A Big Earth Data Platform for Three Poles

**Global satellite-borne laser altimeter elevation control point data set (2003-2009)**

1、Description

This data set is the global high accuracy global elevation control point dataset, including the geographic positioning, elevation, acquisition time and other information of each elevation control point.  
The accuracy of laser footprint elevation extracted from satellite laser altimetry data is affected by many factors, such as atmosphere, payload instrument noise, terrain fluctuation in laser footprint and so on. The dataset extracted from the altimetry observation data of ICESat satellite from 2003 to 2009 through the screening criteria constructed by the evaluation label and ranging error model, in order to provide global high accuracy elevation control points for topographic map or other scientific fields relying on good elevation information. It has been verified that the elevation accuracy of flat (slope<2°), hilly (2°≤slope<6°), and mountain (6°≤slope<25°) areas meet the accuracy requirements of 0.5m, 1.5m, and 3m respectively.

2、Keywords

Theme：Marine Remote Sensing,Topography,Altitude,Satellite radar altimetry  
Discipline：Terrestrial Surface,Ocean  
Places：Global  
Time：2003-2009

3、Data details

1.Scale：None

2.Projection：

3.Filesize：1382.4MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：82.0 | - |
| west：-180.0 | - | east：180.0 |
| - | south：-56.0 | - |

5、Time frame:2003-02-19 16:00:00+00:00--2009-10-10 16:00:00+00:00

6、Reference method

References to data:

XU Xiong, JIN Yanmin, LI Binbin, TANG Hong, FENG Yongjiu, CHEN Peng, WANG Chao, YE Zhen, LIU Shijie, LIU Sicong, TONG Xionghua, XIE Huan. Global satellite-borne laser altimeter elevation control point data set (2003-2009). A Big Earth Data Platform for Three Poles, doi:10.11888/Geogra.tpdc.2717272021

References to articles:

Li, B., Xie, H., Tong, X., Tang, H., Liu, S., Jin, Y., Wang, C., Ye, Z. (2022). High-Accuracy Laser Altimetry Global Elevation Control Point Dataset for Satellite Topographic Mapping. IEEE Transactions on Geoscience and Remote Sensing, 60, 1-16. doi: 10.1109/TGRS.2022.3177026.

7、Supporting project information

National Natural Science Foundation of China  
National Natural Science Foundation of China  
National High Resolution Ground Observation System of China

8、Data resource provider

name: XIE Huan  
unit:   
email: huanxie@tongji.edu.cn  
  
name: LI Binbin  
unit:   
email: libinbin@tongji.edu.cn  
  
name: TONG Xionghua  
unit:   
email: xhtong@tongji.edu.cn  
  
name: TANG Hong  
unit:   
email: 1832021@tongji.edu.cn  
  
name: LIU Shijie  
unit:   
email: liusj@tongji.edu.cn  
  
name: JIN Yanmin  
unit:   
email: jinyanmin@tongji.edu.cn  
  
name: WANG Chao  
unit:   
email: wangchao2019@tongji.edu.cn  
  
name: YE Zhen  
unit:   
email: 89\_yezhen@tongji.edu.cn  
  
name: CHEN Peng  
unit:   
email: chenpeng@tongji.edu.cn  
  
name: XU Xiong  
unit:   
email: xvxiong@tongji.edu.cn  
  
name: LIU Sicong  
unit:   
email: sicong.liu@tongji.edu.cn  
  
name: FENG Yongjiu  
unit:   
email: yjfeng@tongji.edu.cn