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# Assessment of land - use changes in Mediterranean wetlands

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## Abstract

Despite decades of conservation actions, wetlands have continued to disappear at global scale more rapidly than other ecosystems. The Mediterranean region is no exception. The Mediterranean Wetlands Observatory (MWO) was created in 2008 with the aim to improve wetland conservation and management by disseminating information and indicators broadly, in particular to political decision-makers, stakeholders and the general public.

Among the selected indicators, some of those related to geo-referenced data could be derived from Earth Observation tools. In this frame, the MWO has developed and tested several approaches to assess these key parameters for wetlands monitoring (e.g. wetlands extent, surface water dynamics, land use/land cover changes...). This work was done in the frame of the ESA's DUE project GlobWetland-II (GW-II, 2010-2014), and the MWO produced the first precise and quantitative report on the Land Use/Land Cover (LULC) dynamics between 1975 and 2005 in 214 Mediterranean coastal wetlands broadly distributed between 21 countries (MWO, 2014).

The main results of this assessment, based on the analysis of satellite image derived maps (Landsat time series), confirmed the importance of LULC changes as an impacting driver on the studied sites by the loss of 10% of their natural wetland habitats in 30 years (1975-2005). These impacts are observed mainly through urban expansion, agricultural threats with a direct impact on all natural habitats by their conversion into cultivated croplands, but also with an indirect impact by diverting water resources for irrigation and, finally, wetlands artificialization by the transformation of their natural habitats to artificial ones.

**Keywords:** wetlands, satellite images, Land Cover/Land Use, Mediterranean

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