Biogeosciences Discussions

Interactive
Comment

Interactive comment on "Information content of incubation experiments for inverse estimation of pools sizes in the Rothamsted carbon model: a Bayesian approach" *by* B. Scharnagl et al.

B. Scharnagl et al.

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Reply to comment of T. Wutzler

It would be interesting to infer and discuss the uncertainty of predictions of soil carbon stocks for the next 10, 50 and 100 years that result from the uncertainty in the posterior of initial states. [. . .]

We appreciate the comment by T. Wutzler. We agree in that the propagation of uncertainty in initial states of the SOC system into predictive uncertainty is a very interesting topic. However, proper assessment of uncertainty propagation in SOC

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models requires other sources of uncertainty than that of initial states to be taken into account (see Post et al. 2008, Environ. Modell. Softw. 23:125-138 for an case study). Among these other sources the uncertainty in rate constants, rate modifying functions, carbon inputs (quality and quantity), and boundary conditions are deemed important. For this reason, we think that this modeling exercise is clearly beyond the scope of the present study which focuses on the feasibility of inverse pool size estimation as an alternative to existing SOC fractionation methods.

Interactive comment on Biogeosciences Discuss., 6, 9331, 2009.