

Reviewer's comments

General comment

The paper was significantly improved compared to the original submission, and valuable changes have been made following the reviewers' indications. Not very clear points have been clarified, further information have been added, a new Figure has been included and some confusing part have been either specified or removed. Moreover, all responses provided by the authors to the reviewers' comments were clear and satisfactory. Overall, I believe that, after fixing some minor issues reported below, the paper can be published on HESS.

Minor comments and technical corrections (the first number refers to the page, the second one to the line)

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1,17. '...quantifies' should be 'quantify' ('data' is plural, and has been correctly used as plural later in the manuscript).

1,21. Delete '(i.e., HRS units)', in my opinion its not needed here.

2,6. Change 'soil riparian zone water' into 'soil water in the riparian zone'.

3,30. Change 'climate regime, annual precipitation' into 'climate regime. Annual precipitation'.

4,25. Insert 'electrical' between 'Stream' and 'conductivity'.

4, 30. 'Data gaps were filled...' Were some data missing due to instrumental failure, or any other specific reasons? They should be shortly mentioned here.

5,3. Insert 'in' between 'located' and 'a plateau'.

5,3. 'GW2 near one of the springs'. Which spring? And in which catchment zone (riparian, hillslope, transition etc)? Please, specify.

5,7. Add 'reflectometry' after 'time-domain'.

5,20. Remove 'positions'.

5,28. I suggest to change 'direct sampling' into 'the influence'.

6,12. Change 'LWIA' into 'Liquid-Water Isotope Analyser

6,11-13. Penna et al. (2010) tested exactly the same version and model of Liquid-Water Isotope Analyser used in this study, and found precisions comparable to those reported here, so this study could be cited. Moreover, the authors could mention if some simple

procedures to avoid memory effects (e.g., avoid including in the same run samples whose isotopic composition was expected to be highly different, see Penna et al. (2012)) have been carried out.

Penna D., Stenni B., Šanda M., Wrede S., Bogaard T.A., Gobbi A., Borga M., Fisher B.M.C., Bonazza M., 2010. On the reproducibility and repeatability of laser absorption spectroscopy measurements for $\delta^2\text{H}$ and $\delta^{18}\text{O}$ isotopic analysis. *Hydrology and Earth System Sciences*, 14, 1551–1566. doi:10.5194/hess-14-1551-2010.

Penna D., Stenni B., Šanda M., Wrede S., Bogaard T.A., Michelini M., Fisher B.M.C., Gobbi A., Mantese N., Zuecco G., Borga M., Bonazza M., Sobotková M., Čejková B., Wassenaar L.I., 2012. Technical Note: Evaluation of between-sample memory effects in the analysis of $\delta^2\text{H}$ and $\delta^{18}\text{O}$ water samples measured by laser spectroscopes. *Hydrology and Earth System Sciences*, 16, 3925–3933, 2012. doi:10.5194/hess-16-3925-2012.

10,26. Fig. 4b is cited before Fig.4a (at 10,28). So, either swap the two panels in Fig. 4 (so, wet conditions on the left panel and dry conditions on the right panel) or change the sentences at 10,25-28 so that Fig. 4a appears first.

12,28-29. I suggest to change the sentence into ‘P values were high (0.21 and 0.73 for the riparian zone and the hillslope samples, respectively), thus the null hypothesis was accepted.

Table 3. There was not a large discussion in the text about seasonal differences in sample values that justifies both the inclusion of standard error and standard deviation. So, I suggest to skip SE and keep only SD.

Fig. 4. Use bars for precipitation instead of lines. Moreover, see my comment for 10,26 above.

Fig. 6, 36,3. Delete ‘solute’, it’s redundant (you already mention ‘stream water chemistry’.

Fig. 7. Expand the y-axis scale of the b) panel so that the bars are not cut or touch the plot edge.