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Title: The role of cyclonic eddies in the detachment and separation of Loop Current eddies.

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We sincerely thank the editor for the valuable comments and suggestions. Their detailed and constructive feedback has helped us significantly improve the manuscript.

All revisions made in response to the editor comments are highlighted in the diff.pdf file. Line numbers referenced below correspond to those in diff.pdf.

Dear Dr. Larrañaga and co-authors,

Both referees were positive about your manuscript but also had some comments. I think you satisfactorily responded to these comments and that the manuscript is almost ready for publication.

My final comments are listed below; these are mostly of technical nature. Please prepare the final version of your manuscript taking into account these comments.

L31-32 change below to south of and above to north of: ... when the LC retreats south of 25°N, and around 5 months when it retreats north of this latitude ...

Done.

L60 insert to: ... been shown to occur along ...

Done.

L63 cyclonic

Done.

L67 delete: 29 years of (as this is again mentioned at the beginning of the data section)

Done.

L78 15 October 2024 Please use this data format throughout the paper

Done.

L81 define SSH as it is used for the first time

We made a mistake, we were referring to the absolute dynamic topography (ADT), and this has now been corrected in the manuscript.

L114 north of instead of above

Done.

L118 south of instead of below

Done.

Caption figure 1: Panels b and d are not described. Please add those to the caption

Done.

L160 south of instead of below

Done.

L161, 162 north of instead of above

Done.

Caption Figure 5: south of instead of below

Done.

L203 north of instead of above

Done.

L230 south of instead of below

[Done.](#)

L234 change format: ... AVISO (Pegliasco et al., 2022), where ...

[Done.](#)

Caption Figure 6: south of instead of below

[Done.](#)

Caption Figure 6, text at the end: ... shown in panel d. (add: panel)

[Done.](#)

Caption Figure 7 second and third line: south of instead of below; north of instead of above

[Done.](#)

Caption Figure 8 second line: south of instead of below

[Done.](#)

L295 The Yucatan current is here mentioned for the first time. Please add info about its location and direction. We have defined the Yucatan Current in the introduction (lines 15-18): The Gulf of Mexico (GoM) is a semi-enclosed basin whose circulation is dominated by the Loop Current (LC), an anticyclonic current fed by the northward-flowing Yucatan Current along the Caribbean margin of the Yucatan Peninsula (Sheinbaum, 2002). The LC subsequently exits the GoM through the Florida Straits and continues as the Florida Current (Larsen, 1992).

Figure 10 In the figure please change below and above to south of and north of, respectively. Also change the wording in the caption.

[Done.](#)

L302 delete: We believe that (this is not necessary in view of what is written after that)

[Done.](#)

L332 south of instead of below

[Done.](#)

In Tables A1-A4 please change below and above to south of and north of, respectively

[Done.](#)

Caption Figure A2: change wording below and above into south of and north of, respectively

[Done.](#)

Caption Figure A3: change wording below and above into south of and north of, respectively

[Done.](#)

L451 Strange symbols in the title

[Done.](#)

L461 volume and pages missing

[Done.](#)

L468 n/a not correct, pages missing

[Done.](#)

L471 reference incomplete

[Done.](#)

L488 reference incomplete, add doi

[Done.](#)

L503 Journal missing?

[Schmitz \(2013\)](#) is a chapter in an edited book. We are now using the BibTeX entry provided by AGU, which correctly includes the book title, editors, and publisher.

Thank you for submitting your work to Ocean Science. Congrats to this very nice paper.

Mario Hoppema - editor

References

- Larsen, J. C. (1992). Transport and heat flux of the florida current at 27°n derived from cross-stream voltages and profiling data: theory and observations. *Philosophical Transactions of the Royal Society of London. Series A: Physical and Engineering Sciences*, 338(1650):169–236.
- Schmitz, W. J. (2013). *Cyclones and Westward Propagation in the Shedding of Anticyclonic Rings from the Loop Current*, pages 241–261. American Geophysical Union.
- Sheinbaum, J. (2002). Flow structure and transport in the yucatan channel. *Geophysical Research Letters*, 29(3).