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Comment

Interactive comment on “Present state of global wetland extent and wetland methane modelling: methodology of a model intercomparison project (WETCHIMP)” by R. Wania et al.

R. Wania et al.

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Author Reply to Anonymous Referee #1:

Dear Editor,

This is our author reply to the Anonymous Referee for our paper, ‘Present state of global wetland extent and wetland methane modelling: methodology of a model intercomparison project (WETCHIMP)’. We wish to thank the referee for the time and care in providing comments on our manuscript. We will answer each comment below.

[Our comments are presented in blue font.](#) The Anonymous Referee’s original comments

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are in black.

This paper provides a description of the model experiments carried out within the WETCHIMP wetland and CH₄ emission model intercomparison project, presents the relevant technical aspects of the participating models, and highlights some common characteristics and divergences between the models. The paper is well written and clear, and the short analysis of the common points and divergences between the participating models is clear and relevant. Although it does not present major research results on its own, and is therefore not particularly exciting, it is a necessary reference paper that definitely has its place in GMD.

[We thank the reviewer and are glad that the utility of the paper is evident.](#)

I only have a few very minor comments.

1) Section 2, p. 4076-4077: Sentence 1 and 2 of the section both state that there are 6 different experiments, redundant

[Removed one](#)

2) p. 4077: "However, since this increase was applied to the mean climate of 1901–1931, it represented a slightly smaller departure from the 1901–1931 equilibrium than from the climate of 1980–1999." I read this 3 times and still don't understand it. Please clarify.

[Removed sentence](#)

3) p. 4078: Uniform changes in sensitivity tests. Your justification is OK, but in fact you could have taken any value, not only the CMIP3 global mean for 2100 SRES-A2. In particular, there are regions with future drying.

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Yes, that is correct. We chose a literature value to keep in in the range of possible. However, it is also true that there would be regions with future drying along with a general increase in precipitation. This test was decidedly a sensitivity test alone.

4)p. 4085, l.24: "the the extent"

Removed a 'the'

5) p. 4089, equation 3 : Add K after 8 in the denominator. I suppose sigma is bounded to attain a maximum of 1 for very warm temperatures ?

We don't add in the K to the equation as it would be confusing to add in units to the equation. Yes, it is correct that sigma will not exceed 1. We have added a comment to this effect.

6) p. 4099. Figure 8 is mentioned before Figures 6 and 7

Removed reference to Figure 8 as it was not necessary at that point.

7) Section 4 ("Results and discussion") bears a rather inappropriate name. It does not really report on results. "Discussion of inter-model differences" or something along this line would perhaps be more appropriate.

There are results present in Figure 8 and a discussion of model differences but also on those results. We believe it is then an appropriate title for the section.

Sincerely,

J. R. Melton, R. Wania, E. L. Hodson, B. Poulter, B. Ringeval, R. Spahni, T. Bohn, C. A. Avis, G. Chen, A. V. Eliseev, P. O. Hopcroft, W. J. Riley, Z. M. Subin, H. Tian, P. M. van Bodegom, T. Kleinen, Z. C. Yu, J. S. Singarayer, S. Zürcher, D. P. Lettenmaier, D. J. Beerling, S. N. Denisov, C. Prigent, F. Papa, and J. O. Kaplan

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