Earth System
Science
Data

Open Access

Discussions

ESSDD

Interactive
comment

Interactive comment on "SISALv2: A comprehensive speleothem isotope database with multiple age-depth models" *by* Laia Comas-Bru et al.

Oliver Bothe (Referee)

oliver.bothe@googlemail.com

Received and published: 22 April 2020

Dear editor, dear authors,

Comas-Bru et al. present an update to the database first presented in Atsawawaranunt et al. (2018) of the Speleothem Isotope Synthesis and Analysis (SISAL) working group. The update consists of additional records, the extension of other records, changes, corrections and clarifications in the database, and, most importantly, the creation of new chronologies for age-depth modelling. The authors used seven different methods for obtaining chronologies.

By collecting the data in one place and by providing new and revised chronologies for the data, this manuscript and the dataset is a welcome and valuable addition to our sources of information about the three core intervals of earth's recent past, the Common Era of the last 2000 years, the period since the last glacial maximum, and the last interglacial.

I do not have any major comments and even minor comments are rare. However, this may be in part due to the fact that I am not a specialist for speleothems.

There is one suggestion for the future of the database. I would like to invite the authors to reconsider the general structure of the database and/or to provide a set of functions that allow an even easier interaction with the data than is already the case. Obviously, it is unlikely that there is a set of tools that accounts for all preferences of all potential users, and neither is it likely that there is a database structure that is intuitive even for the most inexperienced user. This suggestion originates from my struggles to access the data.

Minor:

Suggestion: Add a list of abbreviations and technical terms. From my point of view, a database and a database paper is of interest for a community that extends beyond the specialists in a field. Therefore it might be advisable to provide a table or an appendix with definitions of technical terms and abbreviations. Otherwise, already Figure 1 may overwhelm some potential users.

Line 16: The authors write here 294 and later 293. Obviously "cave sites" and "cave systems" may mean different things, but I would like to ask the authors to clarify.

Line 81: 10.5281/zenodo.3591197 is not a valid doi, i.e. the link is broken. This occurs again at line 271. The doi in line 270 is not valid either. Finally, in section 6 (lines 273, 274, 276) and in the supplementary materials there are a few dois given as links but missing the "doi.org"-part and therefore not working directly.

Printer-friendly version

Discussion paper

Line 96: "This is consistent" implies that there are differences to these previous approaches. If these differences can be summarised shortly, it may be helpful to detail them.

Provide a script to reproduce Figure 5. I would like to suggest to provide a script that reproduces Figure 5. Parts of this are already included in the GitHub-repository for SISAL.AM, cf. the plot_sisal_overview.R script. However, the final.plot function is only partially doing this and the script does not run as it is. The reading of the input-files has two errors (that can be easily corrected).

Technicalities:

Some of the following technicalities are purely subjective. Some are meant to capture already at this stage some of the annotations that will come because of Copernicus' copy editing efforts.

Line 22: Please rephrase the sentence in combination with the parentheses. I am also unsure whether the tense of the verb in the parentheses is correct.

Line 23: I stumbled between the first and second sentence of the paragraph as I felt they were rather badly connected. But that is rather subjective.

Line 25: Again subjectively, I felt there should already be a new paragraph here.

Line 40: I assume it should read "pointed to the" instead of "pointed the".

Line 48: The authors use two different notations for COPRA; COPRA and copRa. It may be that copRa is meant only to refer to the implementation of COPRA, but that does not become clear. I invite the authors to either only use one notation or to clearly specify that copRa is COPRA for R.

In this context, I also would invite the authors of copRa to make copRa publically available. Giving an official acronym to the author's COPRA implementation in R already suggests such an availability.

Similarly it would be nice, if the authors' updated version of StalAge could be made available. This may be already the case, then I missed the pointer.

It may be that all what I am writing here is already fulfilled by Roesch (2020, https://github.com/paleovar/SISAL.AM). If that is the case then please put the link at all positions where it is relevant. Oh, and the link to github.com/palaeovar/SISAL.AM given by the authors doesn't work.

Line 154: The authors mention the function pchip but not the package. I ask them to add the package and a citation for it. There may be other instances where this is necessary.

Personal communications: If I remember correctly, Copernicus' editors are asking authors to provide the year of personal communication and also full names.

Similarly, the copy editors/typesetting editors are going to check for completeness of citations. I think I noted some missing information, e.g., the DOI for Rehfeld and Kurths (2014). Maybe the authors want to check all citations for completeness already at this stage.

All links: please provide last accessed dates for all URLs.

R packages: I did not check in detail - and I do not always follow this idea myself - but I think it would be nice if the authors could not only mention the R packages they use but also provide references for each of them. It may be that they already do this. I only noted that, e.g., for rBacon there is not a direct reference given, but maybe this is already fulfilled with the references in line 124. Another example is the mentioning of Hmisc on line 99.

Software in general: The last comment, obviously, also applies to all other sorts of software, e.g., github-links in the manuscript. Similarly, the authors probably should also provide references for the zenodo-dois in the manuscript.

Interactive comment on Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2020-39, 2020.