点击复制

内蒙古乌审旗风沙活动规律研究(PDF)

工具/TOOLS

引用本文的文章/References

下载 PDF/Download PDF(2047KB)

立即打印本文/Print Now

推荐给朋友/Recommend

作者:　吴晓旭[1; 2; 3]; 邹学勇[1; 2]

1. 北京师范大学地表过程与资源生态国家重点实验室, 北京 100875;

2. 北京师范大学防沙治沙教育部工程研究中心, 北京 100875;

3. 北京师范大学全球变化与地球系统科学研究院, 北京 100875

Author(s):　WU Xiao-xu[1; 2; 3]; ZOU Xue-yong[1; 2]

1. State Key Laboratory of Earth Surface Processes and Resources Ecology, Beijing Normal University, Beijing 100875, China;

2. China MOE Engineering Research Center of Desertification and Blown-sand Control, Beijing Normal University, Beijing 100875, C

摘要:　对乌审旗境内的的乌审召、达布察克镇和河南乡3个气象站记录的沙尘天气和风速风向数据进行了分析计算.结果表明,每年平均沙尘暴日数都在6d以上,其中扬沙型风沙天气占76%,其余为扬沙-沙尘暴型的沙尘天气.风沙活动日数年际变化较大,1978年以来呈减少趋势.风沙活动强度自北向南逐渐减弱,起沙风持续时间以北部的乌审召乡最长,达到10518h.,其次是达布察克镇,为2988h.,河南乡最小,为2736h.境内的主害风为西北风,包括WNW,NW,NNW,N、W五个风向,多年平均起沙风的持续时间占所有起沙风的74.2%.乌审旗整体处于中风能环境,境内合成输沙量最大的乌审召为17504.19kg/(m·a),达布察克镇与河南乡分别只有乌审召的1/4左右.在W,WNW,NW,NNW,N五个风向上的输沙量总和平均占各站总输沙量的76%左右.因此,应在该旗上风向加强风沙灾害的监测与防治.

Abstract:　Calculation based on data of sand-dust weather,wind-speed and wind direction recorded in three weather stations in Uxin Qi shows that annual sandstorm days are more than six days.Blowing-sand type is the dominant phenomenon,occupying 76% of all dust weathers.Others are blowing sand-sandstorm weathers.Interannual blowing-sand activity days change greatly and show decreasing trend since 1978.Intensity of blown-sand activity shows a trend of gradual decrease from north to south.Spatially duration time of effective sand-moving winds is longest in Wushenzhao with 10518 h,middle in Dabchiak with 2988 h and shortest in Henan Township with 2736 h.Winds causing sand-blown disasters are mainly northwest ones clustered in five directions including W,WNW,NW,NNW and N accounting for 74.2%.Uxin Qi as a whole is in a middle wind power environment.Sum of sediment

discharge is greatest in Wushenzhao reaching 17504.19 kg/(m • a) whereas that in Dabchiak and Henan Township respectively closes to 1/4 of that in Wushenzhao.Sum of sediment discharge in five wind directions including W,WNW,NW,NNW and N accounts for 76% of total in each weather station.Therefore,monitoring and prevention of sand-blown disasters should be strengthened on the windward side hand direction of Uxin Qi.

参考文献/REFERENCES

[1] Skidmore E L.Soilerosion by wind.In:El-Baz F,Hassan M H A.Physics of Desertification[M].Dordrecht:Marti-nus Nijhoff Publishers,261-273.

[2] 朱震达.中国沙漠、沙漠化、荒漠化及其治理对策[M].北京:中国环境出版社,1999:113-115.

[3] 刘贤万.实验风沙物理与风沙工程学[M].北京:科学出版社,1995:122-132.

[4] 吴正.风沙地貌与治沙工程学[M].北京:科学出版社,2003:315-316.

[5] 俎瑞平,张克存,屈建军.塔克拉玛干沙漠风沙活动强度特征[J].地理研究,2005,24(5):699-707.

[6] 吴波,慈龙骏.毛乌素沙地景观格局变化研究[J].生态学报,2001,21(02):191-196.

[7] 李智佩,岳乐平,薛祥勋,等.毛乌素沙地东南缘不同成因类型土地沙漠化的特征[J].地质通报,2006,25(5):590-596.

[8] 吴薇.毛乌素沙地沙漠化过程及其整治对策[J].中国农业生态学报,2001,9(3):15-18.

[9] 杨永梅.毛乌素沙地沙漠化驱动因素的研究[D].杨林:西北农林科技大学,2007.

[10] 任仓钰.毛乌素沙地沙漠化原因探讨[J].地质灾害与环境保护,2002,13(2):30-31.

[11] 郝成元.毛乌素地区沙漠化驱动机制研究[D].济南:山东师范大学,2007.

[12] Wu Bo,CiLong jun.Land scape change and desertification development in the Mu Us Sand land,Northern China [J].Journal of aridenvironm 2002(50):429-444.

[13] 刘德松.毛乌素沙区及其周围的气候和沙漠化研究[J].干旱区研究,1991(2):56-60.[14] 陈渭南,董治宝,杨佐涛,等.塔克拉玛干沙漠的起沙风速[J].地理学报,1995,50(4):360-367.

[15] 凌裕泉.最大可能输沙量的工程计算[J].中国沙漠,1997,17(4):362-368.

[16] Bullard J E.Anote on the use of the fryberger method for evaluating potential sandtransport by wind[J].Journal of Sedmientary Research,1997,67:499-501.

[17] LancasterN.Wind and sand movement in the Namibsandsea[J].Earth Surface Processes and Land forms,1985,10:607-619.

[18] Livingstone,IWarren A.Aeolian Geomorphology:an Introduction[M].London:Addison Wesley Longm an Lmiited,1996:22-23.

[19] Fryberger S G.Dune form and wind regmie[J].US Geological Survey Professional Paper,1979,1052:137-169.

[20] Bagnold R.A.The movement of desertsand[J].Proceed ings of the Royal Society of London.Series A.1936,157:594-260.

[21] 凌裕泉.输沙量(率)水平分布的非均一性[J].实验力学,1994,9(4):352-356.

[22] 凌裕泉.最大可能输沙量的工程计算[J].中国沙漠,1997,17(4):362-368.

[23] 吴晓旭,邹学勇,王仁德,等.内蒙古乌审旗土地沙漠化退化过程研究[J].水土保持研究,2009,16(1):136-140.