

Interactive comment on “Impacts of climate variability on wetland salinization in the North American Prairies” by U. Nachshon et al.

Anonymous Referee #2

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The paper by Nachshon et al. presents analysis of the field measurement data from the case study in the Saskatchewan, Canada to explore temporal salt dynamics in prairies, assuming that pond processes are an adequate equivalent for analysing the system behaviour under climate change. The main result of the work is the clear evidence of the different system response to wet conditions associated with snowmelt and rainfall. While the significant snowfall does not induce any significant changes in pond salinity, intensive summer rainfall triggers processes that contribute greatly to the changes in salinity values, with potentially significant implications for local community and ecosystems. The manuscript is very well written, and my only comment considers the clarity of presented results. While the data sources and analysis are presented in details, I was struggling to follow the story, with different ponds and years used in

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different analysis. Finally, although the results show clearly the unresponsiveness of the salt pattern to increased snowmelt, the clear justification for this conclusion is not given. As such, I find that the manuscript would be suitable for publication if the authors would address a few minor comments discussed in more detail in the supplement to this comment.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/10/C6881/2013/hessd-10-C6881-2013-supplement.pdf>

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