Geoscientific
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Discussions

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Interactive Comment

Interactive comment on "Influences of calibration data length and data period on model parameterization and quantification of terrestrial ecosystem carbon dynamics" *by* Q. Zhu and Q. Zhuang

Anonymous Referee #1

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The manuscript by Zhu and Zhuang assess the length and variability of calibration data on model parameterization using a biogeochemical model. Although I think this will be of interest for readers of GMD, I feel that the manuscript still requires some work. The quality of the manuscript could be much improved by spell checking and proof reading. Parts of the text are difficult to follow, because it is sometimes not clear what the authors mean. More comments are given below.

Specific comments:

P6839, L9-10: Knorr and Kattge (2005) did not investigate two grassland sites. They

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studied a grassland site in Kansas (USA) and a pine forest site in the Netherlands.

P6846, L2-4: What do the authors mean by: "Model calibrations only improve the mean of the parameters?" I guess that depends on the method that is being used. The authors later show that the parameter uncertainties could also be reduced after calibrating the model, so I really don't understand this statement.

P6847, L10: I am wondering if it would be better to show the PDF or histogram instead of the CDF for Figures 2-5.

P6847, L21-23: "The steepness of the CDF was low ..." Explain what this means and what the implications are.

P6848, L15-L17: Knorr and Kattge (2005) did not use AmeriFlux data.

P6849,L1-2: I don't think this statement is true in general.

Minor comments and corrections:

P6837, L20: help to understand

P6837, L24: Model calibrations methods ...

P6838, L1: by assimilating data

P6838, L7: to select an appropriate period

P6838, L10-12: "However, those ..." I don't understand this sentence. Please rewrite.

P6839, L21-22: to obtain a satisfactory model

P6841, L17: Rg is estimated

P6842, L18: The model

P6842, L23: by the AmeriFlux network

P6843, L9: model

P6844, L13-16: "We explored .." and "In that case ..." I don't understand these two sentences. Please rewrite.

P6844, L23: portions?

P6845, L3: to calibrate

P6845, L7: the absolute value

P6846, L5-6: This sentence does not make sense. UR stands for uncertainty reduction.

P6846, L7-9: shows how much we can learn

P6847, L6: runs

P6847, L25-26 and P6848, L1-2: "Specifically, when we ..." Please rewrite this sentence.

P6848, L25-26: "While for two-year .." Please rewrite this sentence.

P6849, L11: the CDFs are progressively shifted towards the right hand side

P6849, L20-22: In most cases a larger uncertainty reduction could be achieved

P6849, L24: will lead to a better model calibration?

P6850, L1: remove "in Fig.6."

P6850, L11: resulted mainly

P6852, L9-11: I don't understand this sentence. Please rewrite.

Interactive comment on Geosci. Model Dev. Discuss., 6, 6835, 2013.