

Ocean Sci. Discuss., author comment AC1
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Reply on RC1

Didier Bernard et al.

Author comment on "Clustering analysis of the *Sargassum* transport process: application to beaching prediction in the Lesser Antilles" by Didier Bernard et al., Ocean Sci. Discuss., <https://doi.org/10.5194/os-2021-109-AC1>, 2022

Dear referee 1,

We thank you for the attention that you paid to this review and for your helpful comments and suggestions.

Firstly, in the introduction of your report, you mentioned the "*rather low performance of the classifier*". Following this remark, we made some major changes to strengthen the evaluation of the decision tree classifier and to improve its recall scores. To strengthen the performance evaluation, the testing period was extended from the first four months of 2021 (i.e., from January 2021 to April 2021) to the full year of 2021 including seasonal variations of the offshore Sargassum abundance. To improve the recall score of the classifier, the module A producing the monthly probability of beaching was replaced by a new module based on satellite observations which produces the weekly probability to reach the maximum observed cumulative floating algae density in an area of 100 km radius offshore Guadeloupe. The performance evaluation of the classifier was also extended by adding three temporal uncertainty ranges around the decision day, respectively: +/-1 days, +/-2 days, +/-3 days. While the classifier may reproduce 61.5% of the observed beachings in 2021 with an accuracy lower than one day (this value reached 41.7% with the old module A and the limited testing period of four months), this recall score reaches 74.4% at +/-3 days accuracy.

Please find in the attached file our answers to your remarks (in bold). The proposed changes in the text are marked in red.

Please also note the supplement to this comment:

<https://os.copernicus.org/preprints/os-2021-109/os-2021-109-AC1-supplement.pdf>