

Novelty and International Appeal Statement

The present Data Note submitted to the special issue of “ Research and observatory catchments “ of the Journal Hydrological Processes intends to focus on the serious problem of land surface erosion by natural agents like rainfall and surface runoff, with particular interest for the semiarid region worldwide. While the scarcity of water in these regions makes it imperative to maximize the surface runoff and store it, the associated problem of soil erosion and loss of fertility could lead to a process of desertification. A rational approach needs an efficient land management which requires a clear knowledge of the relative influences of the vegetal covers and conservation practices on the runoff and erosion processes in the region. Reliable quantification of these hydrological processes can be achieved through calibrated and validated hydro-sedimentological models. The basic data needed for this purpose is best obtained from research and experimental catchments. While the local data can adequately serve the decision making process for the management of hydrological basins, a deeper understanding of the hydrological processes in general, needs an evaluation and utilization of data from other similar regions in the world. The present contribution is a significant step in that direction by sharing the research experience obtained in two experimental catchments, located in the semiarid northeast of Brazil, identified as Cariri Basins. While much of the results obtained have been shared with the international community through publications in journals and proceedings of the Congresses, this is the first time the whole data set is being freely made available to the international academic and research community.