

研究报告

基于RS和GIS的毛乌素沙地植被盖度定量估测

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摘要

选取毛乌素沙地东北部的伊金霍洛旗为研究区域, 以少量野外定位调查数据与其对应的遥感信息和GIS信息为基础, 利用岭估计分析方法, 对植被盖度估测模型及其影响因子进行系统研究. 结果表明, 植被盖度除受NDVI影响外, 还与其他遥感信息紧密相关, 岭估计方法明显地改善了最小二乘估计的缺陷, 克服了变量间由于存在复共线性关系对求解待定参数所造成的不利影响, 提高了估测精度. 建立了以像元为单位的植被盖度估测模型, 其模型检验精度达98.7%. 此外, 还建立了区域性植被盖度地理信息系统, 实现了研究区域内任意一点(像元)或任意土地单元植被盖度的查询、更新及自动制图.

关键词 [植被盖度](#); [岭估计](#); [定量估测](#); [RS](#); [GIS](#)

分类号

Quantitative estimation of vegetation coverage in Mu Us sandy land based on RS and GIS

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Abstract

On the basis of oriented field investigation data and corresponding RS and GIS information, and by the method of ridge estimation, this paper studied the estimation model of vegetation coverage and its affecting factors in Yijinholo County of northeast Mu Us sandy land. The results showed that the vegetation coverage was affected by NDVI, and closely linked with such RS and GIS information as, TM_7 , TM_2 , $TM_{4/3}$ and gradient. Ridge estimation method could obviously improve the limitation of Least Square method, eliminate the adverse effects caused by existing complex estimation relation towards uncoiling undetermined parameter among the variables, and improve the estimate precision. The vegetation coverage estimation model taking pixel as unit was established, and its test precision could reach 98.7%. In addition, a regional vegetation coverage GIS was established, which could realize the inquiry, regeneration, and drawing of any spot (pixel) or any land unit of vegetation coverage automatically.

Key words [Vegetation coverage](#) [Ridge estimation](#) [Quantitative estimation](#) [RS](#) [GIS](#)

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