

## AUTHORS' RESPONSE TO EDITOR

Editor: Thank you to the authors for addressing the revisions provided by kind referees. The manuscript now can be accepted subject to some minor corrections (me nitpicking, see private notes). Thank you for your work and for submitting to EGU Ocean Science.

Authors: Thank you for your message and for your careful reading of the manuscript. We will make the requested corrections according to your suggestions.

Editor: line 10 replace “Adriatic area” by “Adriatic Sea region”

Authors: Done

Editor: line 23 remove brackets in “(and, potentially, forecast)”

Authors: Done

Editor: line 64 add “Sea” to “northern Adriatic”

Authors: Done

Editor: line 99 replace “Gulf of Trieste” by “GoT” as defined before and throughout the manuscript

Authors: Done

Editor: line 123 you could say “southerly winds” and remove “from southerly directions” in the line below

Authors: Done

Editor: line 125 unit here is m/s I suggest changing it to  $m^{-1}$  as in previous sections in the manuscript (check for other places for consistency)

Authors: Done

Editor: line 126 you could remove “link” and replace by “see”

Authors: Done

Editor: line 129 add the word “velocity” before “components”

Authors: Done

Editor: line 130 you could replace “available at the link” by “retrieved from”

Authors: Done

Editor: line 196 replace “spanning the whole 2023” by “throughout 2023”

Authors: Done

Editor: line 214 replace “Sec.” by “Sect.” as was used before

Authors: Done

Editor: line 248 to 256 check the closing square brackets in the bulletpoints as well as in Figure 5

Authors: The notation used for the intervals follows the usual mathematical convention in which square brackets  $[a, b]$  indicate that the endpoint is included, and  $[a, b[$  indicates that the endpoint is excluded.

For low wind and Bora wind, we have used  $[a, b[$  to denote intervals where the lower bound is included and the upper bound is excluded.

Editor: Figure 7, vorticity could be replaced by “curl” but a suggestion

Authors: Done. In Figures 7, we have changed “wind stress vorticity” to “wind stress curl” and “vorticity” to “Sea current vorticity”. We have also changed the text, but only for the wind stress (wind stress curl), for the current we have left “vorticity”.

Line 290: *Wind stress curl and sea current vorticity.*

Line 328: *[..] wind stress curl [...].*

Line 329: *[..] wind stress curl [...].*

Editor: Figure 8  $Hm_0$  could be in brackets and remove the commas same for Figure 9

Authors: Done

Editor: Table 3 could you add units of  $u$ ,  $v$  in caption of table so can be read stand alone?

Authors: Done. But the values in Table 3 refer to correlation coefficient  $R$ .

## LIST OF ALL RELEVANT CHANGES

Changes made to the manuscript following the Editor's suggestions (the number of the lines refer to the Author's track-changes file: Author's\_track\_change.pdf):

- Line 10: Replaced “*Adriatic area*” with “*Adriatic Sea region*”.
- Line 23: Removed brackets in “~~*and, potentially, forecast*~~”.
- Line 63: Added “*Sea*” to “*northern Adriatic*”.
- Line 99: Replaced “*Gulf of Trieste*” with “*GoT*”.
- Line 123: Changed wording to “*southerly winds*” and removed “*from southerly directions*” in the following line.
- Line 125: Changed unit from *m/s* to *m s<sup>-1</sup>*.
- Line 126: Replaced “*link*” with “*see*”.
- Line 129: Added the word “*velocity*” before “*components*”.
- Line 130: Replaced “*available at the link*” with “*retrieved from*”.
- Line 196: Replaced “*spanning the whole 2023*” with “*throughout 2023*”.
- Line 214: Replaced “*Sec.*” with “*Sect.*”.
- Figures 7a-c: Changed “*Wind stress vorticity*” to “*Wind stress curl*” and “*vorticity*” to “*Sea current vorticity*”. Updated text references for wind stress accordingly:
  - Line 290: Changed “*Wind stress and sea current vorticity*” to “*Wind stress curl and sea current vorticity*”.
  - Line 330: Changed “*wind stress vorticity*” to “*wind stress curl*”.
  - Line 331: Changed “*wind stress vorticity*” to “*wind stress curl*”.
- Figures 8 and 9: *H<sub>m0</sub>* and *H<sub>m0-Zarja</sub>* in brackets and removed commas.
- Table 3: Added units of *u* and *v* in the caption.

### Minor additional corrections

We would like to inform the editor that, following a careful re-reading, further minor corrections have been made in addition to those requested in order to improve the readability of the text.

A list of the changes follows (the number of the lines refer to the Author's track-changes file: Author's\_track\_change.pdf):

- Line 63: “[...] but it is known that this wind causes *a rise in* sea level in the northern Adriatic Sea [...]” became “[...] but it is known that this wind causes sea level *rise* in the northern Adriatic Sea [...]”.
- Line 88: Replaced “*analysis*” with “*research*”.

