

Earth Syst. Sci. Data Discuss., referee comment RC1
<https://doi.org/10.5194/essd-2021-74-RC1>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on **essd-2021-74**

Anonymous Referee #1

Referee comment on "Radionuclide contamination in flood sediment deposits in the coastal rivers draining the main radioactive pollution plume of Fukushima Prefecture, Japan (2011–2020)" by Olivier Evrard et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-74-RC1>, 2021

General comments

This paper shows a dataset of artificial radionuclides measured in 782 sediment samples collected from 27 to 71 locations during 16 fieldwork campaigns conducted in Japan between November 2011 and November 2020 in river catchments. This dataset is very useful to evaluate redistribution of radionuclides in the environment with time and for the spatial validation of models simulating the transfer of radiocesium caused by the base and storm flow. I think that detailed information on sampling methods is lack, therefore I recommend the manuscript should be revised according to comments.

Specific comments

Abstract

P1. L28. 'sediment samples' is vague. I suggest the author add the area took samples.

Dataset

If you have measured soil characteristics such as soil density and particle size distribution, please show these data because it is very important information when sediment and radiocesium transport are simulated by river and watershed modeling.

Methods

I suggest the author add more detailed sampling methods. I was wondering how to take samples from surface soils and sediment, and how much depth and volume you took. If this information is lack, it is difficult to use these data.

Results

I suggest the author add discussions about differences before and after typhoon Hagibis and Bualoi events in 2019 because precipitation (ex. meteorological station at Namie) during these events was much larger than during typhoon Etau in 2015.

Technical corrections

P3. L98. Not 5-cm but 1-cm? The dataset that can be accessed at

<https://doi.pangaea.de/10.1594/PANGAEA.928594> shows 'Radiation dose rates were systematically measured in the field (at 1-cm height from the soil)...', but the manuscript is written 'In the field, radiation dose rates were systematically measured at 5-cm height using a radiometer...'.

