Interactive comment on "Realtime WRF LES Simulations to Support UAS Flight Planning and Operations During 2018 LAPSE-RATE" *by* James O. Pinto et al.

Anonymous Referee #1

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This is a well written summary of the LES simulation dataset posted to the Zenodo and NCAR data repositories. Sufficient information is provided to understand how the simulations were performed and using which model configurations. In addition, some simple comparisons are presented between the some of the available observations, as well as between results from the different domain resolutions.

I recommend that the article be published in ESSD. However, I do have several small suggestions that the authors may wish to consider before publishing:

1. page 2 line 27: Define UAS, or at least define on page 3 line 50.

2. page 2 line 40: Typo: "subset of the at data is"

3. Since both UTC and MDT are used for time, perhaps identify the shift between them right up front after page 3 line 49 when describing the location?

4. page 3 line 69: Typo: "importance of accurate high resolution depict of weather"

5. page 4 line 97: when describing the scales at which LES turbulence closure schemes (resolutions greater than 100 m) perhaps clarify that this resolution refers to atmospheric LES schemes specifically.

6. page 6 line 142: since the mesh isn't explicitly shown in Figure 1, perhaps refer to "(innermost domain in Fig. 1)" rather than "(inner most mesh in Fig. 1)"

7. The term "flight levels" is introduced several times on page 9. As this is a non-standard term outside of aviation perhaps add some definition of what is being referred to here.

8. Page 9 line 234: The authors refer to both D01 and LES domains, whereas before they referred to the refined domain as D02. Later they seem to refer to D02 as the WRF-LES domain. Perhaps the authors should check that a consistent descriptor is used for D02 throughout the text.

9. Page 11 line 289: Typo: "As mention above, drainage"

10. Table 1: The table headings refer to Domain 1 and Domain 2, whereas the text refers to D01 and D02. Perhaps change the headings to Domain 1 (D01) and Domain 2 (D02) to avoid ambiguity.