Demographic yearbooks as a source of weather-related fatalities: The Czech Republic, 1919–2022

This is an interesting paper that presents new research on understanding long-term fatalities in the Czech Republic. The manuscript is well written and provides a thorough analysis of demographic year books over 104 years, in relation to their contents documenting fatalities resulting from environmental conditions. The authors undertake an impressive analysis of the data, and a detailed contextualisation of the results and significance of their findings in relation to other work in the field across Europe and globally. I have attached an annotated version of the manuscript with some suggested edits both in terms of language but also additional considerations or points of expansion, however, these are simply suggestions and are not fundamental to this manuscript, as it is an excellent piece of work.
RESPONSE: We would like to thank Neil Macdonald for careful reviewing of the manuscript and comments in the annotated version of the manuscript, which we are trying to respond below.

Comments from the annotated version of the manuscript
Abstract: Avoid use of 'natural disaster' - fine to use natural hazards, but growing body of literature discusses not using the term natural disaster, as no disaster is really natural.
RESPONSE: Accepted. We used "natural hazards" instead of "natural disaster" in the whole manuscript including Figures 1, 3 and 4.

Abstract: Rephrase - "No trend was identified in natural hazards, whilst..."
RESPONSE: Accepted, we changed it as "No trend was identified in natural hazards, whilst statistically significant decreasing trend …"

Lines 31-36:
Is it worth adding a note that EMDAT only captures events that cause >10 fatalities/affects >100/ or where international assistance is called for. As such many events are not recorded. This means that there is a bias in recording to large events.
https://doc.emdat.be/docs/protocols/entry-criteria/
RESPONSE: Here we are citing results from WMO (2021) paper which reports Emergency Events Database as a source of data. To put other information about this database is probably not needed here because we do not know how exactly such data have been used in results presented in the WMO (2021) paper.

Line 68:
Add ,.
RESPONSE: We added comma to our sentence: "This analysis is facilitated by the fact that each yearbook includes not only the number of deceased, but also details regarding the causes of death.

Lines 159-164:
Worth noting that fatalities from cold events may also be shared across calendar years? Was this accounted for?
RESPONSE: From our text clearly follows that numbers of fatalities are based on the annual scale, i.e. from January to December of a given year. Responding to such annual numbers, we are only saying, how severe were standard winters counted from December of preceding year to January-February of the given year. Number of fatalities related to the standard winters from December to February were used in Sect. 4.3.1, Figure 7.

Figure 2:
Would it be worth adding a y-axis showing the number/proportion of the population over 60/65 Years of age?
RESPONSE: Accepted. But instead adding of such information to Fig. 2, we extended Fig. 3 by part (b) with graph showing proportion of three different age categories, including the category ≥65 years (see Fig. 3 below). The following sentences were added to the last paragraph in Section 4.1: "Fig. 3b shows general decreases in relative proportions of age categories 0–14 and 15–64 years in all weather-related fatalities during the 1931–2022 period, while proportions for the category ≥65 years were increasing. Linear trends in proportions of all three age categories were statistically significant ($p < 0.01$): –0.8 %/10 years for 0–14 years, –0.9 %/10 years for 15–64 years, and 1.8 %/10 years for ≥65 years. But both the youngest and oldest age categories showed clear breakpoints around the mid-1970s."

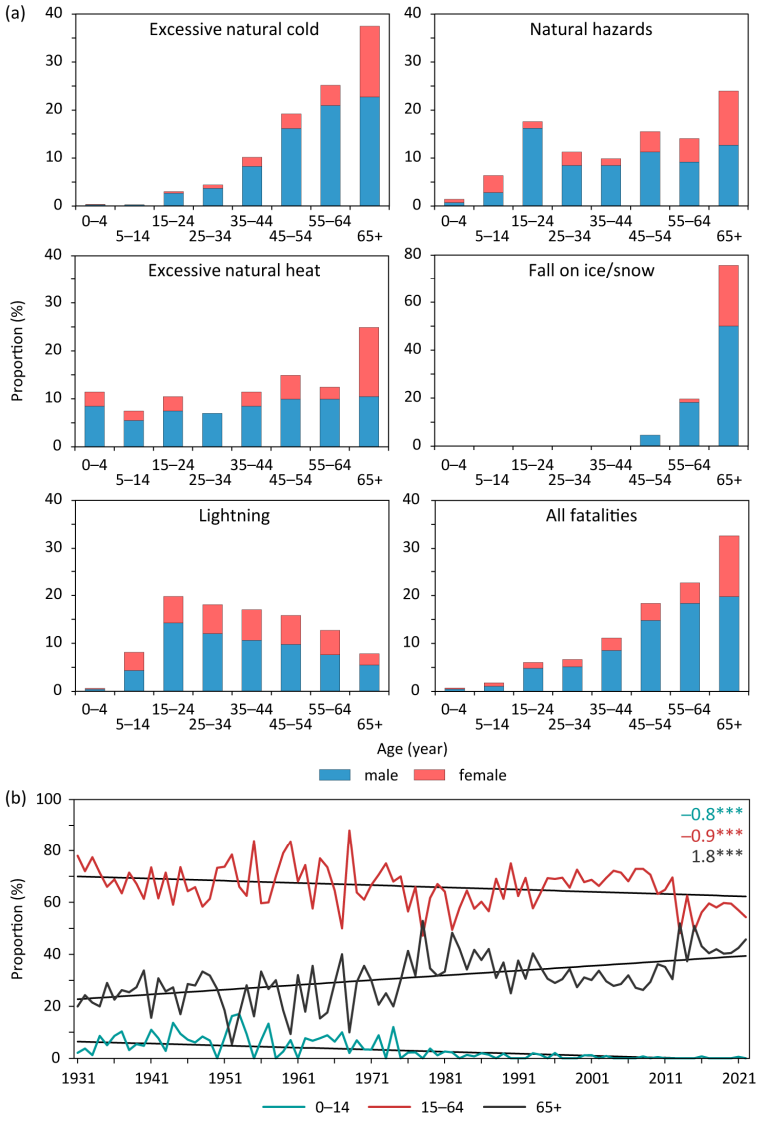

Figure 3. Age and gender structure of weather-related fatalities in the Czech Republic during the 1931–2022 period, based on data from demographic yearbooks: (a) relative proportions (%) in individual and all weather-related fatalities; (b) fluctuations and linear trends in relative proportions (%) of three age categories in all weather-related fatalities (slopes of linear trends indicated right above are expressed in %/10 years, the statistical significance: *** $p < 0.01$).