Dear editor,

Thank you very much for your fast evaluation of our manuscript. We revised the manuscript following the minor revisions you requested. Point by point responses to your comments (in bold) and the changes in the manuscript can be found below.

Comments to the author:
Dear Dr. Reyes-Suàrez and co-authors,

Thank you for the revision of your manuscript. I am generally satisfied with your response and with the changes in the manuscript. After reading the manuscript myself, I have listed some minor comments below. Please prepare your final revision accounting for my comments, after which the manuscript can be published in Ocean Science.

As to the data downloaded or obtained from other sources: Please check again if the data originators request a particular acknowledging of data use. If this be the case, please add this.
Yes, all the data sources are acknowledged and cited accordingly in the format requested by the data originators.

L2 delete: however ; There are no data from the late 1800s on to show that the 10 spec/m2 is extremely high, so "however" is not appropriate here.

Amended. However was changed in ":"

L3 delete: In this work

Amended.

Figure 2 Please enter all geographical names to the figure used in the text. Most are certainly in the figure, but Istrian coast and Grado, for example are not.

Amended: Grado was added in the detailed figure 2; in the main figure 2 additional geographical locations were added: Istrian coast, Jabuka Pit, South Adriatic pit and Strait of Otranto. Caption of figure 2 has been updated accordingly.

L85 delete: were considered to ; either the data characterize this period (which means they are exactly from this period) or not.

Amended.

L92 and further whole Sect 3.1 Please give an indication of the errors of all data used

For the radar data the following line has been added: "The WERA system intrinsic estimates of zonal and meridional current errors amount to 1–3m s^{-1} (Licer et al., 2020)."

For the Mambo1 the following line has been added: "Sea temperature at 2 m was acquired by a Sea Bird SBE37-SM with an accuracy of ±0.005 °C while the temperature at 15 m was acquired by a Sea Cat SBE16 v2 with an accuracy of ±0.002 °C."

For VIDA buoy the following line has been added: "Wind speed and direction were acquired with a WindMaster Pro with an accuracy (12 m s^{-1}) of 1.5% RMS and 2°. The sea temperature at 3 m and 22 m beneath the surface were measured using a SeaBird 16plus Seacat with an accuracy of ±0.002 °C"

For the SST "accuracy of ±0.006 °C" has been added to the text.

Line 118 has been changed to: "the 13-year dataset consist of a time series of CTD data measurements acquired with a Idronaut mod 316 plus from the surface to 25 dbar of depth on intervals of ~ 1 dbar and with an accuracy of ±0.002 °C."

For the citizen science data, all avvistAPP data were validated by scientists. This information was added in section 3.1.

Unfortunately, we are not able to provide an estimation of the error for the Isonzo river discharge data. We requested information to the technicians from the servizio idrografico-FVG Region and they replied as follows:

> "*For the Isonzo, estimation of the discharge is obtained through the classical velocity-area method. Measurements are carried out in a fixed section using a fixed (at the bottom) acoustic profiler (ADCP) which permits the integration of the velocity pattern (with depth-cells of 0.25 m) throughout the entire section via periodic calibration, by means of a mobile ADCP along the same section.*
>
> *The integration obtained using ADCPs avoids the problem due to the use of vertical arrays of current meters for the measurements.*
>
> *Thus the results are very precise, with an error that is usually neglected.*"

L121-126 Using citizen science data is great but there is a risk of non-representativeness. The least you can do is scale to the number of observations. If there are many observations, the chance that a high number of individuals will be observed is greater. The data are shown in Fig. 3. I think you should also show that the number of individuals is highest while accounting for the number of observations.

We agree with the editor that Citizen Science data must be used cautiously, and for this reason, we did not use the avvistAPP data to get actual "quantitative" abundance of

jellyfish. Our goal was to show that *Rhizostoma pulmo* was observed throughout the year at the GOT and that the highest abundances were most frequently reported in April 2021 (see also our response to referee 1). Concerning the number of observations, we collected a similar number of sightings for the period January-August (first week) 117 and 114 in 2020 and 2021, respectively. This information has been added to the text.

