Dear Editor,

On behalf of my co-authors, I am pleased to submit our revised MS entitled: “Hydrological and metabolic controls on dissolved carbon dynamics in groundwater and export to surface waters in a temperate pine forest”. The MS has been intensively rewritten following the recommendations of the two referees. The referees pointed out the poor clarity and organization in our first submitted version and a superficial reference to the literature. For these reasons, the introduction, results, discussion and conclusion sections were almost entirely re-written. We also added in the materials and methods section a more complete description of how stream discharge was obtained, and how drainage was modeled in the study catchment. We also performed a more thorough review (81 references were added and 18 were removed as they were useless) of similar studies in forested catchments that helped to discuss in more details the biogeochemical processes occurring at the vegetation-groundwater-stream-atmosphere continuum.

In this revised version of the MS, we also modified the figures and tables in order to improve the presentation, help the discussion and provide some additional quantitative information on water and carbon budget necessary for the discussion. To make our paper absolutely clear, two additional tables that describe in detail the sampling periods in each sampling plot were added as supplementary material. In order to help the description of material and methods, and the discussion, we added to the figure 1 the topography (instead of land cover) and the locations of the different gauging stations. In the figure 2 we added the eddy covariance parameters at the Bilos plot as well as the different hydrological periods. The figure 3 did not change. We split former figure 4, in two separate figures (4 and 5). The new figure 4 presented the opposite evolution of DIC and DOC with water table and amplitude one key result of our work. The new figure 5 presented the temporal dynamics of DIC and DOC in groundwater and surface water at all stations. We deleted the figure 5, 6, 7 of the first submitted version that suffered from redundancy with other figures, from poor clarity or from excessive interpretations. Instead, we added new figures 6 and 7. Figure 6 presents the mean stocks of DIC and DOC in groundwater during the different hydrological periods, and figure 7 is a conceptual model that synthesizes the biogeochemical processes occurring at the vegetation-soil-groundwater-stream interface of the Leyre catchment, as highlighted by our results.

We are looking forward the new evaluation of our revised paper.

Best Regards,

Loris Deirmendjian and Co-authors