Response to the Editor/Technical Comments

Dear Authors,

I am overall convinced by the changes made to the manuscript in response to the reviews. However, related to the comment by referee 2, the explanation of the averaging (sect 2.3) could be further clarified. I see two possible ways to understand the current description:

- the shear and Brunt Vaisala frequency are computed at 10 m resolution (which implies a square root), and then those estimates are averaged over 200 m (20 points) and squared. I think this is what is done in light of the following paragraphs, in which case please state it unambiguously after Eq. 1.

or – the squared shear and BVF are computed and averaged over 200m, which would be strictly equivalent to subsampling at 200 m.

After this point has been clarified, I expect that your paper will be suitable for publication in ACP.

Sincerely,
Aurelien Podglajen

Response: Very thanks for the comments. Per your suggestion, we have stated that wind shear and Brunt-Väisälä frequency are computed at 10 m resolution in Equation 1. The related sentences after Eq.1 have been rephrased as:

"…Therefore, the wind shear and Brunt-Väisälä frequency are computed at 10 m resolution, and then those estimates are averaged over 200 m (20 points) and squared. More exactly, the averaged parameter at altitude i can be represented as $\overline{A}(i) = \frac{1}{n}\sum_{j=i-10}^{i+10} A(j)$, where A denotes wind shear or Brunt-Väisälä frequency and n is the number of vertical bin…"

Notification to the authors:

1. It seems that tables are included as figures #15, S6, S8. If it is so, they must be re-labelled as tables and the references in the manuscript text must be adjusted accordingly. A table may be inserted as an image, but still be called as a table. 2. Please ensure that the colour schemes used in your maps and charts allow readers with colour vision deficiencies to correctly interpret your findings. Please check your figures using the Coblis – Color Blindness Simulator (https://www.color-blindness.com/coblis-color-blindness-simulator/) and revise the colour schemes accordingly.

Response: Thanks for the validation. Figures 15, S6, S8 are heat maps and inserted as figures, rather than tables. Moreover, all color bars have been set to rainbow color schemes, and Figure 10 has been replaced with complete color bar.