A Big Earth Data Platform for Three Poles

**Global Cryospheric Extent and Phenology Dataset (1979-2016)**

1、Description

Under the background of global warming, the cryosphere is one of the most sensitive spheres to climate change. The cryosphere is the world's largest reservoir of freshwater resources. The change of the cryosphere has an important impact on the energy exchange, water resources, ecology and disaster process of the earth atmosphere system. Therefore, it is particularly important to explore the response of cryosphere change to climate change. Using satellite remote sensing data, reanalysis data, and observation data, the cryosphere elements were integrated to build a global scale cryosphere range and phenology dataset for 1979-2016. The results can be used to further study the response mechanism of the cryosphere to climate change, as well as to provide basic support for the research of ecosystems, carbon cycle, etc.

2、Keywords

Theme：Others  
Discipline：Cryosphere  
Places：global  
Time：long-term

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：48.5MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-90.0 | - |

5、Time frame:1978-12-31 16:00:00+00:00--2016-12-30 16:00:00+00:00

6、Reference method

References to data:

PENG Xiaoqing. Global Cryospheric Extent and Phenology Dataset (1979-2016). A Big Earth Data Platform for Three Poles, doi:10.11888/Cryos.tpdc.2728372022

References to articles:

Peng, X., Zhang, T., Frauenfeld, O.W., Du, R., Jin, H., & Mu, C. (2021). A Holistic Assessment of 1979–2016 Global Cryospheric Extent. Earth's Future, 9(8), e2020EF001969.

7、Supporting project information

Research on the mechanism, influence and climate effect of rapid change in the Arctic

8、Data resource provider

name: PENG Xiaoqing  
unit:   
email: pengxq@lzu.edu.cn