

Earth Syst. Sci. Data Discuss., community comment CC1  
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## Reply on RC1

Gerrit Müller

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Community comment on "Introducing GloRiSe – a global database on river sediment composition" by Gerrit Müller et al., Earth Syst. Sci. Data Discuss.,  
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Dear Dr. Gloaguen,

We gratefully thank you for the helpful comments and kind support of our approach and data collection. We agree with most comments and will elaborate these in detail in the revised manuscript and final response.

However, two comments that require specific attention will be addressed here to allow further discussion if need be:

- "Line 96: about the sampling date. The authors mention "The closest information on sampling date is given for each observation". However, in the "SedimentDatabase\_ID" file, there are many samples with no date. This is the main problem of the dataset."

Samples without sampling date are those for which the original reference did not specify this, so that we are left without information. To limit this problem, we provide, as written in the cited line 96, "The closest information on sampling date [...] for each observation", e.g., season, month or year if only that was specified in the reference. Depending on the purpose, users may choose to apply the publication date instead, post-dating sampling and being available in the sheet 'SedimentDatabase\_ref'. We will retain our strategy, because we emphasize that this step should be taken with a lot of care and intentionally, as publication and sampling dates may be separated by several years. We will comment on this issue in the main text though.

- "The section on sediment chemistry and CIX is a little too detailed for me. This contrasts with the lack of discussion about the chemical water data. I suggest a better balance in the discussion of the different data sets."

As GloRiSe is explicitly a database on river *sediment composition*, complementing existing databases on dissolved loads (e.g., GLORICH, Hartmann et al., 2014 or dissolved nutrients of McDowell et al., 2020). Therefore, solution composition is rather a little 'side-product' of GloRiSe and was only added if accompanying sediment composition. This will allow users to explore relations between particulate and dissolved loads. As it is not a major feature of GloRiSe, we do not want to draw too much attention on it by discussion in the text. Moreover, coverage of solution data is (for most elements) probably not sufficient to extract robust global averages or to discuss in detail. We wrote this in section '2 Data Collection' ("When instantaneous water discharge and/or suspended sediment concentration and/or solution properties [...]

were reported in the same study, these were also added", ll. 89 – 91), but we will rephrase this in the revised version. Furthermore, we agree on that this section is too extensive and will shorten the discussion of CIX.

All other comments will be incorporated in the revised version, which will therefore be a great improvement.

Thank you,

GM, JM & AS

## References

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McDowell, R. W., Noble, A., Pletnyakov, P. and Mosley, L. M.: Global database of diffuse riverine nitrogen and phosphorus loads and yields, Geosci. Data J., (July), 1–12, doi:10.1002/gdj3.111, 2020.