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WATER BALANCE AND LANDSCAPE DEGRADATION OF AN UNGAUGED MOUNTAIN WATERSHED: CASE STUDY OF THE PICO DE TANCITARO NATIONAL PARK, MICHOACAN, MEXICO

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ABSTRACT

Water balance and its relation to land degradation were investigated by using a spatially distributed model and geographic information system (GIS) in the Pico de Tancitaro National Park, Michoacan, Mexico. The water balance components were defined through monthly climatic data and soil characteristics using ILWIS (Integrated Land and Water Information System) capabilities for the display and manipulation of GIS data. The deficit of water was compared with the potential degradation of the landscape in order to show their relationship. The study shows, in a preliminary way, that land degradation threatens the quantity of water in the Tancitaro National Park. The demand for water has also been increasing to such an extent that it soon will exceed the renewable water supply that can be used economically.

Reference: Fuentes, J.J. , M. Bravo and G. Bocco, Water Balance and Landscape Degradation of an Ungauged Mountain Watershed: Case Study of the Pico De Tancitaro National Park, Michoacan, Mexico, Journal of Environmental Hydrology, Vol. 12, Paper 5, March 2004.

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