

Montréal, December 14th, 2021

Subject: Correction of equations A.1.28 and A.1.30 of the typeset manuscript

Dear Editor, Dear edition team

During the proofreading of our manuscript HESS-2021-71 "Simulation of long-term spatiotemporal variations in regional-scale groundwater recharge: contributions of a water budget approach in cold and humid climates", we noted two minor errors in the code description presented in Appendix A (equations A.1.28 and A.1.30). These errors were introduced only in this part of the paper and do not affect in any way the HydroBudget computation code which was and remains correct. These minor errors do not impact whatsoever the scientific results presented in the accepted paper since the calculations performed with HB are not affected. We would like to correct these equations before continuing further with the publication of the paper.

The corrected form of these equations are presented below (with changes highlighted):

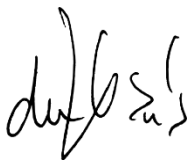
$$AET_t = sw'_{t-1} sw_t + Inf_t - Excess R_t \quad (A.1.28)$$

$$GWR_t = sw_t \times \frac{sw'_{t-1} + Inf_t - Excess R_t}{sw_m} \times f_{inf} \quad (A.1.30)$$

These corrections do not require any changes in the main text and we believe them to be necessary for readers who would like to read more about the model processes.

Please do not hesitate to contact me if any questions arise concerning these corrections.

Yours sincerely,



Emmanuel Dubois, PhD student