应用生态学报 » 2014, Vol. 25 » Issue (1): 263-271 DOI:

全球植被动力学模型研究综述

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Review of dynamic global vegetation models (DGVMs).

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摘要

全球植被动力学模型(DGVM)是研究陆地生态系统碳循环过程的重要手段，是进行植被动力学模拟的有效工具.本文对DGVM的发展进行概述，探讨了DGVM的基本结构，介绍了国际上应用较广泛的CLM DGVM、LPJ、IBIS和SEIB模型，并针对植被动力学机制指出了DGVM在植被功能型方案、植被竞争、干扰和物候方面普遍存在的不足.最后，文章从改善植被功能型方案、完善植被动力学机制和开展模型比较计划方面,对DGVM研究方向进行了展望.

关键词： 全球植被动力学模型 植被功能型 陆地生态系统模型

Abstract:

Dynamic global vegetation model (DGVM) is an important and efficient tool for study on the terrestrial carbon circle processes and vegetation dynamics. This paper reviewed the development history of DGVMs, introduced the basic structure of DGVMs, and the outlines of several world-widely used DGVMs, including CLM-DGVM, LPJ, IBIS and SEIB. The shortages of the description of dynamic vegetation mechanisms in the current DGVMs were proposed, including plant functional types (PFT) scheme, vegetation competition, disturbance, and phenology. Then the future research directions of DGVMs were pointed out, *i.e* . improving the PFT scheme, refining the vegetation dynamic mechanism, and implementing a model inter-comparison project.

Key words: dynamic global vegetation model vegetation functional type terrestrial ecosystem model.

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