**Reply:** The column title under Relative Humidity has been updated to ‘k (%)’, as suggested.

4. -pg 18 Table 3: Check the alignment of the title of columns “k(%)”

**Reply:** Done.

5. -pg 21, line 499: Please introduce the word “the” in the title section before “atmospheric...”

**Reply:** Done.