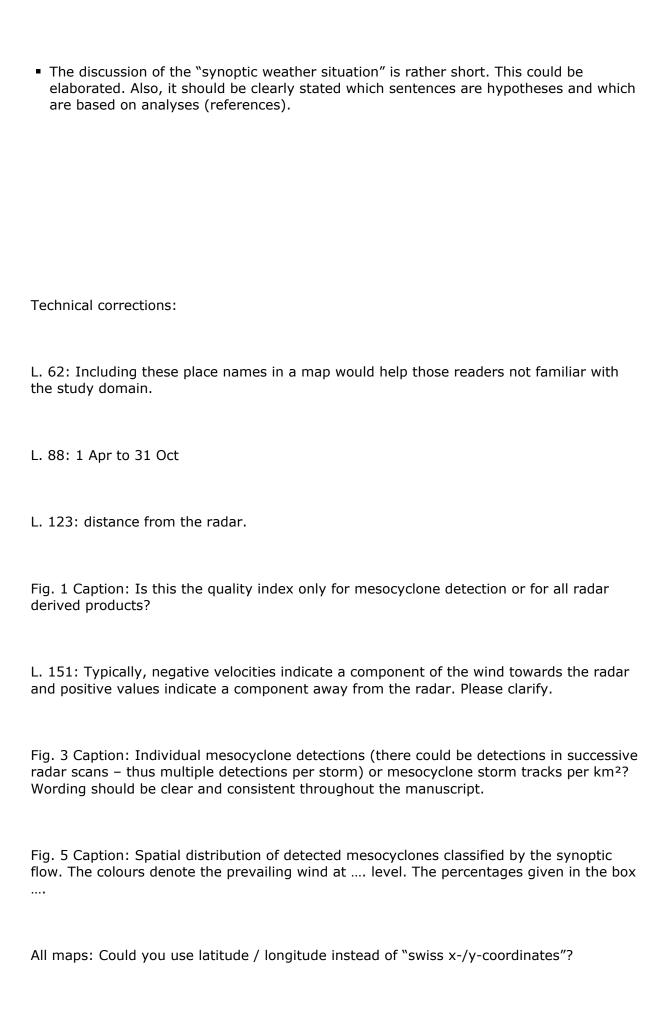


General comments:

Weather Clim. Dynam. Discuss., referee comment RC2 https://doi.org/10.5194/wcd-2021-53-RC2, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

Comment on wcd-2021-53 Anonymous Referee #2
Referee comment on "A characterisation of Alpine mesocyclone occurrence" by Monika Feldmann et al., Weather Clim. Dynam. Discuss., https://doi.org/10.5194/wcd-2021-53-RC2, 2021
Review
Manuscript Number: wcd-2021-53
Title: A Characterisation of Alpine Mesoscale Mesocyclone Occurrence
Recommendation: Major revisions required.

Overall, the manuscript is of interest to the science community and within the scope of Weather and Climate Dynamics. The scientific approach is mainly good. However, the results are not discussed thoroughly and more relevant references are needed. The presentation is mainly good. The figure captions are often to short and not precise; important information that is needed to understand and interpret the analysis is "hidden" in the rather long appendix.
Specific comments:
■ The discussion of the influence of the radar quality index on the derived spatial distribution of (mesocyclonic) storms is not very clear. E.g. What does a quality index of 0.5 mean? Should the results in this area be considered correct? Or underestimated?
<ul> <li>Meteorological expectations, derived distributions, limits of the radar network as well as assumed correlations between mesocyclones and hail are often mixed or used to support findings or assumptions in a rather ambiguous way.</li> </ul>
■ In the discussion it says "The accompanying relative quality index map helps interpret, where the mesocyclone detection is impeded by the physical limitations of the radar network." However, this information is not thoroughly used in the presentation and discussion of the results.



- L. 224-225: Please explain.
- L. 239: How are storm area and track length defined?
- L. 245: The influence of the low number of cases on the results should be discussed.
- L. 255: What is the influence of the radar data quality on the mesocyclone detections at high altitudes and its intensity estimation?
- Fig. 7: Use a boxplot instead. Also provide the number of cases per selected altitude bin.