

## Comment on essd-2022-50

Anonymous Referee #2

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Referee comment on "OCTOPUS database (v.2)" by Alexandru T. Codilean et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-50-RC2>, 2022

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The article of Codilean et al. presents the updated OCTOPUS database, which is a resource for cosmogenic, OSL and radiocarbon ages including both their metadata and geological/archaeological context. I applaud the authors for this initiative which is an important step forward in ensuring that the metadata necessary for age evaluation/or recalculation is appropriately archived, and which will also facilitate the integration of geochronological data beyond the individual study for which the data were originally compiled.

I cannot comment on the technical details of the database or its structural organisation as this is beyond my expertise, however I did not see any obvious issues. I found the distinction of the SahulArch database as archaeological ages a slightly odd distinction relative to the sedimentary ages – archaeological sites are also sedimentary archives and interpretation of any age is dependent on understanding its depositional setting. Also, it is a little odd that the authors state that they make no judgement on the quality of ages, but the FosSahul database includes quality rated data. I agree that it makes no sense to remove this information from the FosSahul data, but are there minimum reporting standards imposed by OCTOPUS for the inclusion of data from grey literature? This should be explicitly stated.

At present the compiled datasets are somewhat limited geographically, as acknowledged by the authors. There are other databases of geochronological data, that could be incorporated into Octopus and I am curious as to why the authors have not yet included them (already too much to include? I note that some of the other datasets are only partially incorporated). For example, the INQUA Dunes Atlas (Lancaster et al., 2016, Quaternary International) could be incorporated, increasing the global distribution of data. Individual laboratories also have some publicly accessible databases eg. <https://www.lumid.nl/> from the Wageningen University luminescence laboratory.

I was disappointed that although there is a call for contributions from other groups to the database, that it was somewhat hidden late in the manuscript and that the form specifying

the metadata required is only available from the authors – why not make it available for download from the OCTOPUS website with the link in this manuscript? Whilst reporting standards have not yet been agreed (by the luminescence dating community at least), OCTOPUS has effectively imposed some standards from the original template design, or could these templates be modified?