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Soil management in semiarid environment and erosional implications

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Arid and semiarid areas has a hydrological rainfall pattern characterized by variability, intense rainfall, as the rainfall volumes are concentrated into short periods of time with widely varying temporal recurrence of rainfall events consequently, high peak flows occurred. In most of Brazil semiarid he conventional soil management still is burning for the establishment crops. In this soil use, the natural resources are under risk and prone to degradation. In this conditions the soil use capacity of semiarid watersheds is soon exceeded due to soil cover of shrub decrease. The major degradation sign is the water erosion that generates the sediment through interrill, rill and gully erosion. The fluvial systems of arid and semiarid environments are featured by periods without flow, and the suspended sediment transport can occur in high suspended sediment concentration values in ascending hydrograph, which are associated with the sediment in the entrainment threshold that deposited in the preceding year. In this context, we are developing a project in a small watershed with 14.71 km^2 (Carnauba Watershed from Brazilian semiarid) in which the farmers are seeding corn, beans and cactus without burn residues to prepare the soil through environmental compensation, as a mitigation to climate changes. In this project are included 10 farmers during two years in the Carnauba watershed, in which the flow and suspended sediment are been monitoring, and in the project end it will be expect to observe decrease in suspended sediment flux.

Biography

Jose Ramon Barros Cantalice is an Agricultural Engineer, PhD in Soil Science and Post-doctoral made at Texas A & M University, USA. He is currently Associate Professor of the Universidade Federal Rural de Pernambuco. He has experience in Agronomy, Environmental Engineering, with emphasis on Management, Soil Conservation, Water Conservation, Soil and Water Engineering, acting on the following topics: mechanics of erosion, sediment transport, rill and interrill erosion, design riparian zones, soil quality, sediment yield from watersheds in the semiarid, and relations of hydrology and cover of the shrubs. He is an Adviser of PhD and Master's in Soil Science and Environmental Engineering.

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