

Response to the Editor

EGUSPHERE-2026-1000

How Does Assimilating a Large Commercial GNSS RO Dataset Impact HAFS Hurricane Forecasts? An Evaluation in Support of the ROMEX Experiment

The authors thank the Editor, Dr. Benjamin Ruston, for his time and effort in managing the review of this manuscript, and for his helpful comments. We have revised our manuscript to address the Editor's comments and suggestions for improving the paper's wording and syntax. Our point-by-point responses are indicated in blue below.

Note for the technical editor: We have adjusted the color schemes of Figures 4-7, 10 and 11 to improve their readability for color-blind readers. Specifically, we changed the red "Control_noC2" line colors of Figures 4-7 and 10 to magenta. This makes the Control_noC2 lines more distinguishable from the green "ROMEX" lines, as compared to these figures' previous versions when running the Coblis test, particularly for the Red-Blind/Protanopia and Green-Blind/Deutanopia conditions. We also adjusted the green and orange color hues of Figure 10 for additional improvement under several Coblis screens. We adjusted the colors of all lines in Figure 11, which now show improved contrast under the Coblis screens.

Sincerely,
William J. Miller, Corresponding Author

1. Page 6, line 172--174. The sentence has two distinct points would separate into two sentences: These four TCs were selected because they were the most significant of the 2022 Atlantic season in terms of strength, longevity, and overall impact. Due to computational constraints, additional cases could not be included.

We agree that the two points should be separated into different sentences. We have split this sentence into two, using your suggested wording (lines 172-174).

2. Page 7 line 190, the use of "struggled" is a bit awkward would recommend:
... and was slow to intensify initially while moving ...

Thank you for this suggestion. We revised the sentence following your recommendation and it now reads as (lines 190-192):

"Major Hurricane Ian (23 – 30 September) also originated as an AEW and was slow to intensify initially while moving westward through the eastern and central Caribbean (Bucci et al. 2023)."

3. Stylistically there are many occurrences of 4.6-meter and 5.4-km resolution and 30-km impact height. When I believe in all of these cases the hyphen should not be used? Please confirm with the editorial staff and remove extraneous hyphens if this is the case.

We checked the AMT manuscript preparation guidelines (<https://www.atmospheric-measurement-techniques.net/submission.html>) and found this guidance on hyphen usage: *We recommend not to hyphenate modifiers containing abbreviated units (e.g. "3-m stick" should be "3 m stick"). This also applies to the other side of the hyphenated term (e.g. "3 m long rope", not "3-m-long rope").*

You are correct – we shouldn't use hyphens between numbers and abbreviated units. We confirmed this with the AMT editorial staff. We removed all such instances of extraneous hyphens in the manuscript (lines 45, 193, 198, 219-221, 235, 241-242, 244, 269, 276, 287, 289, 302, 319, 389, 420, 478, 480, 592-594, 597, 609, 655, 657, 663-664, 666, 677, 684, 701-702, 706, 709, 711, 770, 803).

4. Page 9, line 252. Desroziers (to match your reference section)

Thanks for catching this. We checked the cited paper and confirmed that the first author's last name is spelled "Desroziers." We corrected this misspelling in the main text (line 253).

5. Page 9, line 272 why are the satellite names italicized?

We realize that the satellite names should not be italicized, and so we changed them to regular Roman font (lines 266, 273-274, 284).

6. Page 10, line 276: recommend just being explicit here:
... and other government missions reject data above 50 km.

We agree. We revised this sentence and it now reads as (lines 274-277):
"The ROMEX commercial bending angles are assigned the same observation errors and QC settings as those used for COSMIC-2, except that their QC cutoff threshold rejects all data above the 30 km impact height, whereas COSMIC-2 and other government RO mission data are rejected above 50 km. "

7. Page 10, line 282: why is Metop italicized?

You're right. Metop should be in regular Roman font and we corrected this.

8. Page 11 lines 326 what is the practice here is the command after "717" and "Control"

extraneous. E.g.:

... total of 129, 717 and 2513 RO profiles ...

Thank you for flagging this sentence. We agree that it reads awkwardly, and we revised it to (lines 327-328):

“When combining all analyses from the four TC cases, Control_noC2 assimilates 129 profiles, Control assimilates 717 profiles, and ROMEX assimilates 2513 profiles.”

9. Page 16, line 419 another hyphen that I believe is extraneous:

.. and below the 7 km impact height

We confirmed that this is an extraneous hyphen (see our response to Comment 3) and removed it (line 420).

10. In the reference section there are some formatting error with the indentation please review. Example page 39, line 958 for the Lonitz reference missing indentation. Ditto, line 977, and line 991.

We reviewed our References section and fixed all indentation formatting errors. Additionally, we added a URL link for the Lonitz et al. (2021) reference, and we changed all doi links to plain black font. There were a few places where the line spacing was not at 1.5 and we corrected those lines' spacing to be consistent with the rest of the manuscript.