A Big Earth Data Platform for Three Poles

**Time-series anthropogenic heat flux of China land surface**

1、Description

Anthropogenic heat is one of the products of urbanization, which refers to the heat produced by human activities and released into the atmosphere, mainly from various types of energy consumption and biological metabolism. This data set is the surface anthropogenic heat emission flux data of 500m × 500m spatial resolution in China's land surface area from 2000 to 2016 (2000 / 2004 / 2008 / 2012 / 2016). Data sources and processing methods: (1) through the collection of energy consumption data and socio-economic data of provinces and cities in 2000-2016, the annual average AHF of prefecture level cities (prefectures, districts and leagues) is estimated by the inventory method; (2) The AHF estimation model is established based on multi-source remote sensing data, and the grid AHF is obtained; (3) the AHF estimation results of time series are analyzed and tested, and the deviation values are corrected to improve the accuracy of the AHF estimation results. It is of great significance to understand and master the anthropogenic heat emission and its change for understanding the impact of urbanization on climate, environment and society.

2、Keywords

Theme：Human-nature Remote Sensing,Anthropogenic heat
Discipline：Human-nature Relationship
Places：China's land surface
Time：2000-2016

3、Data details

1.Scale：None

2.Projection：WGS84

3.Filesize：1520.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：54.0 | - |
| west：73.0 | - | east：135.0 |
| - | south：18.0 | - |

5、Time frame:None--None

6、Reference method

References to data:

HU Deyong. Time-series anthropogenic heat flux of China land surface. A Big Earth Data Platform for Three Poles, doi:10.11888/Socioeco.tpdc.2704032020

References to articles:

Wang, S., Hu, D., Yu, C., et al. (2020). Mapping China's time-series anthropogenic heat flux with inventory method and multi-source remotely sensed data, Science of the Total Environment, https://doi.org/10.1016/j.scitotenv.2020.139457

Wang, S.S., Hu, D.Y., Chen, S.S., et al. ( 2019). A Partition Modeling for Anthropogenic Heat Flux Mapping in China. Remote Sensing, 11(9), 1132, DOI: 10.3390/rs11091132

7、Supporting project information

National Natural Science Foundation of China (Number: 41671339)

8、Data resource provider

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