The authors have substantially changed the paper to address the comments raised in review, accounting for each comment in turn. In particular, Section 3.1 is now much more easy to follow, Section 3.7 has the detail it deserves, and the Figures are much better – especially 3 and 4. There are some small clarifications that need to be made just to iron things out, and there is one conceptual issue regarding the definition of the "demographic transition" in terms of aging versus overall population growth. In light of the substantial alterations to address comments, and the very minor changes that need making, I recommend this revision be accepted subject to technical corrections, which do not need further review.

Figure 1: this can be cropped at -40 latitude to remove the white space. Also needs a full stop in the caption.

Section 2.2: good to have the resolutions, but would also just highlight around L210 that they all have the same 0.5x0.5, to aid the reader.

L262 needs to be ", and ammonium" in the list.

L280: need citation for "Natural Earth dataset"

L332: "ranging from 2.4 μg m-3" to what? (5.9, uniformly, I think? Need to clarify both the range and the distribution ie uniform or other). Also, how many samples? It's fine to refer to the other paper for more specific details but the key info should be given here, and I think that should include the number of samples.

L351: at the end you have "a grid by age." which highlights the dependence of the population, but you don't do the same for the mortality or RR. Maybe for clarity add a new sentence noting which properties each variable depends on.

L362: "about 25 km" – why is this only "about"? Is the resolution in degrees and this is approx? It's not too important but worth clarifying.

L407: "For instance, [in] Central Africa"

Figs 3+4: these are much better, but 1) cape verde encroaches on the text – maybe just make the boxes non-transparent 2) I feel the boxes could possibly be rearranged to the sides, to make the figure wider and allow for it to be bigger overall therefore – but if you have played around with it and this is the best configuration then that's fine.

Fig 5: much better; caption needs a full stop.

L605: this is substantially improved and really interesting! However, there's some confusion around the "demographic transition" and aging. The "demographic transition" is comprised of aging and general population increase, right? But you attribute the demographic transition bar in S13 purely to aging in the text. Really, to explore this effect, you'd have to repeat the analysis with the population increased but the age distribution constant, versus the results where both change, i.e. decompose the demographic transition into aging and population growth. I'm not suggesting you need to do this unless you're interested in exploring this aspect, but you at least need to resolve this ambiguity by not referring purely to aging as the cause of these deaths. I also think S13 is a key figure and deserves to be in the main text really, unless there's a limit on figures here. But up to you.