

Interactive comment on “A multi-environmental tracer study to determine groundwater residence times and recharge in a structurally complex multi-aquifer system” by Cornelia Wilske et al.

Nathan A. Sheffer (Referee)

nathan.sheffer@icl-group.com

Received and published: 5 November 2019

The authors demonstrate how groundwater can be dated using natural and anthropogenic tracers. I find the paper very interesting and with high academic value. The authors fail to site important work dealing with this aquifer, esp. groundwater flow rates and direction (LL Ben-Itzhak, 2005 - Groundwater flow along and across structural folding: an example from the Judean Desert, Israel). According to this work, groundwater flow is not W-E but rather SW-NE. Therefore, the springs mentioned in this work do not represent water infiltrating west of them, but rather SW of them. Another important issue is local contamination (as mentioned by Joseph Guttman in his comment to

[Printer-friendly version](#)

[Discussion paper](#)



Interactive comment

this paper). How do the authors differentiate between local contamination by a burst sewage pipe adjacent to a well or spring, from contamination infiltrating in the recharge area? Other comments: line 14 and 63: I think that 5 million people is an over estimation for the population using this aquifer. line 66: Two references missing from list. line 68-69: Two references missing from list. line 85: Dead Sea Rift, not Jordan... line 106: groundwater does not easily dissolve anhydrite and aragonite. Figure 1: Site 23 on map should be 24.

Chlorine source according to this paper is rainwater. what about Cl from soil? esp. fertilizers such as KCl? line 334 and 338: groundwater is ploral, no need for "s". line 336: Embracing - this is the wrong word for this.

The paper need much more proofing. Ex.: in some places Table and in others Tab.; in some places Figure and in others Fig.; SF6 -some places the "6" is in subscript, and some not; 36CL -some places the "36" is in superscript, and some not;

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-451>, 2019.

Printer-friendly version

Discussion paper

