

The Cryosphere Discuss., author comment AC2
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Reply on RC2

YoungHyun Koo et al.

Author comment on "Semi-automated tracking of iceberg B43 using Sentinel-1 SAR images via Google Earth Engine" by YoungHyun Koo et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2021-131-AC2>, 2021

We appreciate your critical comments and suggestions. As you mentioned, although our method works successfully for our target iceberg B43, this method should be further tuned and enhanced to be applied to other small icebergs. We add more discussions about the performance of this method (similarity scores and some Sentinel-1 images as references; Appendix A) and how to improve our method in future. Here are our responses to your specific comments:

- We will add more discussions about the issue of iceberg shape. In addition, we will add more details about the need of manual digitization.
- Yes. The image segmentation method is sensitive to the iceberg surface or texture. Indeed, although this was not a critical issue in detecting our target iceberg B43, this will be a critical issue for detecting other small icebergs. We will add more details about this discussion for a further improvement of our method.
- Yes. It is well-known that icebergs have bright backscatter compared to the surrounding open water and sea ice. Actually, we use this bright backscatter feature to identify icebergs. We will make this clearer in the updated manuscript.
- Thank you for your suggestions. In Appendix, we will add the analysis of similarity scores and show a few Sentinel-1 images for low similarity scores.

Thank you again for your comments for our paper.

Sincerely,

Young