



The impact of anthropic activities on the primary productivity and carbon sequestered on Mount Ngaoundal in Adamawa-Cameroon

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1 ABSTRACT

This research was conducted to determine the impact of human activities on the primary production of plant species in Mont Ngaoundal. It consisted of using the MARP tools and floristic records sheets of vegetation. Plants parameters and sequestered carbon were assessed using standard equations proposed by several authors. The results indicate that Mount Ngaoundal is influenced among others by zoo-anthropogenic activities such as agriculture (13.94%), pharmacopoeia (12.98%) and ecotourism (11.50%). On a 19.2 ha surface area, the biomass produced by herbaceous species and emerging shoots was 4.780t/ha, and varied from one slope or altitude to another. On the overall, the biomass was the highest in the East (0.093t/ha), at 600m altitude (0.083t/ha), whereas the lowest was encountered in the North (0.036t/ha) and at 200m altitude (0.075t/ha). The most common signs of anthropization in the Mount were trimming of vegetation, burning of trees and cutting of firewood. A total of 4552 plant species were considered as induced by anthropization. The slope with the plant species presenting the highest anthropization indexes were the South (2160 individuals), the East (1009 individuals), while the West slope (516 individuals) was less anthropized. The most vulnerable altitude was that of 200m (1784 individuals: 39.19%), while altitude 600m (1038 individuals: 22.80%) was considered the less anthropized. The total CO₂ emitted was 478.035 tC/ha. The stock carbon was the highest in the eastern slope (0.046 tC/ha), compared to the lowest in the northern slope (0.018tC/ha). Moreover, the stock carbon was the highest at 600m altitude (0.044 tC/ha), the lowest at 400m altitude (0.038 tC/ha). It is concluded that for the sustainable management of Mount Ngaoundal, the following proposed strategies to local population are to be applied: circumscription of the sampling area; creation of roads, creation of entrance taxes, and building of rental camps.