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遥感应用

基于CART决策树与最大似然比法的植被分类方法研究

摘要：

结合阿坝若尔盖县大骨节病典型病区植被分布特点，选用不同时相SPOT4及ETM遥感数据，提出了将较易实现的CART决策树算法与最大似然比分类法有机结合在一起进行植被分类的方法。决策树算法能很好地区分植被大类，分类精度达到96%，但是无法确定区分乔木亚类的阈值；最大似然比法整体分类精度不高，仅为84%，但是针对乔木亚类的分类精度能达到94%，将两种算法综合利用，最终总分类精度达到95.05%，Kappa系数达到0.9016。良好的分类结果不但为研究该区植被覆盖状况与发病率关系提供了很好的一手资料，并且分类算法较易实现，尤其对于新入门者较为实用和快捷。

关键词： 植被分类 决策树算法 最大似然比法

Research on Vegetation Classification Method Based on Combined Decision Tree Algorithm and Maximum Likelihood Ratio

Abstract:

This easier method that combined decision tree algorithm and maximum likelihood ratio is proposed aiming at vegetation distribution characteristic at Kashin Beck disease region of Ruoergai County in Aba, using Spot 4 and ETM data of different time.Decision tree can plot out main category except arbor subturma; the precision of Maximum likelihood ratio is lower, only 84 percent, however, 94 percent for arbor subturma.The precision of the class is up to 95.05 percent if it combined with the two methods, Kappa coefficient is 0.9016.The method provides helpful source for studying the relation between vegetation coverage and morbidity, and it is very useful and convenient for beginner.

Keywords: vegetation classification decision tree algorithm maximum likelihood ratio method

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通讯作者:

作者简介: 张晓娟（1981~）|女|工程师|主要从事遥感技术在水工环领域应用与研究工作。

作者Email: zxj_3004@sina.com

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