

***Interactive comment on “A seasonal study of dissolved cobalt in the Ross Sea, Antarctica: micronutrient behavior, absence of scavenging, and relationships with Zn, Cd, and P” by M. A. Saito et al.***

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Received and published: 13 October 2010

Review Cobalt of MS by Saito et al

This manuscript describes new cobalt measurements for the Ross Sea region and describes the likely mechanisms leading to its correlation to phosphate. Overall the data appear to be of a high quality, with results being well discussed and in context. That said, I believe Saito et al have over interpreted the ecological significance of the correlation between cobalt and phosphate in relation to that of cadmium and zinc.

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Specific comments 1) Ecological stoichiometry. The section “3.4 Ecological stoichiometry ...” is long and quite speculative and does not prove convincing and definitive arguments about coupling of these metals. While the authors highlight the correlation between cobalt, zinc and cadmium versus phosphate and then go onto speculate about the likely mechanisms leading to depletion of these metals relative to phosphate, they seem to ignore the fact the each metal have distinct functions within organisms and between organisms. Linking this data to specific culture data and metal quota data would be good. The authors might also consider exploring the coupling of cobalt with preformed phosphate and AOU. This should also be commented on in the paragraphs that explore cobalt scavengi

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Interactive comment on Biogeosciences Discuss., 7, 6387, 2010.

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