A Big Earth Data Platform for Three Poles

**Post-processing products for the active layer thickness of permafrost in Three Pole from 1990-2015**

1、Description

The thickness of the active layer of the three pole permafrost combines two sets of data products. The main reference data is the annual value of the active layer thickness from 1990 to 2015 generated by GCM model simulation. The data format of this data set is netcdf4 format, with a spatial resolution of 0.5 ° and a temporal resolution of years. The reference correction data set is the average value of active layer thickness from 2000 to 2015 simulated by statistical and machine learning (ML) methods. The data format is GeoTIFF format, the spatial resolution is 0.1 °, and the data unit is m. Through post-processing operations such as data format conversion, spatial interpolation, data correction, etc., this research work generates the permafrost active layer thickness data in netcdf4 format, with a spatial resolution of 0.1 °, a temporal resolution of years, a time range of 1990-2015, and a data unit of CM.

2、Keywords

Theme：active layer,Permafrost,Frozen Ground
Discipline：Cryosphere
Places：Three poles, Tibetan Plateau
Time：1990-2015

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：5.95MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.25 | - |
| west：74.25 | - | east：105.25 |
| - | south：25.25 | - |

5、Time frame:1989-12-31 16:00:00+00:00--2015-12-30 16:00:00+00:00

6、Reference method

References to data:

YE Aizhong. Post-processing products for the active layer thickness of permafrost in Three Pole from 1990-2015. A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2727182022

References to articles:

Yi, S., Wang, X., Qin, Y., Xiang, B., & Ding, Y. (2014). Responses of alpine grassland on Qinghai-Tibetan Plateau to climate warming and permafrost degradation: a modeling perspective. Environmental Research Letters, 9, 074014, doi:10.1088/1748-9326/9/7/074014.

Ni, J., Wu, T., Zhu, X., Hu, G., Zou,D., & Wu, X., et al. (2021). Simulation of the present and future projection of permafrost on the Qinghai-Tibet Plateau with statistical and machine learning models. Journal of Geophysical Research: Atmospheres,126, e2020JD033402. https://doi.org/10.1029/2020JD033402.

7、Supporting project information

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8、Data resource provider

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