

Interactive comment on “Response of hydrology and CO₂ flux to experimentally-altered rainfall frequency in a temperate poor fen, southern Ontario, Canada” by Danielle D. Radu and Tim P. Duval

Anonymous Referee #1

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Alongside significant results, the submitted article also provides some important baseline information with concise descriptions which is useful for climate model simulations. The objectives are clear and analyses are also straightforward and easy to comprehend. At the same time, however, I do feel that some parts are missing while reading through the manuscript.

I see the authors describing field experiment which includes the CO₂ fluxes measurement (line 105-113) but not discussing the results of this experiment. So, I expect further descriptions about this in the manuscript and also objectives of conducting two

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experiments.

The authors mentioned the lowering of WT increases respiration and switching the communities to net CO₂ source or C neutral. I think it would be better to elaborate a bit on the mechanisms driving the increased respiration.

I will point out some other minor comments which I feel could be improved.

Line 230: The magnitude of NEE under low WT was greater during frequent rain than during the MedFreq and LowFreq. It would be good to describe the meaning of 'greater NEE' here.

Line 261: It doesn't look like -29 cm in Fig. 8c.

Figure 3c: The negative sign of the slope for high WT is missing.

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