

遥感应用

基于多源遥感数据的区域景观格局尺度效应

摘要:

无论在景观生态学还是在遥感领域,尺度问题都是非常重要的问题,目前已有的研究主要考虑景观的粒度效应,很少涉及遥感影像空间分辨率对景观格局的影响。在遥感和地理信息系统软件的支持下,利用多源遥感影像,结合研究区的特点进行了景观分类,并从不同遥感数据的空间分辨率角度进行空间粒度放大试验,探讨景观格局的尺度效应。研究表明:基于不同空间分辨率遥感影像的土地利用空间数据具有尺度效应,其所反映的区域土地利用景观格局在宏观上是一致的,但类型的边界、形状和数量均产生较大的差异;景观格局指数能反映不同遥感影像所记录的地表信息,从不同遥感数据源、不同空间分辨率的角度定量化判断尺度放大过程中区域土地利用景观特征信息的尺度效应。

关键词: 遥感 景观格局 尺度效应

Scale Effect of Regional Landscape Pattern Based on the |Multi Source Remote Sensing Data

Abstract:

Scale is an important issue both in landscape ecology and remote sensing. Choosing data of proper resolution has always been a big problem for landscape pattern analysis using satellite images. Although many studies have been conducted trying to investigate the effects of remote sensor spatial resolution on landscape pattern analysis, changing grain size is much more concerned by scientists. The effects of remote sensor spatial resolution on landscape pattern analysis have rarely been reported. Based on multi source remote sensing image and with the helper of ERDAS and ARCGIS software, the landscape of study area was classified. A test to increase spatial grain has been conducted to discuss scale effect of landscape pattern from the perspective of spatial resolution of different remote sensing data. It is shown that, The land use spatial data derived from the different remote sensing images have different scale effect in some way. In the general, the regional landscape patterns, represented by the images of different spatial resolution from different sensors, are consistent, however it has great diversity in the boundary, shape and quantity of the land use types; the landscape indices can reflect the information of various remote sensing images, and indicate the grain effect of landscape character information with scaling up methods from the different remote sensing data and different spatial resolution.

Keywords: remote sensing landscape pattern scale effect

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