

Referee Report

Recommendation: Accept subject to minor revisions

General assessment

The revised manuscript is considerably improved relative to the previous version. The Introduction now gives a clearer account of atmospheric controls on medicane development, including baroclinic instability, Rossby wave breaking, and upper-level precursors. The Methods section provides additional detail on the along-track analysis and the Ekman pumping calculation. The biogeochemical data limitations are also better acknowledged, especially for satellite chlorophyll products in cloudy or optically complex coastal conditions.

The paper can now be considered a useful observational case study of storm-ocean interaction during Medicane Daniel. The main remaining revisions are technical and editorial: they should ensure that the conclusions are phrased consistently with the observational nature of the analysis.

Remaining minor correction

The main remaining point is to ensure that the wording remains consistent with the observational nature of the study. Some statements in the Abstract, Key Points, and OHC discussion still imply a stronger causal role for WCE/MHW/OHC than is fully demonstrated. I suggest replacing phrases such as “sea-induced intensification,” “created optimal conditions,” and “provided the energy necessary” with wording that emphasizes that the oceanic anomalies likely **supported** or **modulated** intensification under favorable atmospheric forcing.

A suitable wording would be along the lines of: “The results indicate that Daniel intensified in a region of anomalously warm upper-ocean conditions, suggesting that WCE/MHW/OHC anomalies may have supported or modulated the intensification under favorable atmospheric forcing.”

Minor technical comments

- **Abstract and Key Points:** Please moderate phrases that imply direct causation of intensification or precipitation by WCE/MHW/OHC, unless additional causal attribution is provided.
- **Along-track anomaly analysis:** The added along-track analysis is useful. Please report the result more explicitly, for example by giving the anomaly value or percentile/rank of SST, OHC, and MHW intensity near the maximum cyclone intensity point.
- **OHC interpretation:** Please clarify whether OHC is computed relative to the 20 °C threshold or from absolute temperature, since the equation still uses T in °C. Also replace “energy necessary” with a more cautious phrase such as “favorable upper-ocean thermal reservoir.”
- **SWOT interpretation:** SWOT should be described as improving the depiction of SSHA and eddy structure, rather than directly resolving air–sea interaction.

- **Terminology and grammar:** Please correct remaining grammar and terminology issues, for example “the medicane destabilize” should be “the medicane destabilizes,” and use consistent spelling/capitalization for “medicane Daniel,” “warm-core eddy,” “marine heatwave,” and “biogeochemistry.”