

## Responses RC2

The authors present a new initiative to fill an existing gap on global coastal protection data, and showcasing a new coastal protection dataset for Europe, while making the call for a global joint effort to fill the coastal protection information gap.

The reviewer asks for a few changes and clarifications:

a) it is not clear to the reviewer whether this Brief Communication is intended as (needs clarifying):

a.1 - a call for a global joint effort in building such database, while showcasing an early stage coastal protection database for Europe.

a.2 - a call for a global joint effort in building such database, while presenting a ready-to-use European coastal protection database.

If this is intended as a presentation of an European coastal protection database (a.2), the reviewer asks for clarification on contributions by country in building this database. Europe is a very data dense region in coastal protection and the reviewer is not impressed with the level of detail presented here. If this paper presents an early stage of an European database, please clarify this point in the text.

- Thank you very much for this comment. We have tried to make the intention of our Brief Communication more clear by adding the following:
  - 1) we have changed the title to: *"Bridging the Data Gap - A Call to Enhance the Global Representation of Coastal Flood Protection"*
  - 2) we have made adjustments to the text in the abstract, clarifying the call to action and the argument for a broader global effort. The new abstract reads as follows: *"Abstract. Understanding coastal flood protection is crucial for assessing risks from natural hazards and climate change. However, there is a significant lack of quantitative data on coastal flood protection and their standards, posing a major barrier to risk assessment. FLOPROS, currently the only global database of flood protection standards, relies on limited coastal observations and simplified assumptions. While widely used, this introduces potential uncertainties in impact estimates. To address this gap, we call for a global, community-driven effort to develop a more comprehensive dataset. As a first step, we present a dataset compiling COASTtal flood PROtection Standards within EUrope (COASTPROS-EU), elaborated from a survey distributed to flood practitioners from several European countries, which highlights the need for more extensive and coordinated data collection efforts. Establishing an accurate dataset requires using both bottom-up and top-down approaches and ensuring diverse societal representation."*

b) Please expand on methodology.

- Line 123 was added to clarify the methodology of the survey inquiry: *" The survey consists of an online form targeting flood experts. It collects information related to the scale of the protection measure, the area protected, the flood protection level expressed in return period and the year of implementation. In case of a lack of information on physical defences, indication of policy standards applicable to the area could be filled in with the associated policy measure. Finally, additional data such as geospatial layer or other relevant information could be uploaded. The information collected were then manually summarised into the geospatial and policy layers of the database. The survey answers were then archived in the excel file referenced in the Zenodo repository (De Plaen et al., 2024)."*

c) Please provide a reference to the Workshop mentioned in lines 106-107.

- Thank you, the reference has now been added.

d) Please add a discussion on the use of Return Periods vs defense heights

- Thank you for the comment! We added the following discussion on return periods and defense heights at line 139: *" However, certain limitations must be acknowledged. Firstly, our new dataset is restricted to Europe and therefore does not meet the need for a global assessment. Moreover, the way protection levels are quantified and evaluated is critical. Current approaches mainly rely on return periods, providing a standardized framework suitable for large-scale or regional analyses, with the flexibility to convert between return periods and defense heights. Yet, incorporating defense heights remains essential, as their significance varies depending on the specific context and research questions."*

e) Please provide references to all data points in the zenodo database, "grey literature" as well.

- Thank you for pointing this out. However, The brief communication manuscript type limits the number of references ([https://www.natural-hazards-and-earth-system-sciences.net/about/manuscript\\_types.html](https://www.natural-hazards-and-earth-system-sciences.net/about/manuscript_types.html)). The references can be found in the survey answers attached to the database.

f) Please introduce the following terms in the text: NUTS2

- NUTS2 has now been define in line 57: *"The model layer determines protection standards for sub-country administrative units (second level of Nomenclature of territorial units for statistics, or NUTS2 according to Eurostat, 2018) by calculating expected annual damage and interpolating additional units linearly."*

g) Table S1, cited in line 97, is missing

- The Table Supplementary 1 (S1) has been submitted along with the manuscript in a separate .pdf file as instructed by the journal's guideline. It can be found at the following link: <https://nhess.copernicus.org/preprints/nhess-2024-137/nhess-2024-137-supplement.pdf>

h) Line 71 needs formatting or joining the main text

- Thank you for pointing this out, Line 71 was formatted similarly to the rest of the section headings.

i) Line 124 Furthermore instead of Further. Comas after the one following Furthermore are not needed.

- This is now addressed, thank you for pointing this out.