

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

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Dear Alexandru!

Congratulations for the database! Great job! It will be very useful for future studies.

I have two comments:

The first one: The phrasing of your title and abstract are somewhat misleading. You say: “We present a new open and global database of cosmogenic radionuclide and luminescence measurements in fluvial sediment”, while your database, being great as it is, does not cover all this.

Firstly, you deal only with CRN samples from modern fluvial sediment collected for

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the determination of basin-wide denudation rates. This should be stated at the very beginning, as people searching for ages of past fluvial sediments will not find what they want. Besides, as your title is “an open Cosmogenic Isotope and Luminescence database”, one may search for both CRN and Lumi age data in your work and not for denudation rate data. On the other hand, others searching for denudation rates may pass by the paper.

Secondly, the OSL database you present is not global it is only from Australia.

I would address the topic more exactly already in the title to attract the proper audience. And in the abstract I suggest to phrase more exactly what is in the database.

And the second comment: The CAIRN software treats the watershed as homogeneous with respect to concentrations of the target mineral (quartz) across the entire area. However, the calculated denudation rates may be biased by lithological differences, which are not considered during the automated recalculation of denudation rates. And the accuracy of topographic shielding calculations increases with the resolution of the DEM. This might be important for small and steep drainage basins, where a local, better resolution DEM may be necessary to provide a more accurate shielding value than it is possible using the SRTM 90 m raster, the CAIRN and OCTOPUS are using. I suggest to check if authors of the original data have used a better resolution DEM for the drainage basins that might be affected, and if this provided different denudation rate results compared to the recalculated ones.

I think it would worth to call the attention on these possible sources of uncertainties (or differences) of the denudation rates in the text. Maybe some of the outlying data in Fig. 5. could be explained by these two effects.

My best wishes,

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