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前植物生产层

基于净初级生产力变化的草地退化监测研究

吴红, 安如, 李晓雪, 曲春梅, 陆玲, 杨仁敏, 龚天宇

摘要:

青海省玛多县是黄河源乃至整个三江源地区草地退化的典型区域。本研究利用2008年玛多县TM影像数据结合相关辅助数据,以光能利用率模型为基础,反演研究区草地净初级生产力(net primary productivity,NPP)。并以NPP减少的百分数D(由实际NPP和潜在NPP计算)作为指标,提取2008年玛多县草地退化信息。通过与玛多县1997年草地资源调查结果对比,至2008年玛多县重度退化草地面积减少了5 944 km<sup>2</sup>,且主要发生在北部。对监测结果进行分析发现,草地退化与草地类型有关系,表现为高寒草原类草地退化最为严重,高寒草甸其次,沼泽类草地情况较好。

关键词: 黄河源区 玛多县 草地退化 遥感监测 草地NPP TM

Remote sensing monitoring of grassland degradation based on NPP change in the Maduo County of the sources region of Yellow River

WU Hong, AN Ru, LI Xiao xue, QU Chun mei, LU Ling, YANG Ren min, GONG Tian yu

Abstract:

Maduo County is a typical grassland degradation area in the sources region of Yellow River or even in the sources region of the Sanjiangyuan (the Yangtze River, the Yellow River, and the Lancang River). In this study, the net primary productivity (NPP) of the grassland was derived from the Landsat TM data and the relative auxiliary data in 2008 based on CASA model. Furthermore, taking the reduced percentage of the NPP as measurement index, grassland degradation information was obtained. Compared the grassland degradation information in 2008 to those in 1997, this study showed that the area of severely degraded grassland decreased by 5 944 km<sup>2</sup>; and distributing in the north region of Maduo County. The monitoring results also showed that grassland degradation level was related to grassland type. Alione steppe was severe degradation, and alpine meadow was middle degradation, wetland was light degradation.

Keywords: the source region of the Yellow River Maduo County grassland degradation remote sensing monitoring grassland NPP TM

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