A Big Earth Data Platform for Three Poles

**Distribution map of the relationship between vegetation and freeze-thaw changes in the Arctic (1982-2015)**

1、Description

As an important part of the global carbon pool, Arctic permafrost is one of the most sensitive regions to global climate change. The rate of warming in the Arctic is twice the global average, causing rapid changes in Arctic permafrost. The NDVI change data set of different types of permafrost regions in the Northern Hemisphere from 1982 to 2015 has a temporal resolution of every five years, covers the entire Arctic Rim countries, and a spatial resolution of 8km. Based on multi-source remote sensing, simulation, statistics and measured data, GIS method and ecological method are used to quantify the regulation and service function of permafrost in the northern hemisphere to the ecosystem, and all the data are subject to quality control.

2、Keywords

Theme：Surface Freeze-thaw Cycle/State,Frozen ground distribution,active layer,Cryosphere remote sensing products,seasonally frozen ground,Surface Freeze-thaw Cycle/state Remote Sensing,Permafrost degradation,Permafrost degradation;,soil freeze/thaw,Permafrost,Frozen Ground,Third Pole  
Discipline：Cryosphere  
Places：the permafrost over the Northern Hemisphere, Arctic  
Time：1982-2015

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.076MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：81.49 | - |
| west：163.56 | - | east：177.2 |
| - | south：32.95 | - |

5、Time frame:None--None

6、Reference method

References to data:

WANG Shijin . Distribution map of the relationship between vegetation and freeze-thaw changes in the Arctic (1982-2015). A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2727032022

References to articles:

Peng, X., Zhang, T., Frauenfeld, O.W., Wang, S., Qiao, L., Du, R., & Mu, C. (2020). Northern hemisphere greening in association with warming permafrost. Journal of Geophysical Research: Biogeosciences, 125, e2019JG005086. https://doi.org/ 10.1029/2019JG005086.

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

name: WANG Shijin   
unit: Northwest Institute of Eco-Environment and Resources, CAS  
email: wangshijin@lzb.ac.cn