

前植物生产层

青海省玛多县草地退化现状及动态变化研究

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摘要:

本研究以三江源玛多县为例, 在构建草地退化指数的基础上, 建立草地退化指数与植被指数的遥感评价模型, 得到2009年玛多县草地退化现状, 并结合玛多县20世纪80年代和90年代草地资源调查结果, 分析玛多县草地退化动态变化状况。结果表明: (1) 草地退化地面综合评价指标中植株高度、植被覆盖度和生物量权重分别为0.21、0.39和0.40; (2) 草地退化指数与多种常用植被指数的相关性分析中, 与MSAVI的相关性最高, 呈显著相关关系, 模型可定量表达为 $Y=1.02+0.50 \ln X$; (3) 2009年玛多县草地覆盖面积约222万hm², 其中草地退化面积达176万hm², 占草地总面积的79%; 以轻度和中度退化为主, 占草地总面积的66.5%; (4) 随着三江源自然保护区的建立, 大量生态保护建设工程的实施, 玛多县草地退化由90年代的以重度和中度退化为主, 转变为以轻度和中度退化为主, 重度退化程度也改善到80年代水平。但草地退化面积依然在不断扩张, 2009年草地退化面积比1997年增加了15万hm², 12年间增加了10%。

关键词: 草地退化指数; 现状; 动态变化; MSAVI; 玛多县

Research on the status and the dynamic of grassland degradation in Maduo County, Qinghai Province

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Abstract:

To understand the status a of grassland degradation of Maduo County in 2009, a remote sensing assessment model between the grassland degradation index and vegetation index was established, further, according to the survey of grassland resources in the 1980s and 1990s, the dynamics of grassland degradation in the past 20 years was analyzed. The resultsts showed: (1)The weigh of plant height, vegetation cover and biomass were 0.21, 0.39 and 0.40 among evaluation index. (2) MSAVI significantly correlated with grassland degradation index compared to the other vegetation index. The model can be quantitatively expressed as: $Y=1.02+0.5 \ln X$. (3) Grassland area of Maduo County is about 2.22 million ha in 2009, and the area of grassland degradation is 1.76 million ha, accounting for 79% of the total area of grassland. Most of the grassland degradation were mild and moderately degraded, accounting for 66.5% of the total area of grassland. (4) With the establishment of the Sanjiangyuan Nature Reserve and a large number of ecological protection and construction project implementation, grassland degradation changed from the most severe and moderate in 1990s to the degradation of most mild and moderately degraded. Severe degradation had also been improved to the level of 1980s. However, the continuous expansion of grassland degradation is still. Area of grassland degradation increased from 1997 to 2009 by 15 million hectares amounted to 10% during 12 years.

Keywords: grassland degradation index status dynamic changes MSAVI Maduo County

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