

基于MODIS-NDVI的天山北坡中段草地动态估产模型研究

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摘要:

利用EOS/MODIS卫星遥感数据,以天山北坡中段山地草原带为典型研究区,进行草地生物量变化动态监测。运用植被指数最大合成法,分析了研究区草地植被指数的时空变化特征,以及植被指数NDVI与地上生物量的相关关系,建立了MODIS NDVI在山地草甸草原、山地草原和山地荒漠草原上不同季节的生物量动态估测模型。结果表明:3种草地类型的最优动态估产模型分别是一元线性回归模型、二次曲线回归模型、幂函数曲线模型,估产精度分别达到83.06%、90.85%、88.06%。

关键词: EOS/MODIS; 植被指数; 动态监测; 估产模型

Research on dynamic estimation models of grassland based on MODIS NDVI in the middle section of northern hillside of Tianshan Mountain

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Abstract:

Taking the grassland in middle section of the northern hillside of Tianshan Mountain as a typical study area, this research utilized EOS/MODIS satellite remote sensing data to process the dynamic monitoring of biomass change of grassland. The article analyzed the spatio-temporal change characteristic of vegetation index, as well as the correlativity between NDVI and aboveground biomass with MODIS vegetation index, consequently established the MODIS NDVI of biomass dynamic estimation model in different seasons at mountain meadow grassland, mountain grassland and mountain desert grassland. The result indicated that the optimal dynamic yield estimation models of three types of grassland were the linear regression model, quadratic curve regression model, and the power function curve model, and their yield estimation accuracy reached 83.06%, 90.85%, 88.06%, respectively.

Keywords: EOS/MODIS vegetation index dynamic monitoring yield estimation model

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