

Point by point response:

The revised manuscript has considerably improved compared to the first version. Descriptions and discussions are now much easier to follow. Overall, it is nice to see a comprehensive assessment of heat stress on health and labor productivity under different scenarios of climate change for a European country.

I think that the manuscript is now close to a version that can be published. I only have two more reservations regarding the computation of heat-related mortality.

Since the framework of attributable fraction (computed as  $AF=(RR-1)/RR$ ) is used, I was surprised to read that the authors scale the observed averaged daily mortality by RR before multiplying it with AF to derive attributable mortality (ll. 88-90). To my understanding the authors should simply use the total observed averaged daily mortality.

The heat-attributed deaths are already considered in the observed deaths, if we add on top the attributable fraction at a given temperature, we would be overestimating the heat-attributed deaths. We have added an explanation to that point.

The other issue that is still not really clear to me is why the authors do not use a continuous temperature scale, but consider the RR only per full degree of Tmax. I assume that they simply round the maximum temperature to the nearest integer, thereby actually binning the temperature into  $T_{max}\pm 0.5^{\circ}C$ . Unless there are computational restrictions or issues of data availability, I would think that the more straightforward approach would be to compute the RR on a finer scale, by simply including the Tmax per day at the resolution available (if  $>22^{\circ}C$ ) into the polynomial function given in the appendix, and finally summing attributable deaths over all days.

We did indeed use only full degree of Tmax, this is because the data provided from the previous study are only given for these temperatures. We also don't think that this would lead to substantial changes in the results.

If the authors stick to the approach that is currently used I think these two issues still need further explanation and justification.

In addition, I have the following minor points:

- 1.160: "the real number of observed deaths" is a bit misleading. Maybe write something like "and use the averaged observed daily deaths as the mortality baseline"
- 1.225: "The influence of heat waves..." is an incomplete sentence.

Thank you for both comments, these have been implemented

Last but not least, merely as an advice for future work, I would like to point out that it has been a bit difficult to see the changes made to the manuscript because the tracked changes version did only include the major corrections. Also, the authors could have included line numbers in their responses to guide the reviewers to the sentences/parts where changes were introduced, even if they were minor.

Thank you for the comment, this was due to the text being written in Latex but we have now found how to include track changes in the pdf generated from latex.

Additional changes:

We have corrected a few formulations from the text and added two points to the limitations which we have realized are important to mention based on recent work.