

## ***Interactive comment on “Evaluating the importance of surface soil contributions to reservoir sediment in alpine environments: a combined modelling and fingerprinting approach in the Posets-Maladeta Natural Park” by L. Palazón et al.***

**Anonymous Referee #2**

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The authors propose a preliminary and original approach to understand soil erosion processes in the Benasque alpine catchment (Axial Pyrenees), and the specific objectives was: (1) to undertake spatial and temporal modeling with SWAT to identify soils which generate sediment and yield into streams that inflow into two small reservoirs; (2) to use composite fingerprinting properties to identify the principal sources of sediment delivered. However, we think that this paper needs a revision for publication.

C513

Regarding objective 1, it is necessary that in the introduction section will make a mention of other studies that have been developed in the study area, since you mentioned only research in alpine environments in a general context, but I must to say that there are other research that have been developed in the study area, for example, the research realized by Alatorre et al. (2010). In this study a spatially distributed soil erosion and sediment delivery model (WATEM/SEDEM) was applied to the watershed of the Barasona Reservoir, and an exhaustive analysis was realized in the Axial Pyrenees where is localized the Benasque catchment. Moreover, it is necessary enhance this research by comparing and discussing some aspects found in research Alatorre et al. (2010), clarifying the issues that have been enhanced and weaknesses found to improve the research realized.

Alatorre, L.C., Beguería, S. & García-Ruiz, J.M., (2010). Regional scale modeling of hillslope sediment delivery: a case study in Barasona reservoir watershed (SPAIN) using WATEM/SEDEM. *Journal of Hydrology*, 391, 109–123. ISSN: 0022-1694

Please also note the supplement to this comment:

<http://www.solid-earth-discuss.net/6/C513/2014/sed-6-C513-2014-supplement.pdf>

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Interactive comment on Solid Earth Discuss., 6, 1155, 2014.

C514