<<土地系统变化动力学与效应模拟>>

图书基本信息

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内容概要

本书系统介绍了作者自主研发的土地系统变化动力学与效应模拟的三层次结构模型的构架、模块和原理。
重点介绍了构成模型的三大模块——基于CGELUC的区域土地利用结构预测、基于DLS的栅格尺度土地利用格局模拟、基于ESLP的土地系统变化效应评估模块——的功能与应用。
适用于土地利用与土地系统、区域环境变化、生态保育规划等专业的研究者参考，同时也能为土地资源开发利用管理部门与环境保护部门提供借鉴。

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其关注土地系统中人与环境相互作用的机理及其对土地利用格局与过程的影响 研究。
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书籍目录

章节摘录

版权页：插图：An important part of land system research involves changing land use types based on the theory of land prices, promoting the appropriate use of landuse economics and reinforcing land management and protection, allowing the regulatory hmction of the market to dominate （Annie et al., 2000）. The so-cial asset attributes of land determine that it has special use values. The use value of land is represented by the function of the land system and the land value reflects the properties of the land as commodities （de Koning et al.,1999）. Land price is the currency of land value, which depends on landchaacteristics such as area, location, fertility and improvability （Krause, 2002）.Land price is also influenced, either directly or indirectly, by invest ments,supply and demand, location （accessibility）, polices and other social, eco-nomic and cultural factors （McIntyre and Lavorel, 2007）. The land price canbe improved, and land use efficiency can be maximized by optimizing theland use, continually improving the soil fertility, improving the land quality,constructing transportation networks, changing the infrastructure associatedwith land, increasing labor inputs, and realizing intensive land manaement.Additionally, land planning has also been shown to be an important factoraffecting land price.Overall, land system research has introduced aspects of "systems think-ing" in regards to the characteristics of the land system such as concepts of wholeness, complexity, ordering, relatedness and dynamics. It has proposedbasic principles including: the need for overall, comprehensive, connectionand development viewpoints; developing and updating the methodologies ofthe land system research based on previous research; turning the "factor anal-ysis method" into the "systems analysis method"; emphasizing the relation-ship between cognitive and practical processes of land development as well asthe combination of qualitative analysis and quantitative study; and improv-ing the rationality, objectivity, rigor, predictability and practicality of landsystem research by integrating the achievements of various subjects, such asmathematical methods （including probability theory, operational research,mathematical statistics and fuzzy mathematics）, computer technology, thequantification and automation of RS technology, and GIS.

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