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Calculating carbon sequestration via different methods a sample of Bartın Forestry Operation of Directorate

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Abstract: "Global warming", recently added to the major environmental problems, occupies the agenda of the entire world. It is necessary to lower the level of carbon dioxide in the atmosphere, which is considered to be the most important reason for global warming. The most practical way to do this is to absorb and store carbon dioxide in the atmosphere through woody plants. The amount of carbon stored in forests is calculated from the biomass they have. In this study, the amount of carbon stored in the field which Bartın Forestry Enterprize is responsible for was examined comparatively with 3 different methods. In the study, the volumes and areal data obtained from the forest management plans of the 8 sub-district directorates affiliated to Bartın Directorate were utilized. For this purpose, carbon calculation was carried out by the method recommended by ASAN, by the method of calculation in the FRA-2010 guide and by the method in the principles and procedures of Ecosystem-based Functional Forest Management Plans (ETFOP). As a result of the study, it was determined that 4,493,913.64 tons of carbon was stored in Bartın Forestry Enterprize via the method of ASAN while it was 4,615,243,57 tons by EFTOP and 5,222,648,52 tons by FRA-2010. The amount of carbon stored in the Bartın Forestry Enterprize including forest soil, litter and living cover and dead wood carbons was calculated as 8.744.668,32 tons with FRA-2010, 9.940.536,98 tons with ASAN's method and 10.416.550,90 tons with ETFOP. Based on the ETFOP method, which is of the highest total carbon value in total, the ASAN method bears a 4.5% lower value than that of the ASAN Method and The FRA 2010 method gives a 16% lower value.
Keywords: Carbon sequestration, Bartın, Biomass