

研究论文

近30a来若尔盖盆地沙漠化时空演变过程及成因分析

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摘要:

在遥感(RS)和地理信息系统(GIS)技术的支持下,采用1975年的MSS影像和2005年的TM影像对若尔盖盆地土地沙漠化的时空演变进行了监测。研究发现,从1975年到2005年的30年间,若尔盖盆地的沙漠化土地以年均70.18 km<sup>2</sup>的速度发展,共增加了2 105.36 km<sup>2</sup>,其中主要以中、轻度沙漠化土地的增加为主,增加面积分别为957.13和1 146.75 km<sup>2</sup>;重度沙漠化土地变化很小,仅增加了1.48 km<sup>2</sup>。在1965—2007年,若尔盖盆地年平均气温升高了1.41℃,年平均降水减少了34 mm,人类活动对环境的破坏作用加强,严重过度放牧,因此该地区沙漠化发展是自然环境变化和人类活动共同作用的结果。

关键词: 若尔盖盆地 沙漠化 遥感监测 黄河源

Spatial and Temporal Change of Desertification Land of Zoige Basin in Recent 30 Years and Its Cause Analysis

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Abstract:

In this study, Landsat MSS images in 1975 and Landsat TM images in 2005 were used to monitor the development of land desertification in Zoige Basin with the assistance of RS and GIS techniques. The result shows that the area of desertification land increased by 2 105.36 km<sup>2</sup> in this region from 1975 to 2005, nearly at the rate of 70.18 km<sup>2</sup>/a. The increased desertification land is mainly of moderately and slightly desertified ones, and the area of which is 957.13 km<sup>2</sup> and 1 146.75 km<sup>2</sup> respectively, but severely desertified land just increased by 1.48 km<sup>2</sup>. Annual mean temperature increased by 1.41℃ from 1965 to 2007. Meanwhile, annual mean precipitation decreased by 34 mm. At the same time, human activities, especially over grazing, strongly disturbed the eco environment of this region. Therefore, it can be concluded that the compound effect of natural and anthropogenic factors is the reason for the rapid development of desertification land in the basin.

Keywords: Zoige Basin; Desertification; Remote sensing monitoring; Source region of the Yellow River

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