

Interactive comment on “Sensitivity analysis of a wetland methane emission model based on temperate and Arctic wetland sites” by J. van Huissteden et al.

Anonymous Referee #1

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Comments This manuscript evaluated the sensitivity of a well-known CH₄ emission model by applying the GLUE (Generalized Likelihood Uncertainty Analysis) methodology. The response of CH₄ flux to model parameters (microbial reaction rate, vegetation and soil properties) is well addressed. This type of study is necessary for estimating regional and global wetland CH₄ emission and is of scientific significance. I suggest publishing this paper after minor revision. (1) Determination of CH₄ flux was made by chamber/gas chromatograph system before May 2004 (Horstermeer and Ruwiel sites). Thereafter CH₄ analysis was performed in the field using an Innova 1312 photo-acoustic gas analyzer. Please make sure the CH₄ fluxes determined using these two systems are comparable. Otherwise, it would obscure the sensitivity analysis. (2)

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Conclusion section needs to be thoroughly revised. The authors should give a clear statement of the main conclusions of the research, and a clear explanation of their importance and relevance, rather than a summary of the results.

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