A Big Earth Data Platform for Three Poles

**A long-term dataset of integrated land-atmosphere interaction observations on the Tibetan Plateau (2005-2016)**

1、Description

The field observation platform of the Tibetan Plateau is the forefront of scientific observation and research on the Tibetan Plateau. The land surface processes and environmental changes based comprehensive observation of the land-boundary layer in the Tibetan Plateau provides valuable data for the study of the mechanism of the land-atmosphere interaction on the Tibetan Plateau and its effects. This dataset integrates the 2005-2016 hourly atmospheric, soil hydrothermal and turbulent fluxes observations of Qomolangma Atmospheric and Environmental Observation and Research Station, Chinese Academy of Sciences (QOMS/CAS), Southeast Tibet Observation and Research Station for the Alpine Environment, CAS (SETORS), the BJ site of Nagqu Station of Plateau Climate and Environment, CAS (NPCE-BJ), Nam Co Monitoring and Research Station for Multisphere Interactions, CAS (NAMORS), Ngari Desert Observation and Research Station, CAS (NADORS), Muztagh Ata Westerly Observation and Research Station, CAS (MAWORS). It contains gradient observation data composed of multi-layer wind speed and direction, temperature, humidity, air pressure and precipitation data, four-component radiation data, multi-layer soil temperature and humidity and soil heat flux data, and turbulence data composed of sensible heat flux, latent heat flux and carbon dioxide flux. These data can be widely used in the analysis of the characteristics of meteorological elements on the Tibetan Plaetau, the evaluation of remote sensing products and development of the remote sensing retrieval algorithms, and the evaluation and development of numerical models.

2、Keywords

Theme：Soil,Precipitation,Temperature,Atmospheric Radioactive Substance,Hydrology,Meteorological element
Discipline：Atmosphere,Terrestrial Surface
Places：Naqu, Muztagh Ata, Southeast Tibet, Qomolangma, Ngari, Nam Co, Qinghai-Tibetan Plateau
Time：hourly data

3、Data details

1.Scale：None

2.Projection：

3.Filesize：180.0MB

4.Data format：None

4、Space scope

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

5、Time frame:2005-01-17 16:00:00+00:00--2017-01-17 03:59:59+00:00

6、Reference method

References to data:

MA Yaoming. A long-term dataset of integrated land-atmosphere interaction observations on the Tibetan Plateau (2005-2016). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2709102020

References to articles:

Ma, Y., Hu, Z., Xie, Z., Ma, W., Wang, B., Chen, X., Li, M., Zhong, L., Sun, F., Gu, L., Han, C., Zhang, L., Liu, X., Ding, Z., Sun, G., Wang, S., Wang, Y., and Wang, Z. (2020). A long-term (2005–2016) dataset of hourly integrated land–atmosphere interaction observations on the Tibetan Plateau, Earth Syst. Sci. Data, 12, 2937–2957, https://doi.org/10.5194/essd-12-2937-2020.

7、Supporting project information

The Second Tibetan Plateau Scientific Expedition and Research (STEP) program
The Strategic Priority Research Program of Chinese Academy of Sciences

8、Data resource provider

name: MA Yaoming
unit: Institute of Tibetan Plateau Research, Chinese Academy of Sciences
email: ymma@itpcas.ac.cn