

Interactive comment on “OCTOPUS: An Open Cosmogenic Isotope and Luminescence Database” by Alexandru T. Codilean et al.

Alexandru T. Codilean et al.

codilean@uow.edu.au

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Dear Sebastian

Thank you for taking the time to read our discussion paper and provide comments. Bellow we respond to each of your points separately.

Comments related to the web interface / database

(1a) Amount of information shown in web interface when clicking on a record.

As we describe briefly in our response to Todd Ehlers' comments and as we will describe in more detail in our response to Greg Balco's review, the web interface was designed solely for users to identify and download all or a subset of the data. The

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interface was never meant to be the place for data interrogation.

As such, we decided to only show a small subset of the database entries in the information box that pops-up when clicking on a point or polygon feature on the map. We explicitly mention this in the manuscript – see page 6, line 20.

The information shown in the box, in our opinion, is sufficient to help with deciding on whether one wishes to download those data or not. All of the database entries are, of course, included in the download bundle.

(1b) Referencing data that is not published in the peer-reviewed literature.

We agree with you here that the information we include is quite limited and for study #L101 that you use as an example, all that is provided is that the data are from a PhD thesis by Stephen Tooth that was submitted in 1997. There is no info on where that PhD thesis was submitted to, however – although this would not be difficult to find out.

Notwithstanding, we can see how the above can cause problems and as a remedy we will do the following:

(i) Include full references to all data that is not from peer-reviewed publications in a separate table and add this to the manuscript as a supplementary file.

(ii) Add a help section to the web interface to provide guidance to those who are yet to read the manuscript. We will also modify the email sent to individuals to highlight what is being downloaded and also on the website that the 'viewed' data is only a subset of information for a given entry.

(2a) "I am not in favour of the concept that I can only access the full dataset by downloading the data"

It was never our goal to produce something that makes everyone happy. Rather, our intention was to produce a web interface that is lightweight and serves one purpose – identify, select, and download data. We will elaborate more on this in our response to

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Greg Balco's review.

(2b) Entered information is stored in a log file permanently and "This is some kind of subscription model"

Again, we will elaborate more on this in our response to Greg Balco's review. We note here briefly, however, that none of the information requested is mandatory and there is no code that is checking the quality or validity of the information entered. To suggest that requesting this info equates with a subscription model is ridiculous and misleading.

(3) There is no IRSL data in the database

Absolutely all techniques can, should and will be included in the luminescence database. At this stage only TL and OSL appear in Australian publications for fluvial sedimentary archives but we imagine this will change through time as more feldspar dating is implemented. We are looking forward to including such techniques as the dataset expands. Ideally we would like to expand the luminescence data set to being a global data set and will be advertising the advantages of this model at forthcoming meetings.

(4) The information given for the luminescence data do not allow a comparison of ages

We agree, and we are hoping this will be an opportunity to highlight best practice with regards to data presentation/reporting for luminescence data. As you will appreciate there is no easy way in which to compare ages and most of the existing data in Australia has been using one technique or another (e.g. TL vs OSL) so a direct comparison of ages is not possible.

Comments related to the manuscript:

2.1 Introduction

(i) The main difference between the aeolian database presented by Lancaster et al., or even the AustArch database is that neither of these could be investigated spatially or

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indeed will be kept up-to-date.

Our plan is to incorporate with time aeolian and lacustrine luminescence collections into OCTOPUS. In fact, we are also working on adding AustArch as a separate collection to OCTOPUS in the next year or so. However – this is beyond the scope of the current manuscript.

(ii) We have not used any of the contents of the AustArch database. As we clearly state in the manuscript, our OSL/TL collection is limited to fluvial sediment samples from stratigraphic sections and sediment cores.

(iii) The sentence in question is more relevant to the CRN data and not so much to the OSL/TL data. Although we do not think that there is anything wrong with this sentence, in line with Greg Balco's suggestions, we will be reappraising some of the more 'laudatory' statements in the Introduction and Conclusions sections.

2.2 Luminescence dating of sediment

(i) The statement that references have a strong bias towards studies in Australia is actually not true.

(ii) Wildfires – replace with aboriginal hearths

(iii) Page 4 Line27 fine grains = < 63 microns. We will clarify this in the text.

(iv) With regards to our paragraph about bleaching and age models. This was provided primarily for readers who have little to no background with luminescence data. It was included to provide some context for those interested in exploring the data and is no way meant to guide a user in determining what quality an individual age might be. The full data set provides an assessment of aspects, like age models used, number of grains analysed and other parameters such as overdispersion.

(v) The sentence starting at line 31 (page 4) lists examples of strategies used for determining bleaching characteristics. Pairing luminescence dating with C-14 is an example

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of such a strategy and this is why it is mentioned in line 34.

2.3 Further thoughts/questions

(i) We are reluctant to include information in the manuscript other than what is relevant to the current collections. We do have plans for the future of OCTOPUS but we do not think that this information belongs in the manuscript. What if none of those plans actually materialise? We do not intend to allow 'direct' contributions from users, both out of practical considerations but also for security and database integrity and quality reasons. However, to address your and Todd Ehlers' comments, we will add a section to the manuscript outlining ways in which users can contribute – if they wish – to keeping the data collections as complete and as up-to-date as possible.

(ii) OCTOPUS is based on off-the-shelf open-source code and components. The data collections are licensed under the Creative Commons Attribution (CC BY) license. The only components that were custom written are scripts on the server side for ingesting data into the PostGIS database and preparing the links for download + sending the email to users. We are not planning to make these publicly available, but are happy to share with those who are interested in using them.

(iii) CC BY.

(iv) Figure 7: We agree in the sense that a simple histogram would suffice but for ease we are going to leave this figure as is.

(v) See our response to 2.1(iii) above.

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