A Big Earth Data Platform for Three Poles

**Hourly meteorological forcing & land surface state dataset of Tibet Plateau with 10 km spatial resolution (2000-2010)**

1、Description

The near surface atmospheric forcing and surface state dataset of the Tibetan Plateau was yielded by WRF model, time range: 2000-2010, space range: 25-40 °N, 75-105 °E, time resolution: hourly, space resolution: 10 km, grid number: 150 \* 300.   
There are 33 variables in total, including 11 near surface atmospheric variables: temperature at 2m height on the ground, specific humidity at 2m height on the ground, surface pressure, latitudinal component of 10m wind field on the ground, longitudinal component of 10m wind field on the ground, proportion of solid precipitation, cumulative cumulus convective precipitation, cumulative grid precipitation, downward shortwave radiation flux at the surface, downward length at the surface Wave radiation flux, cumulative potential evaporation.   
There are 19 surface state variables: soil temperature in each layer, soil moisture in each layer, liquid water content in each layer, heat flux of snow phase change, soil bottom temperature, surface runoff, underground runoff, vegetation proportion, surface heat flux, snow water equivalent, actual snow thickness, snow density, water in the canopy, surface temperature, albedo, background albedo, lower boundary Soil temperature, upward heat flux (sensible heat flux) at the surface and upward water flux (sensible heat flux) at the surface.  
There are three other variables: longitude, latitude and planetary boundary layer height.

2、Keywords

Theme：Soil,Runoff,Precipitation,Radiation,Temperature,Surface Water,Earth SurFace Processes,Precipitation amount,Soil temperature,Ground Water,Shortwave radiation,Hydrology,Soil moisture/Water content,Albedo,Air temperature  
Discipline：Atmosphere,Terrestrial Surface  
Places：Tibetan Plateau, High Mountain Asia  
Time：2000-2010

3、Data details

1.Scale：None

2.Projection：

3.Filesize：700000.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：40.0 | - |
| west：75.0 | - | east：105.0 |
| - | south：25.0 | - |

5、Time frame:2000-01-16 00:00:00+00:00--2011-01-15 00:00:00+00:00

6、Reference method

References to data:

PAN Xiaoduo. Hourly meteorological forcing & land surface state dataset of Tibet Plateau with 10 km spatial resolution (2000-2010). A Big Earth Data Platform for Three Poles, doi:10.11888/Meteoro.tpdc.2702772019

References to articles:

Pan, X.D., Li, X., Shi, X.K., Han, X.J., Luo, L.H., Wang, L.X. (2012). Dynamic downscaling of near-surface air temperature at the basin scale using WRF–a case study in the Heihe River Basin, China. Frontiers of Earth Science, 6(3): 314-323, doi: 10.1007/s11707-012-0306-2.  
  
Pan, X.D., Li, X.. (2011). Validation of WRF model on simulating forcing data for Heihe River Basin. Sciences in Cold and Arid Regions, 3(4): 344-357, doi: 10.3724/SP.J.1226.2011.00344.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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