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遥感应用

基于ISODATA法的冬小麦产量分级监测预报

摘要:

以江苏省姜堰市为例,进行了基于TM卫星遥感技术和小麦估产模型的冬小麦产量监测研究。在利用GPS实地采样调查和建立解译标志的基础上,通过影像校正、采用优化的ISODATA分类方法,结合人机交互式判读解译等操作,将样点的作物信息数据贯穿到整个校验分类过程中,信息解译精度在90%以上。利用分类提取的冬小麦数据,反演叶面积指数、生物量信息等,结合冬小麦估产模型,计算单点产量信息,经过线性转换,对整个区域的冬小麦产量进行监测预报,并制作了冬小麦产量分级专题图。

关键词: TM影像 非监督分类 冬小麦 产量分级

A Classification of |Wheat Yield by Remote Monitoring Based on Optimization ISODATA

Abstract:

The use of Landsat TM satellite remote sensing technology and wheat yield estimation model to monitor the winter wheat planting area and estimate winter wheat yield in Jiangyan City, Jiangsu Province. In November 2008, 10 test sites and 4 test areas were distributed almost all over the county. The geographical position and some other information of these samples such as areas shapes, had been measured by the hand hold GPS machines. The GPS data and the interpretation mark are used to correct TM image, verify the unsupervised classification, assist human computer interactive interpretation, and other operations. The test data had been participated the whole classification process. The accuracy of interpret information is more than 90%. The leaf area index (LAI) got from the Normalized Difference Vegetation Index (NDVI) inversion and the biomass from the Ratio Vegetation Index(RVI) inversion, combine with the wheat yield estimation model can be classified the winter wheat yield, and made a winter wheat crop production Grading thematic map.

Keywords: TM image unsupervised classification winter wheat yield classification

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