Reviews

Martin Hinz

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Reviews

Reviewer A:

1. Relevance of the topic for the journal To what degree does the submission fit within the scope of the journal and does the paper subject fit the domains made publicly available on the JCAA website? *: Excellent

2. Originality Please consider the originality of the submission. While all research builds upon existing knowledge and evidence, do you believe this submission progresses knowledge on this subject? Are there original findings, or do conceptual arguments provide a somewhat new perspective on established thinking? Select one of the options below, and feel free to elaborate in the comment box. *: Excellent

Comments: *: See attachment

3. Framing of the Research question Please consider the way in which the research question is framed. Do you find the research question clearly formulated, and is it properly addressed in the rest of the article? Is the research question supported by an adequate discussion of the state-of-the-art in the field? Are previous research efforts by the author(s), if applicable, properly referenced? *: Good

Comments: *: See attachment

4. Research design and methods Please examine the methodologies used and their appropriateness, and the author's use of the evidential base. Is there enough reference to methodology and are the arguments fully evidenced and substantiated? Are the methodology and data sources noted in the article, and are methodological weaknesses addressed? Assess the clarity and overall appropriateness of the methodology, keeping in mind that different criteria may be applied in assessing empirical versus more theoretical or conceptual articles. Overall, do you find the methodology appropriate for the subject matter being examined in the submission and is the submission scientifically sound? *: Good

Comments: *: See attachment

5. Discussion and conclusions Does the conclusion reflect the argument in the main body text, is it supported by factual data, and does it bring something new to the debate? Does the introduction signpost the arguments and does the conclusion adequately summarise them? Please expand in the text box. *: Good

Comments: *: See attachment

6. Clarity and structure of the writing Do you find the writing to be clear and structured in a logical manner? Please keep in mind that, if an article is accepted, we will work with the author to strengthen the prose and structure. In the comment box, please offer suggestions for strengthening the writing AND/OR the structure of the piece. Please add your comments in the text box. *: Good

Comments: *: See attachment

7. Bibliography Please comment on the adequacy of the author's referencing and whether or not the existing knowledge base has been explored and built upon. *: Excellent

Comments: *: See attachment

8. Figures, tables and other additional materials Please comment on the author's use of tables, charts, figures or maps – their relevance in terms of illustrating the arguments and supporting the evidential base, the quality of the formatting and presentation. *: Fair

Comments: *: See attachment

9. Additional feedback for the authors *: See attachment

Reviewer D:

1. Relevance of the topic for the journal To what degree does the submission fit within the scope of the journal and does the paper subject fit the domains made publicly available on the JCAA website? *: Excellent

2. Originality Please consider the originality of the submission. While all research builds upon existing knowledge and evidence, do you believe this submission progresses knowledge on this subject? Are there original findings, or do conceptual arguments provide a somewhat new perspective on established thinking? Select one of the options below, and feel free to elaborate in the comment box. *: Good

Comments: *: It probably should be noted that McLaughlin 2019 undertook a similar simulation experiment with the Contreras and Meadows black death case study, using KDEs of radiocarbon (with a 94% detection rate). The influence of sample size and the risk of false positives were not however addressed, so this new paper can be seen as significant progress

3. Framing of the Research question Please consider the way in which the research question is framed. Do you find the research question clearly formulated, and is it properly addressed in the rest of the article? Is the research question supported by an adequate discussion of the state-of-the-art in the field? Are previous research efforts by the author(s), if applicable, properly referenced? *: Excellent

Comments: *: The paper achieves an excellent overview of the state of the art

4. Research design and methods Please examine the methodologies used and their appropriateness, and the author's use of the evidential base. Is there enough reference to methodology and are the arguments fully evidenced and substantiated? Are the methodology and data sources noted in the article, and are methodological weaknesses addressed? Assess the clarity and overall appropriateness of the methodology, keeping in mind that different criteria may be applied in assessing empirical versus more theoretical or conceptual articles. Overall, do you find the methodology appropriate for the subject matter being examined in the submission and is the submission scientifically sound? *: Excellent

Comments: *: This paper sets new standards reproducibility and transparency in research of this kind. The only issue is perhaps the use of Oxcal as the calibration and summing engine, which is closed-source. Whilst the fact that Oxcal is producing reliable results is without question, the open source subtext of the article would be enhanced by adopting one of the open-source alternatives.

An useful analytical step not undertaken in the current paper (but was one of the issues discussed by Contreras and Meadows) would be the transposition of the black death signal to a different region of time, to check that the signal detection results are robust against artifacts in the calibration curve

5. Discussion and conclusions Does the conclusion reflect the argument in the main body text, is it supported by factual data, and does it bring something new to the debate? Does the introduction signpost the arguments and does the conclusion adequately summarise them? Please expand in the text box. *: Excellent

Comments: *: The paper is a very useful and timely and advances the debate. I would consider revising the final sentence into something more unequivocally positive !

6. Clarity and structure of the writing Do you find the writing to be clear and structured in a logical manner? Please keep in mind that, if an article is accepted, we will work with the author to strengthen the prose and structure. In the comment box, please offer suggestions for strengthening the writing AND/OR the structure of the piece. Please add your comments in the text box. *: Excellent

Comments: *: Writing is excellent; there are a couple of typos L239-240 'It have to be noted' and L255 'ab auctoritate'.

7. Bibliography Please comment on the adequacy of the author's referencing and whether or not the existing knowledge base has been explored and built upon. *: Excellent

Comments: *: The author should probably comment on Edinborough et al 2017 PNAS hypothesis test for short term events in archaeological radiocarbon

8. Figures, tables and other additional materials Please comment on the author's use of tables, charts, figures or maps – their relevance in terms of illustrating the arguments and supporting the evidential base, the quality of the formatting and presentation. *: Excellent

Comments: *: The figures are well crafted, the tables useful, and more than anything else the supporting information is phenomenally well resolved. This includes a zenodo repository containing an entire pre-packaged Rstudio workspace containing all the tools needed to reproduce the analysis, and an R markdown that reproduces the text of the paper incorporating the analysis. Fantastic !

9. Additional feedback for the authors *: I note that the CAA aim for double-blind review but as the author of this paper has divulged his identity I certainly don't mind signing this review either – ■■■■■ ■■■■■■■■■■