- Lines 93-95: “The *increase in hydrometric data* due to precipitation required the inclusion of data *on the* water level and discharge of the Isonzo/Soča River, [...]” became “The *increased runoff* due to precipitation required the inclusion of *hydrometric data (i.e., water level) and derived discharge rates* of the Isonzo/Soča River [...]”.
- Line 100: Replaced “*min*” with “*minutes*”.
- Line 119: Replaced “*conducted*” with “*carried out*”.
- Line 138: Replaced “*atmosphere*” with “*atmospheric*”.
- Line 139: Replaced “*force*” with “*drive*”.
- Line 146 Replaced “*x*” with “*x*”.
- Line 147: “[...] in the HFR grid in GoT [...]” became “[...] in the HFR grid in *the* GoT [...]”.
- Line 160: Changed “*Images* Copernicus Sentinel-2A” to “*Satellite images from* Copernicus Sentinel-2A”.
- Line 161: Replaced “*follow the evolution of*” with “*dynamically track*”.
- Line 166: Replaced “*Water*” with “*water*”.
- Line 167: Replaced “*The hydrometric*” with “*Water level*”.
- Line 178: Replaced “*site*” with “*website*”.
- Line 183: “*Image* Sentinel-2 22nd October 2023 09:59 a.m. UTC.” became “Sentinel-2 *image on* 22nd October 2023 *at* 09:59 a.m. UTC.”. And “*Image* Sentinel-2 04th November 2023 10:11 a.m. UTC.” became “Sentinel-2 *image on* 04th November *at* 10:11 a.m. UTC.”.
- Line 184: “*Images* Sentinel-2 were *ta* taken from the Copernicus website [...]” became “Sentinel-2 *image* were taken from *the* Copernicus website”.
- Line 192: Replaced “*These pictures were*” with “*Pictures*”.
- Line 196: Added the word “*(NAD)*” before “*northern Adriatic*”.
- Lines 208-209: “[...] *with* 6 times higher horizontal spacing *of* 1/768 ° (around 125 m) and [...]” became “[...] *featuring* 6 times higher horizontal *resolution (1/768° spacing, around 125 m) and* [...]”.
- Lines 213-214: “[...] during the study period. *These include* the analysis of tidal components [...]” became “[...] during the study *period, including* the analysis of tidal components [...]”.
- Line 248: Changed “*(Flora et al., 2023)*” to “*Flora et al. (2023)*”.
- Line 300: Replaced “*event*” with “*episode*”.
- Line 314: Replaced “*present*” with “*blowing*”.
- Lines 314-316: “*Our results may be due to the fact that previous studies did not analyse hourly data, but only daily and monthly data.*” became “*The additional level of detail in our results*”.

*is probably due to the fact that we used a higher temporal resolution compared to previous studies. This finer time scale may have allowed us to identify patterns that were not visible in analyses based on daily or monthly data.”*

- Line 323: Replaced “*the hydrometric*” with “*water level*”.
- Line 339: Added the word “*the*” before “*Bora wind*”.
- Line 345: Added the word “*that*” before “*the current field*”.
- Lines 395-396: “[...] the time series for *the zonal and meridional*, difference between the model and HFR zonal and meridional velocity components [...]” became “[...] the time series for difference between the model and HFR *zonal and meridional* velocity components [...]”.
- Line 398: Replaced “*simulation*” with “*simulations*”.
- Line 406: Replaced “*seem*” with “*seems*”. And replaced “*they*” with “*the panels*”.
- Line 459: Replaced “*sophisticated*” with “*comprehensive*”.
- Line 460: “[...] management and predictive modelling for these vulnerable regions.” became “[...] management and *improve* predictive modelling *tools* for these vulnerable regions.”
- Line 500: Added the word “*InstaText*” before “*, used to improve the English*”.
- Lines 504-511: “*This research has been carried out in the framework of the project iNEST – Interconnected Nord-Est Innovation Ecosystem, funded by the European Union – NextGenerationEU, PNRR – Mission 4, Component 2, Investment 1.5 (ECS00000043 – CUP F43C22000190006) and project iNEST-NEREIDES – Young Researcher call by OGS, funded under the National Recovery and Resilience Plan (NRRP), Mission 4 Component 2 Investment 1.5 – Call for tender no. 3277 of 30/12/2021 of Italian Ministry of University and Research funded by the European Union – NextGenerationEU (Project code ECS00000043, Concession Decree no. 1058 of 23/06/2022 adopted by the Italian Ministry of University and Research, CUP 510 F43C22000190006).*” became “*This research has been carried out in the framework of the project iNEST – Interconnected Nord-Est Innovation Ecosystem, funded by the European Union – NextGenerationEU, PNRR – Mission 4 Component 2 Investment 1.5 – Call for tender no. 3277 of 30/12/2021 of Italian Ministry of University and Research funded by the European Union – NextGenerationEU (Project code ECS00000043, Concession Decree no. 1058 of 23/06/2022 adopted by the Italian Ministry of University and Research, CUP F43C22000190006). It has also been supported by the project iNEST-NEREIDES – Young Researcher grant issued by OGS, funded under the National Recovery and Resilience Plan (NRRP) in the framework of the iNEST project.*”