A Big Earth Data Platform for Three Poles

**The ice storage in upper Indus River basin using GPR (Ground Penetrating Radar) and GlabTop2 (Glacier Bed Topography version 2)**

1、Description

1) These data main included the GPR-surveyed ice thickness of six typical various-sized glaciers in 2016-2018; the GlabTop2-modeled ice thickness of the entire UIB sub-basins, discharge data of the hydrological stations, and related raw & derived data.  
2) Data sources and processing methods: We compared the plots and profiles of GPR-surveyed ice bed elevation with the GlabTop2-simulated results and selected the optimal parametric scheme, then simulated the ice thickness of the whole UIB basin and assessed its hydrological effect. These processed results were stored as tables and tif format，  
3) Data quality description: The simulated ice thickness has a spatial resolution of 30 m, and has been verified by the GPR-surveyed ice thickness for the MD values were less than 10 m. The maximum error of the GPR-measured data was 230.2 ± 5.4 m, within the quoted glacier error at ± 5%.  
4) Synthesizing knowledge of the ice thickness and ice reserves provides critical information for water resources management and regional glacial scientific research, it is also essential for several other fields of glaciology, including hydrological effect, regional climate modeling, and assessment of glacier hazards.

2、Keywords

Theme：Glacier thickness,Surface Water,Ice reserves,glacier inventory,Glacier(Ice Sheet),Runoff  
Discipline：Terrestrial Surface,Cryosphere  
Places：upper Indus river basin  
Time：2010s

3、Data details

1.Scale：100

2.Projection：Albers

3.Filesize：600.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：37.0 | - |
| west：73.0 | - | east：82.0 |
| - | south：31.0 | - |

5、Time frame:2012-12-31 16:00:00+00:00--2013-12-30 16:00:00+00:00

6、Reference method

References to data:

ZHANG Yinsheng. The ice storage in upper Indus River basin using GPR (Ground Penetrating Radar) and GlabTop2 (Glacier Bed Topography version 2). A Big Earth Data Platform for Three Poles, doi:10.11888/Glacio.tpdc.2710842020

References to articles:

7、Supporting project information

8、Data resource provider

name: ZHANG Yinsheng  
unit:   
email: yszhang@itpcas.ac.cn