Hydrol. Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/hess-2018-637-RC1, 2019

Hydrology and Earth System Sciences
Discussions

Interactive comment on "Hydrogeological conceptual model of andesitic watersheds revealed by high-resolution geophysics" *by* Benoit Vittecoq et al.

Tatiana Izquierdo (Referee)

tlabraca@gmail.com

Received and published: 27 February 2019

General comments: The manuscript by Vittecoq et al. presents a hydrogeological conceptual model of andesitic watersheds by combining hydrologic, hydrogeologic, geologic and geophysical methods. The study has been carried out in the island of Martinique and includes new insights about the hydrogeology of andesitic islands that has been far less studied than basaltic islands. It is, therefore, an interesting manuscript that should be considered for publication in Hydrology and Earth System Sciences.

Specific comments

- The authors have included the thermal springs as part of the hydrogeological model, however, more specific information is needed to fully understand them and their role in the hydrogeological conceptual model.

- Another table with supplementary information is needed with the available data for the analyzed springs (location, geology, discharge, seasonality,. . .)

- Page 5, line 24: you mention that piezometer 3 characterizes a confined aquifer (figure 4) however according to the cross-sections interpretation there is no unit to confine the aquifer. The supplementary information table says it crosses 1a unit although that unit does not appear in table 1. Could you please include a more detail explanation? Maybe including the boreholes location in the cross-sections?

- The water balance section needs to improve the methodology of the obtained values. Temporal series used for rainfall and evapotranspiration values should be specified and the method used for the evapotranspiration calculation should be included or at least a reference for them. How did you estimate GwR and the runoff values?

- Page 8, line 12: ". . . a specific analysis was conducted in the springs." Which one? Please provide a brief explanation of the methodology.

Minor corrections have been included in the annotated pdf file.

Please also note the supplement to this comment:
https://www.hydrol-earth-syst-sci-discuss.net/hess-2018-637/hess-2018-637-RC1-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2018-637, 2019.