

General comments:

The authors have addressed most of the reviewer comments, and the connections between this study and the current literature have been strengthened. Overall, I believe

this study will be a useful contribution to the literature regarding the influence of aerodynamic characteristics on flux footprints.

Specific comments:

1. The added paragraph in lines 28-46 has improved the introduction, but the transition between this paragraph and the following paragraph is still a bit unclear. In the response to Reviewer 1 comment 2, the authors state that their point was that they were dealing with heterogeneity in time; however, the first two paragraphs of the introduction are discussing spatial heterogeneity, which seems not directly in line with this study's objectives.

2. Line 187: "Carbon" should not be capitalized.

3. Line 262: Add a space between "either" and "the".

4. A number of the in-text citations are missing a space after the semicolon separating multiple citations.

5. Line 310: This sentence seems a bit out-of-place as the last sentence of the conclusions; I suggest moving it earlier.

Response to second review:

Thank you for the second critical review.

1. A sentence has been added on lines 46-49 to provide a better link between the first two paragraphs and the third paragraph.

2 – 4. The manuscript has been corrected as suggested.

5. The sentence was moved to the end of the first paragraph in Sect. 5 (lines 292–293).