



Network for measuring runoff and water erosion in small agricultural catchments in Southern Spain

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ABSTRACT

Water erosion is one of the major environmental threats to sustainability of agricultural production in Southern Spain. In Mediterranean climates, inappropriate soil management in steep or hilly landscapes causes intensive and extensive on-site and off-site damage. However, limited experimental information is available for fully understand the relationship between soil management practices and erosion at varying scales.

This communication describes a network of five experimental catchments equipped with runoff and erosion monitoring devices established in the last five years in agricultural areas of Southern Spain. Three of the catchments are of small size (2 to 6.7 ha) and are covered by olive trees, a fourth one, of 20 ha, is cultivated with irrigated field crops, and the fifth catchment is located in an irrigation district where irrigated annual and tree crops coexist covering an area of 316 ha.

Monitoring stations consist of a long-throated flume equipped with a ultrasonic sensor to measure water depth, an ISCO water sampler, a rain gauge and a datalogger. This communication will present a preliminary comparison of runoff and sediment generated in the catchments during recent years, and it will discuss some of the main problems encountered in the establishment of the network and the future plans for upgrading the monitoring stations and analysing of results.