

Interactive comment on “Isoscape of precipitation amount-weighted annual mean tritium (^3H) activity from 1976 to 2017 for the Adriatic-Pannonian region” by Zoltán Kern et al.

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Dear Reviewer,

Please find your answers to your questions below.

Yours sincerely,

The authors

<https://www.earth-syst-sci-data-discuss.net/essd-2019-244/#discussion>

Anonymous Referee #2 The authors have found a good way to fill in gaps in the existing

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information by creating a statistical model which uses the ^3H data collected from Austria and the northern Balkans. The manuscript presents a time-based ^3H precipitation isoscape of North-Balkan. The text is well-structured and easy to read. However, I do have some comments. We would like to thank Reviewer#2 for her/his positive opinion on our work and for the constructive comments.

————— Comment-1: Key words: why do the authors only mention Slovenia and Hungary and not the northern Balkans as the title suggests?

Response-1: Our intention was to not repeat the words in the title among the key words, but mentioning the countries covered entirely by the developed database.

————— C-2: The purpose of this work is not only to create a database, but also to analyse and draw conclusions. I would recommend to slightly expand the purpose in the introduction.

R-2: The introduction has been slightly and the discussion thoroughly extended. In addition, the paper was partially restructured during the revision.

————— C-3: The authors need to explain why they have used the 1×1 km grids. This seems an unreasonable accuracy compared to the size of the study area.

R-3: The 1×1 km grid resolution was chosen based on practical considerations, it does not aim to imply that there are such fine km-scale differences, yet help the users to delineate smaller outcrops (e.g. watersheds) more accurately. This explanation will be added to the revised manuscript.

————— C-4: “..the largest shallow freshwater lake in Central Europe”. Wouldn't the 'largest lake in Central Europe' already be enough?

R-4: We accept that “freshwater” can be omitted however we would like to keep “shallow”. We think this information is useful because the 2 to 6 yrs residence time for the water mentioned in the next sentence is understandable if the lake is shallow however might be weird if someone imagine a deep lake based on the shortened term “largest

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lake in Central Europe”.

————— C-5: It is hard to follow the isoscape in Figure 3: I would recommend to use red-blue instead of the current green-blue combination to improve the contrast.

R-5: Accepted. This figure has been revised substantially. We hope the applied more complex color scale (white-blue-red-yellow) does improve the contrast in the map series sufficiently.

————— C-6: The used data base (<https://doi.pangaea.de/10.1594/PANGAEA.896938>) is presented in a less used format (my computer required additional software to read it). Wouldn't it be possible to present it in the HTML format to make it more usable? An example: <https://doi.pangaea.de/10.1594/PANGAEA.911474?format=html#download> .

R-6: The database can be considered as temporal sequence of 3D data quite similar to meteorological data. The chosen netCDF format is a common and popular file format in meteorology. The suggested example (<https://doi.pangaea.de/10.1594/PANGAEA.911474>) is a time series from a single station so, we think, it is not an applicable analogue to the presented dataset. To facilitate the usage of the data set an R-script was already provided in the supplement. In addition, we will expand the “Data format and availability” section with a sentence in which we will provide a link to the freeware tool of NASA (Panoply: <https://www.giss.nasa.gov/tools/panoply/>) with which interested readers can visualize and inspect of the netCDF files of annual grids.

————— C-7: There seems to be some confusion with the parentheses. I've highlighted these in the attached file.

R-7: We have carefully formatted the citations in the main text to correct the superfluous parentheses. The missing spaces between values and dimensions are also corrected at each highlighted place.

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