A Big Earth Data Platform for Three Poles

**Distribution of disaster susceptibility of circum-Arctic (2015-2020)**

1、Description

According to the inducing factors of potential thermal melting disasters (mainly thermal melting landslides) in the pan Arctic, including temperature (freezing and Thawing Environment), rainfall, snow cover, soil type, topography and landform, and underground ice content, based on the basic data provided by the big data resource database of the earth, machine learning methods (logic regression, random forest, artificial neural network, support vector machine, etc.) are adopted, and the currently interpreted thermal melting landslides in the northern hemisphere are taken as training samples, Finally, the zonation map of thermal melt disaster susceptibility (occurrence probability) in the pan Arctic was obtained. According to the sensitivity of driving factors, it is found that climate factors (temperature and rainfall) have the largest contribution to the occurrence and distribution of thermal melt disasters, followed by slope factors, and ice content and radiation also have a high contribution.

2、Keywords

Theme：Frozen Ground
Discipline：Cryosphere
Places：Pan-Arctic Region
Time：2015-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：6.13MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：180.0 | - | east：180.0 |
| - | south：0.0 | - |

5、Time frame:2014-12-31 16:00:00+00:00--2020-12-30 16:00:00+00:00

6、Reference method

References to data:

NIU Fujun. Distribution of disaster susceptibility of circum-Arctic (2015-2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2727432022

References to articles:

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

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