



What has happened in about the last 20 years in the Canyoles watershed?

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Along history, the Mediterranean arid lands have undergone widespread land use transformation, especially in recent decades (Piqueras, 2012). There are changes driven by socio-economic conditions, such as European Agricultural Policies (MacDonald et al., 2000; Keenleyside and Tucker, 2010; Renwick et al., 2013), which have caused land degradation processes (soil erosion, soil sealing, water pollution, salinization, wildfires, land abandonment, urban sprawl and intensive agricultural practices). Land degradation is the results of a complex Socio Ecological System (SES) which should be addressed using the Geographical Information System (GIS) to identify and assess the spatial variation of land use change. Therefore, the aim of this work has been to describe and assess the land use change by human activities in a typical Mediterranean watershed (Canyoles Valley) located at South-East of Iberian Peninsula as a part of the Land Ecosystem and Degradation Desertification Response Assessment (LEDDRA) project, which has undergone a quick land use change in last two decades (1986 – 2005). Results reveal that the surface area devoted to rainfed crops (e.g., olive crops (47 %) and vineyards (28 %) and forestry have decline significantly; while the citrus orchards (irrigated crops) and unproductive areas (e.g., roads and railways, urban areas) have been increasing its surface in just about last 20 years in 45 % and 67 %, respectively. According to the literature review (Cerdà, 1994; Cerdà et al., 1999, 2007; Cerdà, 2007; Bodí et al., 2012; González-Peñaloza, 2012) these recent changes, in the study site, have caused many environmental disturbances mainly due to the lack control strategies plans of land degradation.

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