

Interactive comment on “Does the temperature sensitivity of decomposition vary with soil organic matter quality?” by M. Reichstein et al.

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Response to Reviewer #2

GENERAL REMARK: This paper was written with the major goal to avoid the possible impression in the carbon cycle modeling community, that the problems of temperature sensitivity of carbon decomposition are solved with the study by Knorr et al. (Nature 433, 298–301), and to point to crucial problems in their analysis from our perspective. The paper was initially intended as a “communication arising” for Nature [as suggested by referee #3 on the response of Knorr et al.], but was not accepted by the editor due to limitations of space in relation to the perceived importance for the general reader.

We appreciate very much that reviewer #2 positively acknowledges our goal and largely agrees with our presentation of arguments and conclusions.
We acknowledge the minor points addressed by the reviewer:

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1) The “enormous scatter” in Fig. 1 indeed indicates that there is no simple relationship between recalcitrance and temperature sensitivity of a carbon pool.

2) We generally agree with the reviewer’s statement that “a good fitting model should have less problem with collinearity”, but would like to qualify this statement by “if it is fitted to the appropriate data”. If the data does not contain the signals to independently constrain individual model parameters, both simple and complex models will have this problem. In the revised paper we will discuss perspectives to overcome the lack of appropriate data to distinguish between models.

Interactive comment on Biogeosciences Discussions, 2, 737, 2005.

BGD

2, S539–S540, 2005

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