

## ***Interactive comment on “Oscillatory behavior of two nonlinear microbial models of soil carbon decomposition” by Y. P. Wang et al.***

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Many thanks for the insightful comments by Dr Steve Allison. We generally agree with his comments. However we like to clarify two few points further. (A1) Is SOC independent of NPP globally? Reply: As pointed by Dr Allison and reviewer 3, we have added to a few statements summarizing the results from literature stating that NPP is not necessarily a major driver of SOC pool size (see new text on L459-464). Therefore a more balanced view is now presented in our paper. (A2) Will oscillation be weakened by soil heterogeneity? Reply: The response of SOC to a step change in carbon input is oscillatory only in the two-pool model, and is monotonic in the three-pool model. This has been made clearer (see new text on L 409-411). Oscillatory response of microbial biomass in the three-pool model is not a significant issue for simulating soil carbon

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dynamics at decadal time scale. Therefore this is not addressed.

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