

研究报告

基于森林调查数据的长白山天然林森林生物量相容性模型

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摘要 森林生物量估算是进行陆地生态系统碳循环和碳动态分析的基础, 但现有估测模型存在着总量与分量不相容的问题. 本文以吉林省汪清天然林区为例, 提出了基于森林调查的相容性森林生物量模型设计思想, 并采用联立方程组为不同森林群落构造了一系列引入林分蓄积因子的相容性生物量模型, 得到的预估精度较高. 其中, 针叶林、阔叶林和针阔混交林群落的森林生物量模型预估精度均在95%以上, 基本上解决了森林生物量模型的相容性问题.

关键词 [天然林](#) [森林生物量](#) [估测](#) [森林调查](#) [相容性模型](#)

分类号

Compatible biomass estimation models of natural forests in Changbai Mountains based on forest inventory

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Abstract

Forest biomass estimation is the groundwork of analyzing carbon cycle and its dynamics in terrestrial ecosystems, but the current estimation models had the problem of un-compatibility between total forest biomass and its components. Taking the Wangqing natural forest area in Jilin Province as a case, the compatible concept of building forest biomass models based on forest inventory was brought forward. A series of compatible biomass estimation models, taking stem volume as one of the independent variables, were established by using simultaneous equations. The accuracy of the models in estimating the biomass of coniferous forest, broad-leaved forest, and mixed forest was all higher than 95%, suggesting that these models basically solved the problem of un-compatibility between total forest biomass and its components.

Key words [natural forest](#) [forest biomass](#) [estimation](#) [forest inventory](#) [compatible model](#)

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