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Interactive comment on "A conceptual dynamic vegetation-soil model for arid and semiarid zones" *by* D. I. Quevedo and F. Francés

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Respect to response to your comment viii) there was a mistake in mentioned table, which one will been include in the text; in the following paragraph, we include the most important monthly values to mentioned variables. If you want to see the corrected table, please let me know. Thank you.

viii) The seasonal assimilation dynamic is conceptually well reproduced, but there are no data to demonstrate this result. The R minimum should be in the winter season because of the dormancy. Instead the authors find a minimum in autumn. This particular behaviour could be related to the seasonality of the maximum net assimilation, which is not declared.

Unfortunately, in Figure 6 seasons are defined for complete months, i.e.: the whole September was considered as autumn. With the proper initiation for each season, the minimum leaf biomass (related with R) is in summer, as we expected. Temperature is introduced in the model through PET and the possibility of a variable An, mx. There is not a minimum in winter by dormancy, because the temperature range in the area is not a restrictive factor in winter.

Figure 6 does not include the leaf biomass production, which can be related to dR, and it can be confused with the actual leaf biomass (related to R). After daily simulation monthly means for P (precipitation), H2 (available soil water content), dR and R shows the following behaviour: R has a maximum in April (0.768) and a minimum in September (0,712). Concerning the biomass production (dR) the maximum is in November (4,39E-04) and the minimum is in July (-3,65E-0,4). Despite the leaf production is higher, there is less biomass in autumn than in winter because the initial R at the beginning of autumn is the minimum value. These results are in agreement with our knowledge about the phenology of the Quercus coccifera L. for the climate represented by the meteorological series used in this work.

On the other hand, the precipitation series is characterized by presenting a maximum in October (106,39mm) and a minimum in July (13,02mm) and the soil moisture has a maximum in December (21,87mm) and a minimum in July (2,32mm).

Obviously, the differences between the inputs and outputs must be explained by the complete model conceptualization, but it seems clear the biomass (R) and biomass production (dR) of our model applied in the study area has a strong dependence on available water content (state variable) and precipitation (input variable).

The biomass production (dR) will be added in the corrected Figure 6, and the previous table with the mean monthly values and some comments will be introduced in the final text.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 4, 3469, 2007.