A Big Earth Data Platform for Three Poles

**The meteorological data of Mt. Qomolangma, Namco, and Linzhi Stations on the Tibetan Plateau (2006-2008)**

1、Description

The data set collects the long-term monitoring data on atmosphere, hydrology and soil from the Integrated Observation and Research Station of Multisphere in Namco, the Integrated Observation and Research Station of Atmosphere and Environment in Mt. Qomolangma, and the Integrated Observation and Research Station of the Alpine Environment in Southeast Tibet. The data have three resolutions, which include 0.1 seconds, 10 minutes, 30 minutes, and 24 hours.
The temperature, humidity and pressure sensors used in the field atmospheric boundary layer tower (PBL) were provided by Vaisala of Finland. The wind speed and direction sensor was provided by MetOne of the United States. The radiation sensor was provided by APPLEY of the United States and EKO of Japan. Gas analysis instrument was provided by Licor of the United States, and the soil moisture content, ultrasonic anemometer and data collector were provided by CAMPBELL of the United States. The observing system is maintained by professionals on a regular basis (2-3 times a year), the sensors are calibrated and replaced, and the collected data are downloaded and reorganized to meet the meteorological observation specifications of the National Weather Service and the World Meteorological Organization (WMO).
The data set was processed by forming a time continuous sequence after the raw data were quality-controlled, and the quality control included eliminating the systematic error caused by missing data and sensor failure.

2、Keywords

Theme：Soil,Radiation,Winds,Hydrology,Soil moisture/Water content,Pressure
Discipline：Atmosphere,Terrestrial Surface
Places：Tibetan Plateau , Namco, Linzhi, Qomolangma
Time：2006-2008

3、Data details

1.Scale：None

2.Projection：

3.Filesize：10700.0MB

4.Data format：\*.DAT

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：73.0 | - | east：104.0 |
| - | south：28.0 | - |

5、Time frame:2006-01-14 16:00:00+00:00--2009-01-13 16:00:00+00:00

6、Reference method

References to data:

MA Yaoming. The meteorological data of Mt. Qomolangma, Namco, and Linzhi Stations on the Tibetan Plateau (2006-2008). A Big Earth Data Platform for Three Poles, doi:10.11888/AtmosphericPhysics.tpe.55.file2018

References to articles:

Ma, Y.M., Menenti, M., Feddes, R., & Wang, J. (2008). Analysis of the land surface heterogeneity and its impact on atmospheric variables and the aerodynamic and thermodynamic roughness lengths. Journal of Geophysical Research: Atmospheres, 113.

马耀明. (2007). 中国科学院珠穆朗玛峰大气与环境综合观测研究站: 一个新的研究喜马拉雅山区地气相互作用过程的综合基地[J]. 高原气象, 26(6), 1141-1145.

Ma, Y., Wang, Y., Wu, R., Hu, Z., Yang, K., & Li, M., et al. (2009). Recent advances on the study of atmosphere-land interaction observations on the tibetan plateau. Hydrology and Earth System Sciences, 13(7), 1103-1111.

Ma, Y.M., Ma, W.Q., Zhong, L., Hu, Z., Li, M., Zhu, Z., et al. (2017). Monitoring and Modeling the Tibetan Plateau’s climate system and its impact on East Asia, Scientific Reports, 7, 44574, doi:10.1038/srep44574.

Ma, Y.M., Zhong, L., Wang, B.B., Ma, W.Q., Chen, X.L., & Li, M. (2011). Determination of land surface heat fluxes over heterogeneous landscape of the Tibetan Plateau by using the MODIS and in-situ data. Atmospheric Chemistry and Physics, 11, 10461–10469. doi:10.5194/acp-11-10461-2011.

Ma, Y.M., Kang, S.C., Zhu, L.P., Xu, B.Q., Tian, L.D., & Yao, T.D. (2008). Tibetan Observation and Research Platform- Atmosphere–land interaction over a heterogeneous landscape, Bulletin of the American Meteorological Society. 89, 1487–1492. doi:10.1175/2008BAMS2545.1.

7、Supporting project information

The Response of Environmental Changes on Tibetan Plateau to Global Changes and Adaptation Strategy

8、Data resource provider

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