

Interactive comment on “Controls on redox-sensitive trace metals in the Mauritanian oxygen minimum zone” by Insa Rapp et al.

Anonymous Referee #2

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This is an important paper that illustrates the potential importance of benthic shelf sediments as a source of Fe to the oceans interior, and linking spatial and temporal variability to oxygen concentrations. While I think the authors make a good case for the role of oxygen, the paper is flawed by three serious omissions that must be corrected before publication.

1. Iodide is reported as a critical parameter in the principal component analysis and there are detailed protocols for iodide analysis, yet no data are reported in the paper or in the supplement. These data are of great interest in their own right. While iodide has been reported in truly anaerobic, denitrifying water columns, it has not been well studied in these low oxygen regimes. One presumes that these data will appear in Pangaea eventually, but why not here?

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2. Similarly, Ra-228 data are not reported, nor is there any quantitative assessment of Ra-228 correlations with Fe to support their conclusions about lateral transport.

3. The authors imply that the approach used to determine vertical eddy diffusivity will appear in the Supplementary materials, but it does not.

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C2