A Big Earth Data Platform for Three Poles

**Active landslides by InSAR recognition in Three-River-Parallel territory of Qinghai-Tibet Plateau (2007-2019)**

1、Description

Aiming at the 179000 km2 area of the pan three rivers parallel flow area of the Qinghai Tibet Plateau, InSAR deformation observation is carried out through three kinds of SAR data: sentinel-1 lifting orbit and palsar-1 lifting orbit. According to the obtained InSAR deformation image, it is comprehensively interpreted in combination with geomorphic and optical image features. A total of 949 active landslides below 4000m above sea level were identified. It should be noted that due to the difference of observation angle, sensitivity and observation phase of different SAR data, there are some differences in the interpretation of the same landslide with different data. The scope and boundary of the landslide need to be corrected with the help of ground and optical images. The concept of landslide InSAR recognition scale is different from the traditional spatial resolution and mainly depends on the deformation intensity. Therefore, some landslides with small scale but prominent deformation characteristics and strong integrity compared with the background can also be interpreted (with SAR intensity map, topographic shadow map and optical remote sensing image as ground object reference). The minimum interpretation area can reach several pixels. For example, a highway slope landslide with only 4 pixels is interpreted with reference to the highway along the Nujiang River.

2、Keywords

Theme：Others,Microwave Remote Sensing,Remote Sensing Technology,landslide,detection
Discipline：Others,Remote Sensing Technology
Places：Nu River, Tibet Plateau, Pan Three-River-Parallel Territory, Lancang River, Jinsha River
Time：2007-2019

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：0.19MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：32.0 | - |
| west：96.0 | - | east：101.0 |
| - | south：26.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

YAO Xin . Active landslides by InSAR recognition in Three-River-Parallel territory of Qinghai-Tibet Plateau (2007-2019). A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2721622022

References to articles:

7、Supporting project information

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

8、Data resource provider

name: YAO Xin
unit: Institute of Geomechanics, CAGS
email: yaoxinphd@163.com