

Biogeosciences Discuss., referee comment RC1  
<https://doi.org/10.5194/bg-2022-29-RC1>, 2022  
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## **Comment on bg-2022-29**

Anonymous Referee #1

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Referee comment on "Relationship between extinction magnitude and climate change during major marine and terrestrial animal crises" by Kunio Kaiho, Biogeosciences Discuss., <https://doi.org/10.5194/bg-2022-29-RC1>, 2022

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Throughout the paper, and especially in Section 3.3, you use the term 'correlated', and yet I can see no correlation analysis or test of correlation (e.g. Pearson/ Spearman/ Kendall coefficient of determination). In a sense, such an attempt to fit a straight line would be pointless because the number of points is small, and you are claiming the correlation is with the magnitude of the temperature shift, not its direction, so some are negative, some positive. I guess one could make all temperature shifts positive and then do a line-fit and Pearson  $r^2$ . But you'd have to factor in reasonable error terms on both estimated temperature anomalies and estimated extinction magnitudes, and these errors might be larger than the 5% you suggest.

But, I'm not sure you should use the word 'correlated' if that has not been tested – just refer to a positive relationship...

*Minor changes*

Line 142: marking the end of the Paleozoic [not Mesozoic]!

Line 163: crises = crisis

Line 192: O-S; H-A – add to explanations in caption.