A Big Earth Data Platform for Three Poles

**Database of the Tibetan Plateau vortex derived from multiple reanalysis (1979-2021)**

1、Description

The Qinghai-Tibet Plateau is the source of many major rivers in Asia, providing essential water for hundreds of millions of people, and is known as the "Water Tower of Asia". The main source of water recharge for the Asian Water Tower is precipitation from the Tibetan Plateau, of which the Tibetan Plateau vortex (TPV) is one of the important precipitation-producing systems on the Tibetan Plateau. Due to the complex topography of the Tibetan Plateau and the lack of observational data, there are still many gaps in the understanding of the climatic and structural characteristics of the TPVs and their formation and change mechanisms. This dataset uses multiple sets of reanalysis data and objective identification methods to obtain a long time series TPVs dataset, including the location, radius, intensity, life history, and movement path and other characteristics. The reanalysis datasets used in the dataset are: NCEP1 (NCEP/NCAR), NCEP2 (NCEP/DOE), ERA-Interim, ERA-40, ERA-5, CFSR, MERRA2, JRA55, NCEP FNL, CRA40, etc. NCEP1 and NCEP2 have lower resolution and the obtained highland low vortices are not applicable as climate feature analysis.

2、Keywords

Theme：Other,Tibetan Plateau vortex,Reanalysis  
Discipline：Atmosphere  
Places：Qinghai-Tibet Plateau  
Time：Last 40 years

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：10.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：60.0 | - |
| west：60.0 | - | east：120.0 |
| - | south：20.0 | - |

5、Time frame:2021-11-30 16:00:00+00:00--2021-12-30 16:00:00+00:00

6、Reference method

References to data:

LIN Zhiqiang , LIN Zhiqiang, GUO Weidong , GUO Weidong. Database of the Tibetan Plateau vortex derived from multiple reanalysis (1979-2021). A Big Earth Data Platform for Three Poles, doi:10.11888/Atmos.tpdc.2723742022

References to articles:

Lin, Z.Q., Guo, W.D., & Jia, L., et al. (2020). Climatology of Tibetan Plateau Vortices Derived from Multiple Reanalysis Datasets. Climate Dynamics, 55(7-8), 2237-2252. doi: 10.1007/s00382-020-05380-6  
  
Lin, Z.Q. (2015). Analysis of Tibetan Vortex Activities Using 1979-2013 ERA-Interim Reanalysis. Journal of Meteorological Research, 29(5), 720-734. doi: 10.1007/s13351-015-4273-x.

7、Supporting project information

Second Tibetan Plateau Scientific Expedition Program  
Natural Science Foundation of China

8、Data resource provider

name: LIN Zhiqiang   
unit: Chengdu University of Information Technology  
email: linzq@cuit.edu.cn  
  
name: GUO Weidong   
unit: Nanjing University  
email: guowd@nju.edu.cn  
  
name: LIN Zhiqiang  
unit:   
email: linzq@cuit.edu.cn  
  
name: GUO Weidong  
unit:   
email: guowd@nju.edu.cn