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Biogeosciences Discussions

Interactive comment on "Potentially Bioavailable Iron Delivery by Iceberg-hosted Sediments and Atmospheric Dust to the Polar Oceans" *by* Rob Raiswell et al.

Anonymous Referee #3

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This manuscript is an excellent study of fluxes of "available" Fe phases to high latitude HNLC regions. The study constitutes an important contribution unto itself but also provides a much-needed review of iron sources and iron biogeochemistry at high latitudes. The major premise of the manuscript is that the flux of bioavailable phases of Fe is more important than the total Fe flux for predicting net impact on productivity. The authors make a strong case for using ferrihydrite as that critical phase and provide estimates of the fluxes based on data available. This manuscript will be of interest to a broad segment of the geochemical community and will be the basis for a very important evaluation of how to report Fe fluxes in the context of fertilization. This manuscript is ready for publication with minimal revision. I have a couple of minor comments (below).

The authors may want to take a look at Duprat et al., 2016 (DOI: 10.1038/NGEO2633 Nature Geochemistry). This paper provides strong support for their argument.

Line 321 The statement concerning the reported number of significant figures could use some clarification/justification.

Line 34-347 The authors are comparing two values as percentages in the same sentence but are referring to two different measurements, % soluble Fe and % total Fe (if I am reading this correctly). They should probable state specifically to avoid confusion.

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