Review 1 :

Review of “Contribution of a constellation of two Wide-Swath Altimetry Missions to Global Ocean Analysis and Forecasting” by Mounir Benkiran, Pierre-Yves Le Traon, and Gérald Dibarboure The manuscript is generally well written and understandable. The authors present results of several ocean prediction OSSEs to simulate the impact of two swath altimeter satellites in combination with three nadir altimeter satellites. The results are well presented. The results are significant and will be of interest to the science community for determining the importance of future investment. The quality of the work is high. The results are based on realistic ocean forecast systems being applied operationally.

These results build on many prior studies on the impact of satellite and in situ observations. The authors’ response to comments is very good, and I appreciated understanding the explanations provided. The explanations helped me understand the details more clearly and put the results into context, and the changes to the text helped me avoid accidental misinterpretation. I have only a couple
minor comments on the revised manuscript:

Page 5: “OSSE0 is the Free Run (FR) of the ocean model used to assess the performance of the other experiments. OSSE1 corresponds to nadir (3N) altimetry data assimilation. Finally, OSSE3 (3N+2S) assimilated all observation types (combining two swaths and three nadirs). OSSE1, 2 and 3 also assimilate Sea Surface Temperature (SST), Ice Concentration (IC), and Temperature and Salinity (T/S) profile data.” – Check the number of the OSSEs throughout. In these two sentences the numbering is different. done

Page 8: This should be equation 2, and there should be a square the numerator. done

Review 2:

Review of the revised paper “Contribution of a constellation of two Wide-Swath Altimetry Missions to Global Ocean Analysis and Forecasting” (os-2021-108)
General remarks:
Apart from the specific remarks below, the authors have done an adequate job of revising the paper in response to my remarks. In responding to the reviewers, the authors should have highlighted modified passages with a different color and indicated explicitly in the response to each remark whether they modified the text, giving page and line numbers. This is standard practice for helping the task of the reviewer.

Specific remarks:
1. Abstract. “Sea Surface Height (SSH) analysis and 7-day forecast error will be globally reduced by about 50%.” This is speculation. All you can do here is report what you’ve seen in your OSSEs, which are idealized experiments that are likely giving overly optimistic results. Replace “will be” by “are” and then for clarity add “in the OSSEs.” at the end of the sentence. This remark also appliesto the first paragraph in the Summary and Conclusions.**Done**

2. Response to Remark 3: Section 3.1. The sentence in the paper is unaltered and the explanationstill leaves me confused. It may be the choice of wording Tha t’s confusing me. A “Run” usually refers to a simulation, not the model itself. Here, “Free Run” seems to refer to a particular model configuration that’s used for simulations with and without data assimilation. But later on (first paragraph Section 3.4), we’re told that OSSE0 (no assimilation) is the Free Run. Why not just say: “The second model is used to assimilate synthetic observations from the NR. This model uses…”. And then explain the Free Run (no data assimilation) when you describe the OSSEs. **Done**

3. Response to Remark 7. This is clear now. These equations and explanation should be included in the paper, after equation (1) so it’s completely clear what you’re presenting. **Done**