

INVESTIGATION OF CO₂ UPTAKE OF FORESTS IN TURKEY**A. Can¹, A.T. Atımtay²**¹*State Institute of Statistics, Ankara, Turkey*²*Environmental Engineering Department, Middle East Technical University, Ankara, Turkey*

Carbon dioxide is mainly formed from combustion of fossil fuels for the generation of energy. Together with CO₂ many other pollutants may be generated. However, CO₂ cannot be removed like other pollutants, causes greenhouse effect and ultimately climate change. Reducing the CO₂ emissions and/or increasing the CO₂ uptake is very important because of the environmental concerns and regulations, especially the Kyoto Protocol. Forests are known to be a good CO₂ sink for the removal of CO₂. In this study, CO₂ uptake capacity of forests in Turkey has been investigated for the first time by using Geographic Information System (GIS). All districts in Turkey have been considered. The necessary forest data were obtained from the inventories of the Ministry of Forestry. Scaled forest maps were prepared by using GIS programs in the paper by taking various kinds of forests into consideration. The CO₂ inventory was prepared first and the uptake was calculated by taking the total increments of the forest into consideration. Then this inventory was linked to the GIS mapping of the forested area. The uptake of CO₂ was calculated by using the FAO method. The result of this study shows that, there is no forest area in the districts of Ağrı, Iğdır and Nevşehir provinces. The maximum CO₂ uptake is in a district of Kırklareli province, Dursunbey of Balıkesir, Çan of Çanakkale with 1159, 964 and 900 thousand tons/year, respectively. The absolute necessity of forestation in the Central and Eastern Anatolia is also an important result of this study.