L170 define max-min difference (or write out full)

Sentence at lines 169-170 was changed as: "To assess the goodness of the modelled data the RMSE (root-mean squared error) was normalized by the difference between the maximum and minimum measurements (HFR and VIDA observations)."

L170 magnitude instead of: measure?

"Measure" was changed in "measurements" in the new sentence at lines 169-170..

L170 define NRMSE as this has not been done before (e.g., normalized RMSE)

Amended.

L172 SSC instead of SCC (typo)

Amended.

Caption Table 2: "Comparison statistics between observed and model time series." Please mention that it concerns correlation coefficients in this first sentence.

Amended. First sentence was changed as: "Comparison statistics (NRMSE and correlation coefficients) between observed and model time series (768 samples considered)."

Table 2: Please provide the sample number (n) and whether the correlations are statistically significant.

The number of samples (768) was added in the first line of table 2 caption.

All correlations were significant (p<0,05): this information was added in table 2.

Figure 7 There is no red line and moving average in the figure, as mentioned in the caption.

Amended. We deleted the red line as requested by referee number 1 but we forgot to change the caption accordingly. Now we revised the caption of figure 7.

L227-228 please add when the online page was visited.

We visited the page on 1 February 2022. As the web site was updated and now this information can be found at a different address (http://cmsarpa.regione.fvg.it/export/sites/default/tema/acqua/acque-marino-costiere-e-lagunari/approfondimenti/bollettino_web/2021/2021-04-Stato-oceanografico-ed-ecologico-del-Golfo-di-Trieste.pdf), we changed the link in the text and we added the most recent access (yesterday, 8 August 2022).

L318 … due to redistribution or redistribution of a … (redistribution twice; please correct what you mean here)

Amended. Now we reported exactly the text of Graham et al. 2001 and the second "re-distribution" was changed in "re-dispersion"

L320-326 First you argue that you observed a "true" bloom. However, the role of the Bora in the blooming event really seems to point to an "apparent bloom", I think. Actually, the arguing in the following paragraph reads like the description of an apparent bloom. Please comment on this.

We agree with the editor that the situation in April 2021 could be a clear example of an apparent bloom, but, as we explained in the text, the high abundance of *Rhizostoma pulmo* observed by scientists (two of whom are co-authors of this manuscript: Tirelli V., Cellio M.; and other colleagues from the OGS, ARPA FVG and NIB of Piran) and reported by citizens (in avvistAPP and in messages sent to newspapers) during several weeks before the Bora event, allowed us to be sure that there was a true bloom of *R. pulmo* in the late winter/early spring 2020. Moreover, thanks to the mechanism of upwelling explained in our manuscript, the Bora event magnified this bloom and the perception of jellyfish occurrence on the coasts of GOT.

L426 After the last author of the list there are some strange symbols

Revised.

L463-465 This reference does not seem to be complete

Amended. The reference was changed as:

Pierson, J., Camatti, E., Hood, R., Kogovšek, T., Lučić, D., Tirelli, V., and Malej, A.: Mesozooplankton and Gelatinous Zooplankton in the Face of Environmental Stressors in *Coastal Ecosystems in Transition: A Comparative Analysis of the Northern Adriatic and Chesapeake Bay*, Malone, T., Malej, A. and Faganeli, J. (Eds.), chap. 6, pp. 105–127, American Geophysical Union (AGU), Wiley & Sons Ltd, Geophysical Monograph, ISBN: 9781119543626, https://doi.org/10.1002/9781119543626.ch6, 2020

L469 This reference does not seem to be complete

Amended.

Poulain, P.-M. and Raicich, F.: Forcings in *Physical Oceanography of the Adriatic Sea: Past, Present and Future*, Cushman-Roisin B., Gačić M., Poulain P.-M. and Artegiani A. (Eds.), pp. 45–65, Kluwer Academic Publishers, Dordrecht, https://doi.org/10.1007/978-94-015-9819-4_2, 2001

Unfortunately, changes in references are not visible in track changes with Latex.

Thanks for your useful remarks

Best regards

Catalina Reyes-Suàrez and Valentina Tirelli, in the behalf of all co-authors