

Interactive comment on “HANZE: a pan-European database of exposure to natural hazards and damaging historical floods since 1870” by Dominik Paprotny et al.

Anonymous Referee #2

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General comment

One of the most challenging tasks of Pan-European scale studies on natural hazards, their spatial and temporal dynamics, is to break through the national borders, as all the data is commonly collected and systematized within this borders separately for each country. The presented dataset HANZE collects, systematizes and unifies national datasets on different land use, economical etc. characteristics and historical flood events in one spatially referenced Pan-European database, changes in land use and population over time were modelled. HANZE can be helpful for a wide range of researches. The dataset content and underlying methods of calculation are clearly

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described. All files are accessible for download and well-documented. The presented dataset is undoubtedly of interest for the scientific society and would be a good contribution to the journal. However, there are corrections to be made.

Specific comments

The introduction lacks an overview on existing datasets and key difference from the suggested database. Authors address them as a whole mentioning disadvantages, and give only one example (HYDE).

The baseline land cover/use map is of 100 m resolution according to the introduction, while in the “Methods” section it is mentioned that this scale is used only for linear objects, the minimum size of areal features is 25 hectares.

As most of the data has a far less scale (1 km for population, economics and historical statistics for NUTS level 3 regions) than the resulting maps resolution (100 m) a future user of the dataset could face a danger of a false granularity. The authors should comment on the decision to actually model extremely detailed data rather than use a scale compared with the input data scale. Furthermore, the article lacks validation of the disaggregated data. The authors claim a “lack of comparative data”, though it seems possible, for example, to compare modelled population density in the sum of cells corresponding to a locality with statistical historical data on this locality etc. Absence of a sufficient validation substantially drops the value of the presented gridded maps and confidence in methods.

The graph for the A parameter (figure 3) doesn't seem a “reasonable fit”. The authors should than explain their understanding of a reasonable fit.

The description of the dataset content on <https://data.4tu.nl/repository/collection:HANZE> is different from the Table 4 that makes it a bit confusing to match one with another.

Technical corrections

Paragraph 30 page 2: “Based on previously published methods. . .” a reference needed.

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Figure 2 has no legend for "Disaggregated population". No number for the "Database of flood events" section. Paragraph 5 page 14: a misprint "Spain(Dirección".

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