A Big Earth Data Platform for Three Poles

**GPS 5 years after 2015 Nepal earthquake (2015-2020)**

1、Description

The data set includes cumulative 3-D deformation variables recorded by 50 continuous and mobile GPS stations 5 years after the 2015 mw7.8 Nepal earthquake. Data from published articles: Zhang, J., Zhao, B., Wang, D., Yu, J., and tan, K. (2021), dynamic modeling of postseismic deformation following the 2015 MW 7.8 Gorkha earth, Nepal, J. Asian Earth SCI., 215104781, Doi: 10.1016/j.jseaes.2021.104781. The post earthquake deformation data processing process is as follows: firstly, the original observation data are processed to obtain the time series under ITRF reference frame; Then, other effects unrelated to the Nepal earthquake, such as seasonal variation, interannual variation, plate effect, etc., are corrected; Thirdly, the post earthquake time series curve is fitted by logarithmic function; Finally, the post earthquake deformation of any period is calculated by fitting the curve. Five years after the earthquake, the accumulated deformation is nearly 13.8 cm. The horizontal accuracy is not less than 0.6cm, and the vertical accuracy is not less than 2.0cm.

2、Keywords

Theme：Deformation observation,Tectonics
Discipline：Solid earth
Places：Nepal
Time：2015-2020

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.01MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.0 | - |
| west：83.0 | - | east：88.0 |
| - | south：27.0 | - |

5、Time frame:2014-12-31 16:00:00+00:00--2021-01-31 16:00:00+00:00

6、Reference method

References to data:

HU Yan. GPS 5 years after 2015 Nepal earthquake (2015-2020). A Big Earth Data Platform for Three Poles, 2021

References to articles:

Zhang, J., Zhao, B, Wang, D.Z., Yu, J.S., & Tan, K. (2021). Dynamic modeling of postseismic deformation following the 2015 Mw 7.8 Gorkha earthquake, Nepal. Journal of Asian Earth Sciences, 215, 104781.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program

8、Data resource provider

name: HU Yan
unit:
email: yanhu11@ustc.edu.cn