



玉龙雪山南坡林线附近的地面温度场特征分析

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Analysis of ground surface temperature pattern near timberline on the southern slope of Mt.Jade Dragon

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全文: PDF (1463 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 选取玉龙雪山南坡林线附近区域为研究区,用转化糖方法测定高山地段不同景观部位的效应温度,通过Kriging插值得到研究区域的温度场格局,以此为基础探讨山地景观尺度的地面温度特征及其变化规律.结果表明:①海拔梯度的影响,仍是控制研究区地面温度特征的主导因素,但温度变化并不完全遵循山地温度的垂直递减规律;②林灌草3类植被分布区域的地面温度差异显著,林地的效应温度总体高于草甸和灌丛的温度,但草甸区域的坡面温差大于林灌分布区;③研究区域在草甸内的温度随着海拔增加而递减,但在森林分布区的温度变化规律则完全相反.因而山地地面温度的影响除了考虑海拔的作用外,还需综合考虑下垫面和坡向的差异.

关键词: 效应温度 林线 海拔 玉龙雪山

Abstract: In this study, we used sugar-inversion method to measure mountain ground surface temperature near timberline on the southern slope of Mt.Jade Dragon. Temperature contour map was drawn using the Kriging interpolation method in the GIS software,based on the data of field work on effective temperature at different topographical sites.Then we analyzed and discussed the ground temperature field characteristics and found that,①Altitude gradient was still the key factor influencing the pattern of surface temperature,which did not totally follow the temperature lapse law;②The forests, shrubs and meadows had different ground temperature respectively,and the difference between the above three underlying surfaces was significant.The effective temperature was higher in forests than in meadows and shrubs,while the meadows had higher variance than that in forest and shrubs;③ As the altitude increased,the temperature decreased in meadow while increased in the forest.Based upon the findings we hold that when the mountain ground surface temperature was analyzed at the landscape scale, the underlying surface,slope orientation along with the altitude should all be taken into account.

Key words:

收稿日期: 2009-10-16;

引用本文:

黄晓霞,和克俭,秦雨. 玉龙雪山南坡林线附近的地面温度场特征分析[J]. 云南大学学报(自然科学版), 2010, 32(6): 680-684 .

\$author.xingMing_EN,\$author.xingMing_EN,\$author.xingMing_EN. Analysis of ground surface temperature pattern near timberline on the southern slope of Mt.Jade Dragon[J]. , 2010, 32(6): 680-684 .

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编辑出版：云南大学学报编辑部（昆明市翠湖北路2号，650091）

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