Review of the manuscript: "**The acceleration of sea-level rise along the coast of the Netherlands started in the 1960s**" by Iris Keizer et al.

The paper estimates the sea-level rise (SLR) using the average of six tide gauges along the coast of the Netherlands, from 1890 to 2020. For this purpose, the authors used four Generalized Additive Models – GAMs, to estimate the sea-level trend, as well as the influence of the lunar nodal cycle and zonal wind on sea level, the latter using two different approaches. Results indicate an acceleration of SLR starting in the 1960's, which protrudes once the tidal and wind effects on sea level are removed. Besides, they show that wind effects force a long-term SLR, as well as a low-frequency variability modulating sea level by about 1 cm, which is related to Sea Surface Temperature variations in the North Atlantic.

I find the aim of the paper very relevant, as the assessment of coastal rates of SLR and its acceleration due to anthropogenic forcing, is essential to obtain adequate projections of future sea levels, necessary to perform effective coastal adaptation strategies. Besides, I find the paper scientifically relevant, especially for the use of GAMs to estimate the sea-level trends, allowing them to isolate the influence of particular variables.

The paper is well written and has an excellent presentation quality. However, there are few comments I would like the authors to consider before submitting this preprint for publication in a scientific journal.

Main comments:

L103. Through the entire paper, the assessment of the sea-level along the coast of the Netherlands uses the average of the six tide gauges. I suggest to include a comment about the reasons of using this average instead of using the individual time series (or both). Furthermore, I think it would be interesting to assess if the SLR trends and acceleration observed in the averaged time series stand, if the same method is applied to the individual tide gauge time series. In particular, the wind effect on sea level could be very different from one station to the other, depending not only in spatial differences in the wind forcing, but also due to coastline configuration, bathymetric differences, among others.

L112. Two sinusoidal waves in opposition of phase with the 18.6 year period were used to assess the nodal effect on sea-level. Although in L120 the authors recognize this approach might remove some additional variability around the nodal period, I suggest the authors to include in the results section, at least one paragraph describing the amplitude and phase lag of the nodal cycle clearly seen in the TrNc GAM. This result should be compared to what is known about this cycle in literature.

Appendix A. In L321 authors indicate they assess the low-frequency relation between wind influence on sea level and low-frequency SST. At this point I think authors should guide the reader, indicating the physical relation between these two

variables they are trying to expose. Later in L345, authors offer a physical explanation for the relation found between SST in the north box and zonal wind. In my view, the hypothesis that changes in the meridional temperature gradient strength the jet stream, is not strongly presented. Due to air-sea interaction, SST has an inverse relationship with atmospheric pressure at sea level. As used in the paper (TrNcPd), changes in the meridional atmospheric pressure gradient modulate zonal wind in the region. Therefore, the relation found between wind influence on sea level and SST is probably possible due to variations in the atmospheric pressure gradient, what in the region is measured by NAO. This reasoning also supports the stronger correlations found in TrNcPd when compared to TrNcZw. I suggest authors to review literature about the relation between NAO and SST (air-sea coupling) in the North Sea (e.g. doi/10.1029/2022JD037270), to present a stronger case in the Appendix. Changes in the Appendix might force some changes in the main paper.

Specific comments:

L4. …covering the period 1890-2020.

L13. Verify a typing error.

L134. Authors assess sea level from 1890 to 2020. Suddenly in this line, they mention that wind effects on sea level are assessed from 1836 to 2020. I suggest authors to include a comment about the reasons of extending in time the assessment of the wind forcing.

L189. In this line authors assess the wind-driven trend in sea level for the 1928-2020 period. However, Figure 3b show trends for two periods. I suggest authors to include a comment about the wind-driven sea-level trends observed during the first period. I think this is important especially due to the large difference in the trends observed in TrNcPd.

L232. The authors speculate about the reasons behind the SLR decreasing rate observed from 1900 to 1960. Please consider to move this explanation to the discussion section.

Table 2 legend. The probability in the third line is 0.23.

L246. Verify the referencing.

L274. 2000 onwards, …

Figure A1 legend. Define the AMV acronym, indicating that the area is shown with the black limits. Try to use colors that can be easily distinguished in panels' b and d.