A Big Earth Data Platform for Three Poles

**Thickness data of active layer in the Yeniugou of the Heihe River Basin over Tibetan Plateau (2014-2018)**

1、Description

Sentine-1 SAR data were used to monitor the permafrost of Biuniugou in Heihe River Basin of Qinghai-Tibet Plateau. Based on the Sentine-1 SAR image of Bison Valley from 2014 to 2018, the active layer thickness in the study area was estimated by using the small baseline set time series InSAR (DSs-SBAS) frozen soil deformation monitoring method based on distributed radar target, combined with SAR backscattering coefficient, MODIS surface temperature and Stefan model. The results show that the thickness of active layer is between 0.8 m and 6.6 m, with an average of about 3.3 M. It is of great significance to carry out large-scale and high-resolution monitoring.

2、Keywords

Theme：Radar remote sensing,Active layer,Frozen Ground,Terrestrial Surface Remote Sensing  
Discipline：Terrestrial Surface,Cryosphere  
Places：TP-Plateau Heihe  
Time：2014-2018

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：6.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.07427319 | - |
| west：98.57320442 | - | east：99.43956762 |
| - | south：38.50760879 | - |

5、Time frame:2014-11-27 08:00:00+00:00--2019-01-08 08:00:00+00:00

6、Reference method

References to data:

JIANG Liming. Thickness data of active layer in the Yeniugou of the Heihe River Basin over Tibetan Plateau (2014-2018). A Big Earth Data Platform for Three Poles, doi:10.6038/cjg2019M02552019

References to articles:

陈玉兴, 江利明\*, 梁林林, 周志伟, (2019). 基于Sentinel-1 SAR数据的黑河上游冻土形变时序InSAR监测分析. 地球物理学报, 63(7), 1-14. doi: 10.6038/cjg2019M0255.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）  
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8、Data resource provider

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