

## ***Interactive comment on “The impact of roads and sediment basins on simulated river discharge and sediment flux in an experimental catchment designed to improve ecosystem services” by S. I. Saad et al.***

**S. I. Saad et al.**

sandraisaad@gmail.com

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In an urgent need to help preventing environmental resources deterioration, politics involving Payments of Environmental Services have emerged worldwide as a way to recognize financially promoters of improvements on the environmental quality. Conservador das Águas represents the first Brazilian municipal experience of a PES project, and it occurs in a sub-basin of Cantareira's water supply system, that supplies about 50% of water for the Sao Paulo megacity, with 18 million of inhabitants.

Incentivized by the start of the project, since 2009, Posses sub-watershed was feed-up

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with some data instrumentation such as pluviometers and rules for measuring the level of the river, which are still few for most environmental studies.

Evaluation of Environmental Services promoted by the project is needed to evaluate the efficiency of some actions taken as reforestation, roads adequation, construction of small basin designed to increase water infiltration nearby the roads, and to foster new investment in environment.

Studies related to the effects of the land use change on Environmental Services Delivery can be achieved using modelling strategies, which can be performed using good quality observational data, measured for an adequate period, and with high resolution for reasonable spatial representation. This conditions is, however, not easy to be reached, especially in developing countries, for whom such kind of data acquisition may be particular unaffordable.

One of the issues addressed in the paper submitted was the importance of considering the unpaved roads in GIS modeling studies, due to their strong control in sediment export in the watershed, even though they have not been considered in previous GIS modeling studies related to land-use change.

The undoubted efforts performed to calibrate a model intended to predict Environmental Services and its change over land use change, under scarce environmental data conditions was unfortunately misunderstand by reviewers #1 and #3, for whom the paper must be rewritten. Therefore, I kindly ask for the Editor to remove the paper submission so that the main topics will be rewritten, in agreement with the reviewers.

On the other hand, some commentaries were very valuable, especially from reviewer #2, whose suggestions should be certainly used for further publication.

At last, I really appreciate all the effort provided by the Editor, all the HESS team, and reviewers, and I apology for all the inconvenience.

Kind regards, Sandra Saad

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