A Big Earth Data Platform for Three Poles

**Remote sensing inversion data set of Arctic sea ice melting pool coverage (2000-2019) v1.0**

1、Description

Under the sunshine in summer, the snow covered on the ice surface melts, forming a pool of different shapes and sizes on the ice surface. The melting pool caused by the melting of sea ice surface will reduce the albedo of sea ice, which will have a significant impact on the energy balance of the polar region, increase the absorption and accelerate the melting process of sea ice. Among the factors that affect the albedo of sea ice, the melting pool is one of the most important and dramatic. With the change of climate, the melting rate of ice is faster and faster in summer. It has an important impact on the energy balance of the earth's surface. The acceleration of ice melting may also make the melting pool, an important natural phenomenon, become one of the most significant ice surface features in the Arctic sea ice melting season. The albedo of the melting pool is between sea water and sea ice. The study of the ice melting pool is also an important part of the study of the rapid change mechanism of the Arctic sea ice. Because of the similar microwave signal characteristics between sea ice melting pool and sea surface, and the uncertainty of mapping the coverage of melting pool with microwave data influenced by wind speed and other factors, the most reliable remote sensing method for the coverage of melting pool is to map the coverage of sub-pixel melting pool with MODIS and MERIS data. This data set includes the Arctic sea ice melting pool coverage retrieved by subpixel decomposition using MODIS observation data.

2、Keywords

Theme：Sea Ice,Sea ice melting pool  
Discipline：Cryosphere  
Places：Arctic  
Time：2000-2019

3、Data details

1.Scale：None

2.Projection：North\_Pole\_Stereographic

3.Filesize：55500.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：90.0 | - |
| west：-180.0 | - | east：179.0 |
| - | south：60.0 | - |

5、Time frame:2000-02-29 16:00:00+00:00--2019-09-30 16:00:00+00:00

6、Reference method

References to data:

REN Yan, QIU Yubao, Xiong Chuan. Remote sensing inversion data set of Arctic sea ice melting pool coverage (2000-2019) v1.0. A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2702612019

References to articles:

7、Supporting project information

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

8、Data resource provider

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