In addition to being a valuable dataset for hydrologists and hazard managers in Spain, PaleoRiada represents a significant improvement in the design of paleoflood databases. This database addresses the shortfalls of many of the existing global databases that limit their applicability to the wider hydrological and hazard mitigation communities. To my knowledge, no other publicly available database contains a comparable level of detail concerning types of floods or quantitative hydrological data (stage, discharge, etc.). I can attest to the ease of access of the data through both Zenodo and ArcGIS online web application, having tested both.

Broader conceptual and methodological questions.

1. Table 3 shows the distribution of records based on the type of evidence used to reconstruct paleofloods:

Can you provide more detail in the table and in the text about what constitutes the "erosive" forms evidence sub-sub-type? I can think of some possibilities (stripped floodplains; truncated soils and sediments, for example), but I am unclear whether these apply.

2. Of the types of paleoflood evidence used, there is no mention in tables or text or the database of non-exceedance data, which are often collected in paleoflood studies to help with determining upper hydrologic bounds and perception thresholds. Were these data included?

3. In a related question, in cases where stage and/or discharge data were determined (n=197) were perception thresholds used and are they included in the database, such as in "other hydrological interpretation data?" I ask because these data would be beneficial for flood frequency analyses that may incorporate data from the database.

4. Regarding age controls applied to the paleofloods, was there any restriction on including paleofloods with age estimates with too large an error range? I ask because in researching published paleoflood records many contain very large error ranges. Their inclusion in temporal analyses of flood frequency or occurrence my artificially increase the total number. I think the paper would benefit from some discussion of the range of age estimate uncertainties of the paleofloods included in the database. Are the error estimates greater in a particular basin or type of paleoflood evidence, for example? This could help a user help make decisions about the applicability of the data for their purposes.

5. A related question is how radiocarbon calibration curve differences are handled? Over time, the calibration curve has changed (Intecal 19 vs Intecal 20). Given that a large percentage of the database is comprised of paleofloods dated in the Common

Era with radiometric dating (38%, Table 2), it should be explained and acknowledges in the paper that differences in radiocarbon ages can be caused by the application of different calibration curves. I also suggest that the calibration curve used in cases of radiocarbon-dated paleofloods be retrievable in the database. This would allow someone planning to use the data to improve older radiocarbon age-estimates with a new calibration curve.

Technical comments

1. Line 26: Please clarify if these are all overbank floods or do they also include pluvial flood events

2. Line 208: "Erosive forms" type

3. Table 3: "G" in geomorphological needs capitalizing to be consistent with other types in the column

4. Figure 4 caption: "records" needs an apostrophe to make it plural and possessive "records'"

5. Fig. 5: center the axis labels

6. Instrumental is often used in the paper to refer to the gauged record of streamflow but this word, strictly speaking is an adjective meaning "essential to an outcome" or "something musical." Suggest replacing the word "instrumental" with "instrumented or instrumentation." Instrumented record is better suited to describing gauged flow or something measured with a scientific instrument.

7. Lines 35, 39

8. Line 53 Spelling of flood frequency: remove dash

9. Sentences that should have a colon before numbered list:

10. Lines 39, 59, 99; 220

11. Lines 148-149 has spacing issues because of the paragraphs have justified alignment; switch this line to left alignment, if needed.

12. Line 159: insert comma before "such as"

13. Fig. 3 needs a label for the "x" axis

14. Line 195: Rewrite sentence to not begin with the word "or."

15. Line 196-198 is one very long sentence that is hard to read. I suggest breaking this single sentence up into several shorter ones or use fewer words in the phrasing

16. Line 202: no need for comma after "sites"

17. Line 204: delete "s" in "plains" to make it singular

18. Line 228: extra space in"torrents"

19. Line 231: change phrasing to "the spatiotemporal distribution of discharge"

20. Table 5, unnecessary comma after "dataset"

21. Line 250 unnecessary comma before parenthesis

22. Line 310: re-write last sentence to not have a colon, as there are sections that follow and not items in a series. "In the following sections, we suggest three applications of PaleoRiada in Spain."

23. Line 343: add s to "values"