Brief communication: On the definition of the low-level jet

Hallgren et al.

REVIEW

1. Why not combining both definitions for LLJ identification, as for example done in the Debnath et al. 2021 WES paper? (Anyways, I would also suggest adding that paper as a reference).
2. Also, can you analyze the sensitivity of the single definitions to the thresholds you select for each? I expect some of the differences to increase/decrease if you use more/less strict thresholds.
3. L.19: should be “LLJs” (the same applies in several other places in the draft)
4. Mention somewhere that the jet core is also sometimes referred to as jet nose.
5. L.50: specify, for both definitions, if “above/below” means “between above and below” or “between above and the core, AND below and the core” or “between above and the core, OR below and the core”.
6. L.80: comma after “i.e.” (the same applies elsewhere too)
7. Figure 2: I find this figure rather challenging to understand given the small size of the plots and overlap in the points. How about not including the points on the horizontal planes at all, and just show the histograms and Venn diagrams? With this scenario, I would also suggest having the yellow, blue, and red histograms all share the same y-axis, so that the reader can get a sense of the frequency of LLJs compared to all profiles with a local maximum. Also, the percentages in panel (d) are not clear. Does it mean, for example, that 67% of the yellow cases are classified as LLJs in the Baltic Sea, when using the falloff definition? It wouldn’t seem like that’s the case from the histograms as they are shown now.
8. Can you include the (revised) plots for all sites in a supplement?
9. L.110: specify AM or PM.
10. L.150: the shear-based definition is not really novel.
11. L.165: I believe you need to add a reference entry for the data used, according to Copernicus’ policies.