



Corrigendum to “Calibration of a lumped karst system model and application to the Qachqouch karst spring (Lebanon) under climate change conditions” published in Hydrol. Earth Syst. Sci., 24, 4275–4290, 2020

Emmanuel Dubois¹, Joanna Doummar², Séverin Pistre³, and Marie Larocque¹

¹Département des sciences de la Terre et de l’atmosphère & GEOTOP Research Center, Université du Québec à Montréal, C.P. 8888, Succursale Centre-Ville Montréal, Québec, H3C 3P8, Canada

²Department of Geology, American University of Beirut, P.O. Box 11-0236/26, Beirut, Lebanon

³HSM, Université de Montpellier, CNRS, IRD, 300, avenue du Professeur Emile Jeanbrau, 34000 Montpellier, France

Correspondence: Joanna Doummar (jd31@aub.edu.lb)

Published: 6 October 2020

Our recent paper about the calibration of a lumped karst model on the Qachqouch Spring in Lebanon included a mistake in the calculation of the k and i coefficients, which were used in the karst spring classification proposed by Mangin (1975). However, this does not change the other calculations and interpretations. The correct values for the coefficients are $k = 0.11$ and $i = 0.77$. This changes the spring classification (Fig. 5 – corrected version hereafter) to the domain of large and complex systems with an important part of delayed infiltration, closer to that of the Afka Spring (Lebanon) or the Fontaine de Vaucluse Spring (France). These parameters, as much as the high regulation capacity of the system (shown by the correlations analysis), are most likely related to the important thickness of the unsaturated and saturated zones of Middle Eastern karstic aquifers, delaying the infiltration and allowing a large water storage capacity.

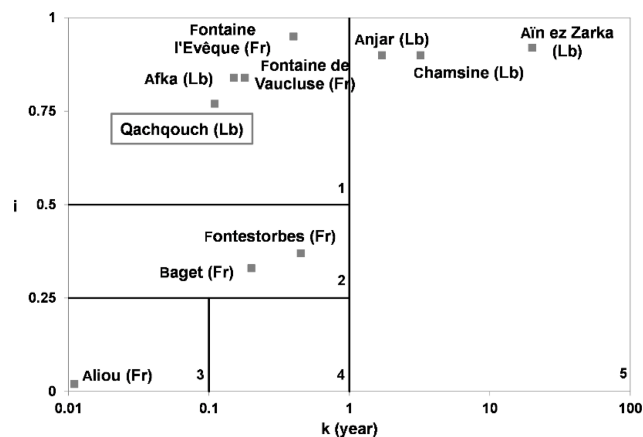


Figure 5. Qachqouch Spring within the classification of karstic springs as a function of their k and i parameters (El-Hakim and Bakalowicz, 2007). Fr stands for France, and Lb stands for Lebanon.