

## ***Interactive comment on “The moisture response of soil heterotrophic respiration: interaction with soil properties” by F. E. Moyano et al.***

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With respect to comparing models with and without soil properties, we now include the change in RMSD values showing how each model improved after adding soil properties.

Following are specific responses to relevant comments:

Page 11584 | 15-16. Please explain how to rescale as not everyone understands R code. This is now clarified in the text.

Page 11593 table 1. It is better to indicate which site used as organic soil, which as mineral soil. The table gives summary information only, so it would not be exact to mark the sites as organic or mineral. The text explains that soils with over 50 mg g<sup>-1</sup>

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SOC were considered organic. This, we think, should let the reader interpret the table correctly.

Page 11595, table 3, RMSD (model root mean square deviation) was used as the fitness of models. It will be useful to have the total root mean square variance in here to show the goodness of models. Root mean square error is equivalent to RMSD. In the case of the coefficient of determination (R-squared), it was not included in table 3 because the different models do not use the same set of observations, which means R-squares cannot be used to compare them, and could lead to misinterpretations. However, we now show the improvement of each model's RMSD respect to a moisture-only model, and we clarify why R-squared was not used.

Page 11596, Fig. 1. Could it be possible to have a comparison between models of this study and other models (e.g. Roth-C, etc.)? That is the aim of Figure 4, showing the divergence between models when predicting values. Maybe a comparison of model performance using independent respiration data should be the basis for a separate publication?

Page 11598, Fig. 3. In each line of panels, it is better to indicate the simulation being done at what level of other soil properties (for example, the the first line of panels was simulated at what levels of soil organic C and bulk density). This is now indicated in the Figure.

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