研究报告

基于ComGIS的区域景观格局监测信息系统

董有福[1]；全志杰[2]；赵永华[3]

[1]南京工业大学土木工程学院，南京　210009;[2]西北农林科技大学林学院，杨凌 712100;[3]中国科学院沈阳应用生态研究所树木园，沈阳　110016

摘要

从区域景观生态数据科学管理和景观格局动态分析的需要入手，以陕北纸坊沟流域作为设计和应用实例，采用地理信息系统组件MapX与可视化编程语言Delphi相结合的方式研制和开发了区域景观格局监测信息系统；文中首先对系统设计路线和建立方法进行简要说明，然后详细介绍了系统的基本结构和功能；该系统主要由数据管理模块、查询管理模块、景观指标分析和景观预测模块组成，实现了景观属性和景观图形数据的有机集成和高效管理，提供景观空间信息的显示、定位和交互查询，在此基础上计算景观类型和整个景观层次上的各种景观指数来实现景观格局综合分析，并且能够对景观发展趋势进行模拟预测,同时可以动态生成统计图表，形象直观地反映出不同时期内景观格局的发展变化规律.

关键词　　ComGIS；景观格局；景观监测；管理信息系统

分类号

ComGIS-based regional landscape pattern monitoring information system

DONG Youfu[1],QUAN Zhijie[2],ZHAO Yonghua[3]

[1]College of Civil Engineering,Nanjing University of Technology,Nanjing 210009,China;[2]Forestry College,Northwest Sci-Tech University of Agriculture and Forestry,Yangling 712100,China;[3]Shenyang Arboretum,Institute of Applied Ecology,Chinese Academy of Sciences,Shenyang 110016,China

Abstract

Based on the requirement of scientifically managing landscape ecological data and dynamically monitoring regional landscape pattern,and with the Zhifanggou region in North Shaanxi Province as an example,this paper developed a regional landscape pattern monitoring information system (RLPMIS) by the combination of Delphi and MapX.The planning route and establishing method of the system were simply explained,and its basic structure and function were explicated.This system was mainly divided into four parts,　i.e.,data management module,query management module, landscape index analysis module,and landscape forecasting module.In this system,the graphics and the attributes of the landscape data were integrated entirely and managed effectively,and thus,the spatial information could be displayed,located and inquired in the RLPMIS.The landscape pattern could be comprehensively analyzed based on the various landscape indexes of landscape elements or whole landscape being calculated,and the landscape developing trend could be forecasted and simulated.At the same time,the statistical graph and table,which visually

reflected the landscape pattern,developed and changed disciplinarian in different periods,could be dynamically generated.

Key words

通讯作者