遥感应用

基于层次分析法的加权VTCI和小麦产量分析

摘要：

　　针对干旱对农业生产的影响，选取关中平原冬小麦时间序列的条件植被温度指数（VTCI）遥感干旱监测结果，采用层次分析法确定了冬小麦不同生育期旱情对产量影响的权重系数，计算加权VTCI，并应用一元线性回归分析了加权VTCI指数与县域尺度单产统计数据间的相关关系。通过对关中地区5市2000年～2007年主要生育期的VTCI和单产分析，表明关中大部分地区加权VTCI和单产有着较好的线性相关关系，同时验证了用VTCI监测关中的旱情是可行的。

关键词： 影响评估　条件植被温度指数　层次分析法　小麦

A Method of Estimating Drought Impact on Wheat Yield Based on |Weighted Vegetation Temperature Condition Index in Analytic Hierarchy Process

Abstract:

　　The time series drought monitoring results of Vegetation Temperature Condition Index （VTCI） of winter wheat in the Guanzhong Plain were used to develop an approach of estimating drought impact on wheat yield.Weighted VTCI values in the key growth periods and development stages of winter wheat were calculated by using analytic hierarchy process method in the five covered areas in the Guanzhong Plain，China.A linear correlation analysis was applied to study the correlation between wheat yields and the weighted VTCI values of the years 2000　2007.The results show there is significant correlation between wheat yield and weighted VTCI values in most part of the Plain，and they also prove that VTCI is feasible to monitor the drought in Guanzhong Plain.

Keywords: impact estimation　vegetation temperature condition index　analytic hierarchy process　wheat

通讯作者：

作者简介：孙月青（1983～）|女|河北邯郸人|硕士研究生|研究方向为遥感技术和图像处理

作者Email: yueqing124@163.com