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Interactive comment on "GeoChronR – an R package to model, analyze and visualize age-uncertain paleoscientific data" *by* Nicholas P. McKay et al.

István Gábor Hatvani

hatvaniig@gmail.com

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Dear Authors,

First of all congratulations for putting together this R package which truly fills a niche in data analysis of sedimentary climate archives! Although, I am not a professional R user, I do know my way around the software and have worked with sedimentary climate proxy data from the data analysis side, and I would like to make a few comments on the usage of the package and its documentation in the MS to better your package and paper.

The MS describes the content of the R package nicely. It is easy to follow and understandable for researchers coming from various fields.

However, the usage of the package is not that well supported. In some cases, the help files in R are lacking complete-documentation and the user can only figure out the correct input when an error is shown. For example, in the computeSpectraEns {geoChronR} function, one does not know from the help file, the exact names of the possible inputs for the method argument. Of course the user can guess "Lomb-Scargle", " REDFIT", "MTM", but since R is case sensitive and only "mtm" is mentioned in the usage the user has to try out different options for "Redfit" let's say. While, when the error pops up: "Error in computeSpectraEns(adat[, 1], adat[, 2], max.ens = 1000, method = "REDFIT", : Unknown method: Valid choices are: 'mtm', 'redfit', 'nuspectral', or 'lomb-scargle'", it becomes clear what the correctly spelled options are for methods.

Staying in the same section. It is not documented exhaustively that which argument is used by which method. Yes, the topic is addressed in the MS (Sects. 3.4. and 5.5.) and one can read the original documentation of the e.g. dplR:REDFIT function, but either (i) this should be called to the users attention that you refer to the original documentation, or (ii) it should be briefly described in the package help.

In fine, I strongly suggest providing all-round tutorials for the examples presented in the MS, for example (i) on the Temperature reconstruction from IODP 846 shown in Fig. 10 of the MS, similarly detailed as in the SISAL_v2 paper (https://essd.copernicus.org/preprints/essd-2020-39/) for the OxCal modeling (https://zenodo.org/record/3586280), or (ii) for the PCA examples (Sect. 5.4) using a set of records directly from the iso2k database, which would promote that database even more.

I am fully aware that this is additional work, but I am convinced that such tutorials for each of the relevant sections of the MS would surely broaden the audience and more importantly, the user base of geoChronR.

Yours sincerely,

István Hatvani

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