A Big Earth Data Platform for Three Poles

**River ice cover dataset of Erqis River Basin (2004-2005) v1.0**

1、Description

River ice is the main component of the cryosphere, and the freezing of rivers in the polar region has a significant impact on the Arctic shipping and transportation industry. With the construction of "ice silk road" between China and Russia, monitoring the change of river ice in Erqis river basin can provide theoretical basis for river navigation. The sparse distribution of hydrological stations in the Arctic limits the study of river ice. The limited available data of hydrological stations show that the trend of river ice rupture is ahead of schedule, but the specific climate mechanism driving this trend is very complex. Therefore, optical data with high temporal resolution (such as MODIS products) are suitable for monitoring river ice phenology and mapping river ice cover range, which is helpful to understand the process of river ice rupture. Based on MODIS and passive microwave data, a method of monitoring river ice in Erqis River Basin by using different remote sensing data is realized in this study, in order to analyze the phenological parameters of river ice such as the time of river closure, the time of river closure, the speed of river opening, the speed of river closure and the duration of freezing period. At the same time, it is helpful to understand the response of river ice breaking process to Arctic climate warming.

2、Keywords

Theme：River ice,River Ice
Discipline：Cryosphere
Places：the Irtysh River Basin
Time：2004-2005

3、Data details

1.Scale：None

2.Projection：

3.Filesize：217.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：68.0 | - |
| west：58.9 | - | east：92.6 |
| - | south：45.7 | - |

5、Time frame:2004-01-06 00:00:00+00:00--2006-01-05 00:00:00+00:00

6、Reference method

References to data:

Liang Wenshan, QIU Yubao. River ice cover dataset of Erqis River Basin (2004-2005) v1.0. A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2702652019

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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