Hydrol. Earth Syst. Sci. Discuss.,
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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Evaluation of Lacustrine Groundwater Discharge, Hydrologic Partitioning, and Nutrient Budgets in a Proglacial Lake in Qinghai-Tibet Plateau: Using ^{222}Rn and Stable Isotopes" *by* Xin Luo et al.

Anonymous Referee #1

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General comments: This paper is focusing on the evaluation of LGD and its related nutrient budgets and hydrologic partitioning in proglacial lake of QTP. The work is great and the paper is overall well organized. Anyway, I have the following comments for the authors to consider.

Specific comments 1. Authors should address more about why it's important to study proglacial lake, especially the ones in QTP, in the introduction part. 2. The primary productivity is calculated based on the dissolved inorganic nutrient budgets. Authors should be careful to do so. Did the authors consider the transformation between

dissolved inorganic and particulate inorganic forms? Redfield ratio usually works in oceanic aquatic system. In lakes, the ratio is fairly variable. 3. Radon in air is important term to do balance calculation. Was the Rn in air measured? I did not see the information or data about this term in the manuscript or the SI. 4. Line 53-60, these two sentences are both started with the locations. Please revise them. 5. Line 208, how often were the Ra-226 samples collected? Or just one sample, and you assume Ra-226 is constant? 6. Line 279, how long is ïĄĎt? 7. Line 327, figure 5 is not attached.

Technical corrections 1. Line 144, 0.7 or 7? 2. Line 195, the unit should be L min-1. 3. Line 230, change "recently" to "recent". 4. Line 280, should be Equation (2). 5. Line 383, two 18O?

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