

Interactive comment on “From pixels to patches: a cloud classification method based on bag of micro-structures” by Q. Li et al.

Anonymous Referee #1

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General Comment

The authors describe and demonstrate a unique method, BoMS, to classify general cloud types from total-sky cloud imager (TCI) data. Despite questions regarding the general classes used and the definition of textural measures, the methodology is fairly well described with results reasonably compared to other methods.

Specific Comments

1. Pg 1, Line 22: Clarify the sentence “. . .even contains errors sometimes.” Are these “errors” or limitations?
2. Pg 4: Can textural features be used to represent a “patch” as well?

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3. Bottom of Pg 5: Clarify “. . .1000 independent images per cloud class.” How was independence determined? Is the word “image” used here referring to a “patch” within an image?
4. Pg 6: Cloud classes: Is there no concern for distinguishing cloud altitude? Why is Cc a cirriform type and not cumuliform? Similarly, wouldn't it be more correct to have Cs in the stratiform class?
5. Bottom of Pg 8: Contrast and the other features can be described as textural features.
6. Bottom of Pg 10: How was the value of k determined for the k-means algorithm?
7. Did the authors consider feature selection to eliminate redundant and/or irrelevant information within the nine features or was that not a concern?
8. Pg 15: Would other feature types (physical or spectral) assist in discriminating the mixture class from the other classes?
9. Top of Pg 16: Clarify “verify the leverage”.
10. Bottom of Pg 16: Clarify “. . .results are exciting. . .”
11. Pg 17: Provide units for both axes in Figure 7.
12. Check English usage and grammar throughout manuscript.

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