

Summary

The research work presented in the paper « How to mitigate flood events similar to the 1979 catastrophic floods in lower Tagus » presents a comprehensive study of flood mitigation strategies with dam to reduce flood impacts for the Iberian Peninsula.

The Iber+ numerical model was used with different DEMs: i) to select the most relevant DEM for the study area, ii) to model the 1979 Tagus River floods, and iii) to propose a management strategy for the Alcántara dam.

Evaluation and recommendations

The manuscript is overall well-written and contains many relevant bibliographic references. The chosen structure for the paper is coherent, with a good description of the data and models used.

It should also be noted that the authors have taken into account the comments of previous reviewers very well. There are still a few minor points of detail remaining, and I recommend a minor revision for this new manuscript.

The following comments aim to guide the finalization of the paper.

Comments

I.147 – please define SCS-CN

Section 4 – Proposal for a reorganization of this section; the title is not consistent as no methods are clearly presented here. It might be preferable to add a subsection 4.4 « method » for I.175-193.

Section 4 – In general, regarding the method: a few sentences could be added about the use of current DEMs to simulate an event from 30 years ago, with the possibility of relying on historical data (photos, etc.) to validate the DEM used.

I.194-199 – Repetition with I.56-57

I.331 – Introducing abbreviations such as RMSD, for example (not defined and used in line 186).

Section 6 – This section appears more like a summary of the work, lacking critical analysis, identified limitations, and whether the stated objectives were achieved (which are not mentioned elsewhere).

Figure 1 – numbering the figures would aid in understanding the legend. The main affected villages could be directly presented on the main figure.

General comments:

1. It would be helpful to add hyperlinks to navigate to figures and references.
2. Replace "Tagus river" with "Tagus River."
3. Standardize abbreviations: sometimes DEM, sometimes DEMs.
4. Almost all maps presented without scale and orientation.