A Big Earth Data Platform for Three Poles

**Data set of soil freezing depth in the future scenario of Qinghai Tibet Plateau Based on Stefan equation (2007-2017,2046-2065)**

1、Description

Soil freezing depth (SFD) is necessary to evaluate the balance of water resources, surface energy exchange and biogeochemical cycle change in frozen soil area. It is an important indicator of climate change in the cryosphere and is very important to seasonal frozen soil and permafrost.  
This data is based on Stefan equation, using the daily temperature prediction data and E-factor data of canems2 (rcp45 and rcp85), gfdl-esm2m (rcp26, rcp45, rcp60 and rcp85), hadgem2-es (rcp26, rcp45 and rcp85), ipsl-cm5a-lr (rcp26, rcp45, rcp60 and rcp85), miroc5 (rcp26, rcp45, rcp60 and rcp85) and noresm1-m (rcp26, rcp45, rcp60 and rcp85), The data set of annual average soil freezing depth in the Qinghai Tibet Plateau with a spatial resolution of 0.25 degrees from 2007 to 2065 was obtained.

2、Keywords

Theme：Soil,Depth of soil freezing,Frozen depth,Frozen Ground  
Discipline：Terrestrial Surface,Cryosphere  
Places：Qinghai-Tibet Plateau  
Time：2046-2065, 2007-2017

3、Data details

1.Scale：None

2.Projection：

3.Filesize：35.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：74.0 | - | east：105.0 |
| - | south：26.0 | - |

5、Time frame:2006-12-31 16:00:00+00:00--2065-12-30 16:00:00+00:00

6、Reference method

References to data:

LI Hu, PAN Xiaoduo. Data set of soil freezing depth in the future scenario of Qinghai Tibet Plateau Based on Stefan equation (2007-2017,2046-2065). A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2723222022

References to articles:

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

name: LI Hu  
unit:   
email: lihu@itpcas.ac.cn  
  
name: PAN Xiaoduo  
unit: Institute of Tibetan Plateau Research, CAS  
email: panxd@itpcas.ac.cn