A Big Earth Data Platform for Three Poles

**Regional landslide sensitivity analysis system source code based on optimal combination strategy**

1、Description

1) In mountainous areas, due to the complex topographic and geological background conditions, landslides are very easy to occur triggered by external factors such as rainfall, snow melting, earthquake and human engineering activities, resulting in the loss of life and property and the destruction of the natural environment. In order to meet the safety of project site construction, the rationality of land use planning and the urgent needs of disaster mitigation, it is necessary to carry out regional landslide sensitivity evaluation. When many different evaluation results are obtained by using a variety of different methods, how to effectively combine these results to obtain the optimal prediction is a technical problem that is still not difficult to solve at present. It is still very lack in determining the optimal strategy and operation execution of the optimal method for landslide sensitivity evaluation in a certain area. 2) Using the traditional classical multivariate classification technology, through the evaluation of model results and error quantification, the optimal evaluation model is combined to quickly realize the high-quality evaluation of regional landslide sensitivity. The source code is written based on the R language software platform. The user needs to prepare a local folder separately to read and store the software operation results. The user needs to remember the folder storage path and make corresponding settings in the software source code. 3) The source code designs two different modes to display the operation results of the model. The analysis results are output in the standard format of text and graphic format and the geospatial mode that needs spatial data and is displayed in the standard geographic format. 4) it is suitable for all people interested in landslide risk assessment. The software can be used efficiently by experienced researchers in Colleges and universities, and can also be used by government personnel and public welfare organizations in the field of land and environmental planning and management to obtain landslide sensitivity classification results conveniently, quickly, correctly and reliably. It can serve regional land use planning, disaster risk assessment and management, disaster emergency response under extreme induced events (earthquake or rainfall, etc.), and has great practical guiding significance for the selection of landslide monitoring equipment and the reasonable and effective layout and operation of early warning network. It can be popularized and applied in areas with serious landslide development

2、Keywords

Theme：Division,Human-nature Remote Sensing,human activity intensity,tectonics,Transportation,Traffic,Earth SurFace Processes,Land types,Land Resources,Tibetan plateau,Land Surface Parameter,Disaster division,landslide,Landslide,Natural Disaster,Settlement,erosion,Geomorphology
Discipline：Terrestrial Surface,Human-nature Relationship
Places：The southeast edge of the Qinghai-Tibet Plateau
Time：2022

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：120.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：-1.0 | - |
| west：-2.0 | - | east：-1.0 |
| - | south：-1.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

YANG Zhongkang . Regional landslide sensitivity analysis system source code based on optimal combination strategy. A Big Earth Data Platform for Three Poles, doi:10.11888/Terre.tpdc.2721822022

References to articles:

7、Supporting project information

Catastrophic mechanisms and risk control of disastrous landslides in the Tibetan Plateau

8、Data resource provider

name: YANG Zhongkang
unit: Sichuan University
email: 411099566@qq.com