

Thank you very much for your review. We provide below some complements to answer the reviewer's remarks, and we also would like to use the open review feature to ask for more details regarding one of the reviewer's remarks.

Q1: *The manuscript presents a contribution to the hydrology teaching task and in general to the water education context, I suppose at the university level. Overall the airGRteaching appears an interesting approach for the purpose: it is a versatile tool able to model streamflow data at different time scale, integrating different hydrological processes, it has a nice and attractive graphical interface and seems to have a good module to interact with the model component and model parameters (par 3.1.1.) in order to explore their relevance in the modlling phase. I found not really detailed the calibration and validation module.*

A1: We recognize that we did not detail too much the calibration algorithm in the manuscript. The main reason for that is that this algorithm does not belong to airGRteaching, but to airGR, and this algorithm was described into further details in Coron et al. (2017), section 2.3.

Two distinct steps are included in the procedure:

1. a systematic inspection of the parameters space is performed to determine the most likely zone of convergence. This is done either by direct grid-screening or by constrained sampling based on empirical parameter databases;
2. a steepest descent local search procedure is carried out to find an estimate of the optimum parameter set.

We will present these two steps in the revised version of the manuscript.

Q2: *I see from figure 9 that it would be possible for the student to graphically realize what is the impact of parameter calibration in terms of relevant hydrological processes (snowmelt effect in figure 9), but other model features would be interesting to be explored in my opinion. As an example it could be instructive and informative for a student to learn and maybe visually catch how an hydrograph would be shaped by a range of value of given parameter (eg. an ensamble of shapes of the recession limbs for an ensamble of catchment delay time) and perhaps have a real time exploration of the assessment of the goodness of fit .*

A2: We are a bit puzzled by the comment regarding how the hydrograph is shaped by different values of model parameters, since what the reviewer asks seems to be already provided in Figure 6 for the catchment delay (and in Figures 5 and 7 for two other parameters). Could the reviewer precise the demand?

Regarding the "real time exploration of the assessment of the goodness of fit", we did not provide such a visualization in airGRteaching, because the calibration process of GR models is very fast (circa 0.4 second for a calibration of GR4J on a 10-year period, see Coron et al., 2017, Table B.3). This does not permit a convenient real-time visualization. Instead, we provide an a posteriori visualization in airGRteaching, which is introduced in Figure A.5 in the submitted manuscript.

Q3: 1) *In the abstract (line 5) such as at page 4 line 21, I would suggest the authors to introduce what the GR models (class of models) are, maybe with some basic references. I know that sometime later in the paper a good review of the literature is provided, but I believe some basic reference should be given when introducing the GR models at the very start of the manuscript.*

A3: We will better introduce the GR models in the manuscript.

Q4: 2) *The legend and the caption in Figure 2 are not really clear to me. Should be improved.*

3) *I found not really appropriate the example for "4 years of warm-up" period in figure 8. Probably it was mentioned just as an example, but might be a bit unrealistic.*

4) *Also in Figure 12 the legend and the caption should be improved.*

A4: Thank you for these comments. We will try to improve the legends and captions. Regarding the warm-up period, we will introduce a 1-year warm-up period on Figure 8, which is the warm-up default period in airGRteaching.

Reference:

Coron, L., Thirel, G., Delaigue, O., Perrin, C., and Andréassian, V.: The Suite of Lumped GR Hydrological Models in an R package, *Environmental Modelling and Software*, 94, 166–171, <https://doi.org/10.1016/j.envsoft.2017.05.002>, 2017.