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AN EROSION RISK STUDY ON SAMOS ISLAND, BASED ON FUZZY MODELS, TAKING INTO CONSIDERATION LANDUSE SITUATION AFTER THE FIRE OF JULY 2000.

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ABSTRACT

Samos island has recently (July 2000) experienced severe fire events that changed most of its landcover map. Apart from this catastrophy, Samos island also encounters intense rainfalls, soil erosion and flood events. Unfortunatelly, erosion proccess are highly accelerated when natural protective mechanisms, like landcover, are absent.

At Samos case, we produced an erosion risk map, using as principal attributes lithology, drainage system analysis, topography and recent landcover data. All these data, were input into the GIS and processed through fuzzy logic rules, in order to derive an erosion risk map.

Such maps can be proved very useful tools, when classifying zones of high erosion risk and when taking appropriate measures in advance. Erosion risk maps can be used from both local authority and research teams that need, among others, to evaluate erosion factor or plan effective policies.