

# Response to Corrections

Dear Anne Marie,

We would like to express our sincere gratitude for your outstanding work and professional dedication throughout the revision processes of our paper. Your diligence and contribution have been indispensable in each round of revisions. Your expert advice and review comments have provided valuable guidance and insights for our paper. Your meticulous scrutiny and constructive feedback have enabled us to continuously improve the paper, ensuring its academic rigor and quality. Your efforts have played a crucial role in supporting our research endeavors.

We are deeply appreciative of the effort and dedication you invest in your role as a journal editor, and we hold great respect for your professional competence and commitment. We have taken the comments carefully and have made corrections. The changes are shown in the manuscript. Please see below, in blue and black, for a point-by-point response to comments. All page numbers refer to the revised manuscript file with tracked changes.

Abstract:

The use of tenses is not uniform. If you choose the present tense, say "AE2 (...) Rossby number and EKE decrease", not decreased.

AE2 weakens

**Response:** We have rectified “weaken” into “weakens”, “decreased” into “decrease” in lines 16, 17.

line 260 " increases by 1.3 cm"

**Response:** We have rectified “increases 1.3 cm” into “increases by 1.3 cm” in lines 260, 17.

lines 260, 263: You say "area of the AE1" but "core of AE2": the use of "the" should be the same everywhere. You should remove "the" before the anticyclone names AE1 and AE2.

**Response:** We have deleted “the” before the anticyclone names AE1 and AE2 in the lines 260, 263.

line 326: "persistence"

**Response:** We have corrected “perisistence” to “persistence” in line 326.

line 445 "using"

**Response:** We have corrected “useing” to “using” in line 445.

line 447 "the vertical velocity... are presented": either the velocity is presented, or the velocities are presented.

**Response:** We have corrected “the vertical velocity... are presented” to “the vertical velocity... is presented” in line 447.

line 460: instead of "warm core of the eddy AE1" just say "warm core of AE1".

**Response:** We have deleted “the eddy” in line 460.

line 464: "the downwelling of warm eddy" is not grammatically correct. You could "enhances the downwelling and inputs negative vorticity in AE1".

**Response:** We have corrected “the downwelling of warm eddy” to “enhances the downwelling and inputs negative vorticity in AE1” in line 464.

line 503: rather say "within AE2".

**Response:** We have deleted “the” in line 502.

line 515: "locates" and "strengthens with amplitude" do not seem good style. You could say "AE1 is located outside (...). Its amplitude, Ro and EKE strengthen after the passage of the Typhoon. "

**Response:** We have rewritten this sentence as “AE1 is located outside (...). Its amplitude, Ro and EKE strengthen after the passage of the Typhoon.” in lines 514, 515.

line 516 "weakens with amplitude, Ro and EKE" is not a good style. You could perhaps just say "weakens"?

**Response:** We have rewritten this sentence as “AE2 weakens, which positions within the  $R_{max}$  of typhoon.” in line 515.

line 527: I would suggest "AE1, located outside the  $R_{max}$  of the typhoon, is subjected to a negative wind stress curl which generates a potential vorticity perturbation inside the eddy. " (It seems obvious you are talking about the typhoon, do you need to repeat typhoon three times?)

**Response:** We have rewritten this sentence as “AE1, located outside the  $R_{max}$  of the typhoon, is subjected to a negative wind stress curl which generates a potential vorticity perturbation inside the eddy.” in lines 526, 527.

line 529: "is enhanced"

**Response:** We have corrected “is enhances” to “is enhanced” in line 527.

line 530 "within AE1"

**Response:** We have deleted “the” in line 528.

line 535 "respond differently to the typhoon".

**Response:** We have corrected to “respond differently to the typhoon” in line 533.

line 536-537: If you use "while", you cannot stop the sentence at the end of line 537. A grammatically correct sentence could be "while..., conversely...). However, long sentences should be avoided: I think the best would be to remove "while" in line 536.

**Response:** We have deleted “While” in line 535.

line 538: "Conversely...." this sentence says exactly the same thing as the previous one: it should be removed to avoid repetition.

**Response:** We have deleted this sentence in line 536.

line 542: "This is discussed for the first time".

**Response:** We have corrected “It is discussed first time” to “This is discussed for the first time” in line 540.

line 546: "and enhance"

**Response:** We have corrected “and enhancing” to “and enhance” in line 544.

All of the co-authors are so grateful to you for the time spent on our manuscript. The comments and suggestions provided by the editor are invaluable for us to improve our manuscript. We are so appreciated.