

Project title: Study of Change of Land Degradation, The Effects and Environmental Evaluation on Manisa Akselendi Plain under The Effect of Wind Erosion

<b>Research Area</b>	A13 - Soil Water Resources and Environment
<b>Research Program</b>	Conservation and Development of Soil and Water Resources in Water Collection Basins
<b>Executive Institute</b>	International Agricultural Research and Training Center
<b>Supporting Institute/s</b>	-General Directorate of Agricultural Research and Policies, Soil and Water Resources Research Department -General Directorate of Nature Conservation and National Parks, 4th Division Directorate -Ege University Faculty of Agriculture Department of Soil Science and Plant Nutrition -Ege University Faculty of Agriculture Department of Landscape Architecture
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<b>Research Period</b>	1.01.2014-1.10.2019
<p><b>Project Summary:</b> Akselendi plain in Gediz basin is located within the common borders of Akhisar, Saruhanlı and Gölarmara districts which are in the Manisa province. As a result of wind erosion, sand dune movement that make up an interesting example worldwide has occurred in the plain. Wind erosion and deposition phenomena can be seen in a substantial part of the plain. In addition, a very serious wetland destruction has occurred on the plain, which used to have large areas of wetlands. Major environmental damage has occurred in the plain, where intensive agriculture is practiced, due to incorrect agricultural activities. Cartographic material and satellite imagery were used in the study. With the help of remote sensing and geographic information system techniques, the production of CORINE land use / cover maps of 1985 and 2016, land use change layer with image proportioning method and vegetation index maps of different years are the main stages. 1948, 1970 and 1995 aerial photographs, 1985 and 2016 satellite image were examined and the main anthropogenic effects were determined such as changes in agricultural areas, the nature of pastures and forests, the transformation of wetlands, deterioration of the Kumçay streambed, the formation and expansion of the sand dunes, the condition of the lands covered by the sediments carried by the winds and the sand mining. As a result of interrogation of datasets according to overlay and visual interpretation technique, land degradation map of the area was prepared. The changes in the plant pattern on the plain by using Farmer Registration System data were also examined. As a result, in the Akselendi Plain during the 68-year period, 48,84 % of the total area (225,31 km<sup>2</sup>) occurred in different types of land degradation caused by these phenomena. Wetland degradation is the first with 35,41% share and the lands covered by wind-carried sediments are in the second place with a share of 16,80 %.</p> <p><b>Keywords:</b> CORINE, NDVI, land degradation, land use/cover, change detection, wind erosion, wetland, sand dunes, forest, pasture</p>	