

Dear Claudia thanks for your rereview. In black the review in red our response

I have reviewed the resubmitted version of the manuscript “Sea level Rise in Europe: impacts and consequences”, providing an overview of the main type of impacts of SLR, with special focus on the European coasts. The manuscript has been partly re-organized; the Authors have accepted most suggestions provided by reviewers (although, for some unknown reason, in file “sp-2023-38-author_response-version1” I only see the rebuttal letter for reviewer 1, i.e. GLC, and not that for my previous review).

Correct nearly all suggestion were accommodated

I indicate below a few comments and propose very minor further corrections. Some corrections derive from changes in the manuscript that the Authors made according to my previous comments on the original draft. However, some of these were probably not well expressed by me, or were not fully correct, and this generated some misunderstanding. I am sorry for that, and in this note I will update my early comments trying to better clarify them. One of this, was my suggestion to add In Table 1 -Summary of the methods for monitoring coastal erosion a sentence on marine drones (“Marine drones such autonomous surface vehicles (ASVs) are usefully applied for monitoring the nearshore in shallow water... etc etc”). This sentence was inserted in the part of table dealing with “Drones“, where Authors refer to the extensive collection of data covering larger areas along the coast with respect to ground-based surveys. Actually, this is not typically the case for Unmanned Vehicles in marine areas, that allow collecting information in autonomous manner, but at the spatial scale of “Field surveys”. The use of marine drones has surely introduced various practical advantages in monitoring activities; however, it mostly fit the purpose “for monitoring morphological changes in the short term and involves repeating measurements (...)", indicated for “Field survey” techniques. So, the Authors might consider whether moving the reference to this application in other part of the table would appear more correct.

Table 1 has been rephrased

Some inconsistencies in the figures, or between text and figures, are still present:

-In introducing the common approach applied for the analysis, the term “Consequences” has been deleted in figure 2 both from the sketch and caption according to my suggestion, and in section 4 the text now refers to the “SPR framework”. However, some inconsistencies remain (such as in the caption of figure 7). Furthermore, despite the Authors state in their reply: “Receptors and consequences are essentially the same thing and (...). As consequences are not referred to in the figures, we have as you suggested removed it. Hence, we just refer to Source-Pathway-Receptor throughout” and “For homogeneity reasons we present all impacts using the Source, Pathway, Receptor framework”, in other parts of the manuscript than in section 4, the use of expression “Receptor and Consequences” (for instance, at lines 524 and 742) has been maintained in the text. The Authors still refer to the SPRC approach also in section “7 Conclusions”, showing that this change has not been homogeneously adopted throughout the manuscript.

The reviewer is correct we did not change it everywhere in the revised version. We went through the paper and corrected this.

-Figure 5: I suggest deleting the original caption from below the figure; the figure explanation is already reported in your caption, while maintaining the original indication “Figure 1” is confusing.

We now understand what you mean and followed your good suggestion and have taken the caption out of the figure.

-Figure 6: I still found not univocal the comparison between Figure 6 and the text describing this figure (lines 392-400). I see the indication you added “for size in km² see Table 4 in Paprotny et al., 2019, for more details” to clarify the estimates given in the text for the increase in flooded area. However, I do not find out in the figure other specific information you provide in the text: for instance, I do not recognize from the figure such a large value of flood extent area (over 4,500 km²) for Norway (In Fig. 6 I see mostly green colors along the Norway coast) while you do not cite the coast of central Europe, where most of the blue color is present. Similarly, I do not find coherence with colors of the figure and the indication “slightly below 2,000 km²” for most part of Greece and Italy (apart the N Adriatic in correspondence of the Po Plain). Please check.

We adjusted the explanation of the figure to clarify, the numbers are correct and refer to the 1971-2000 time slice and the 100-year return period.

Minor comments and typo corrections:

-line 70 and 429: this reference should be “Bisaro et al 2024” and not “Galluccio et al 2024”.

corrected

-lines 71-73: check the sentence: which is the subject of “(...) can reduce the exposure”? I suppose you wanted to refer to “the establishment of coastal setback zones” and not to “Sano et al, 2011....”.

Rephrased

-lines 78-79: it might be indicated the reason why deltas are particularly vulnerable to SLR (such as due to the low altitude of coastal plain and natural subsidence).

Added

-line 157: correct as “Coastal”

Done

-lines 177-179 and 193-195: these two sentences basically repeat the same concept.

Correct second sentence removed

-line 214: check and correct “Tides small Tidal”, it has no sense as it is.

Corrected tides removed

-lines 289-290 and 297-298: again, these two sentences basically repeat the same concept.

Second one removed

-lines 330-331 my original comment “line 323: you could rewrite as “(...) and stabilization of beaches and dunes”)” was referred to the first part of the sentence that might become (“building new or maintaining and improving existing flood defences, or application of artificial nourishment and stabilisation of beaches and dunes”), and not to the second part of the sentence as it appears now ,i.e. aSer “ and reduce flood risk along coasts...”. I probably was unclear. Check and correct.

Adjusted

-line 469: correct as “morphological”

Corrected

-line 497: correct as “Receptor for” in the title of subsection 5.2.

Corrected

-line 540: add “(Italy)” aSer “Emilia-Romagna coast”. Sorry, I did not specify this in my previous suggestion.

Added

-lines 635-636: I remark the need for citing references here.

Done

-line 679 and 735: I am afraid that the term “saline” is not correct. I suggest using instead “saline”, as you did at line 771 and 778).

corrected

I hope these further suggestions can be useful

Thanks for your careful consideration of the manuscript

Claudia Romagnoli, 12/06/2024