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论文

江西省2001—2005年森林植被碳储量及 区域分布特征

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摘要:

利用"十五"期间(2001—2005年)江西省森林资源二类清查资料,根据优势树种生物量扩展方程,估算江西省森林植被的碳储量和碳密度,并分析其地理分布特征。江西省森林植被的总碳储量为263.87 Tg C(1 Tg C=10^6 t),其中林分碳储量为214.70 Tg C。在11个地市中,赣州市的森林植被碳储量最大,为70.11 Tg C,其次是吉安市、上饶市和宜春市。江西省森林植被的平均碳密度为26.27 t/hm^2,林分平均碳密度为27.20 t/hm^2,各地市森林植被的平均碳密度景德镇市最大,为31.65 t/hm^2,其次为宜春市、吉安市和鹰潭市。各森林类型中,杉木(*Cunninghamia lanceolata*)林的碳储量最大,为73.77 Tg C,占江西省林分碳储量的34.36%;硬阔林的碳密度大于其他类型森林,为42.64 t/hm^2,是江西省森林植被平均碳密度的1.5倍多。幼、中龄林的碳储量占全省林分碳储量的81.95%,碳密度随着龄级的增长而增加。

关键词: 生物量 生物量转换因子 森林清查资料 碳密度

Carbon Storage of Forest Vegetation and Its Geographical Pattern in China's Jiangxi Province During 2001-2005

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Abstract:

Based on the second-class forest inventory data of Jiangxi Province during the Tenth Five-year Plan period (2001-2005), the carbon storage of forest ecosystems was estimated by regression equations between biomass and timber volume for dominant tree species, and its spatial pattern was analyzed. The total carbon storage of forest vegetation (including understory) was 263.87 Tg C (0.26387 billion tons), including 214.70 Tg C of forest stands (tree layer only). Among the 11 prefectures or cities,Ganzhou City possessed the largest amount of 70.11 Tg C, followed by Ji’an, Shangrao and Yichun counties in sequence. The average carbon densities of forest vegetation and forest stands were 26.27 t/hm^2 and 27.20 t/hm^2, respectively. The densities varied among districts, with the highest in Jingdezhen city, 31.65 t/hm^2, followed by Yichun, Ji’an and Yingtan, in sequence. Among the forest categories, *Cunninghamia lanceolata* plantation had the largest storage of 73.77 Tg C or 34.36% of the total carbon storage. The carbon density of broad-leaved forest was 42.64 t/hm^2,1.5 times of the average value of the whole province. Increasing with developing stage, the carbon storage of young and middle age forest stands accounted for 81.95% of the total storage in the province.

Keywords: biomass biomass expansion factor forest inventory data carbon density

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