

We thank the anonymous reviewer for his kind and careful assessment of our work.

Following, we address each of the issues pointed out by the reviewer. If accepted, we will modify the final version of the manuscript accordingly.

1) In addition to data errors and model uncertainties, there are also errors associated with the numerical method. It is suggested to include a short comment about the numerical errors of the finite element method of TRANSIN code.

The numerical error is related to the discretization, the numerical procedure and round-off errors. TRANSIN is flexible as to choose a weighting parameter for flow $0 \leq \theta_f \leq 1$; if $\theta_f = 0$ it is an explicit scheme; if $\theta_f = 1$ it is implicit; and if $\theta_f = 1/2$ it is the Crank-Nicolson scheme of second order in time.

2) Note that the code used in the study is both referred as TRANSIN and TRANSIN II (see Section 6.4).

We have used TRANSIN, version II. For simplicity, in the final version of the manuscript we will refer simply to TRANSIN clarifying the version in the references.

3) The variable DIF defined in Section 6.2 is not used in the manuscript.

We will delete the variable DIF and directly use the difference between fluxes as indicated in Figure 9.

4) In the conclusions section it would be useful to include a short list of open questions to be answered in future works.

The construction of the numerical model based upon a continuous, two-dimensional aquifer was instrumental at identifying data and conceptual model weaknesses and uncertainties that can be grouped in three major themes: geology, role of structures on the flow system and definition of discharge/recharge zones. More specifically, future works should be mainly directed to:

- Analyze the hypothesis of a compartmentalization of the aquifer and its influence on the regional flow system as suggested by recent studies.
- Analyze the role of pre-GAS and post-GAS formations on piezometric levels and hence, on groundwater flows.
- Evaluate the role of local geologic structures on the flow system. This would help to reproduce some piezometric (and hydrochemical) anomalies that could not be represented by the current conceptual/numerical models.
- Conduct more in-depth and model-independent studies of flows distribution, specially related to recharge, pumping and river/aquifer interactions in outcropping areas, performing water balances at representative areas with sufficient field data to support hypotheses and conclusions.

- Simulate groundwater age in order to validate alternative hypotheses of the flow system functioning, supported by isotopic sampling and analysis.