A Big Earth Data Platform for Three Poles

**Spatial distribution dataset of biomass resources and energy technology potential in China (2015-2100)**

1、Description

This data integrates a variety of current natural geographic map data, and combines land suitability evaluation, crop growth model, scenario analysis and other methods to generate China's biomass resources and energy technology potential on a 1km grid scale from 2015 to 2100, with a temporal resolution of 5 years and a spatial resolution of 1km. The data set includes 3 categories and 11 types of biomass resources (the residues include dry land agricultural residues, paddy field agricultural residues, forest residues, shrub residues, orchard residues and grassland residues, the wastes include livestock manure, MSW and COD, and the energy crops include sweet sorghum and switchgrass), fully covering the types of biomass that can be used as resources. The data format is raster data (. tiff), which can be opened using ArcGIS, R/Python and other programming languages.  
Biomass is a dependent resource for negative carbon technology in China's carbon neutral technology system in the future. The biomass data developed in this research has three advantages: wide coverage (nationwide), fine spatial resolution (1km grid), and wide time span (2015-2100). It can provide detailed quantitative data for China to formulate low-carbon emission reduction strategies and deploy biomass energy technology strategies.

2、Keywords

Theme：Biomass energy,Renewable Resources  
Discipline：Human-nature Relationship  
Places：China  
Time：2015-2100

3、Data details

1.Scale：None

2.Projection：Beijing1954

3.Filesize：1960.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：53.33 | - |
| west：73.33 | - | east：135.05 |
| - | south：3.51 | - |

5、Time frame:None--None

6、Reference method

References to data:

NIE Yaoyu , CAI Wenjia , WANG Rui . Spatial distribution dataset of biomass resources and energy technology potential in China (2015-2100). A Big Earth Data Platform for Three Poles, doi:10.11888/HumanNat.tpdc.2728262022

References to articles:

Nie, Y., Li, J., & Wang, C., et al. (2022). A fine-resolution estimation of the biomass resource potential across China from 2020 to 2100. Resources, Conservation and Recycling, 176, 105944-.  
  
Nie, Y., Chang, S., & Cai, W., et al. (2020). Spatial distribution of usable biomass feedstock and technical bioenergy potential in China. GCB Bioenergy, 12(1), 54-70.  
  
Nie, Y., Cai, W., & Wang, C., et al. (2019). Assessment of the potential and distribution of an energy crop at 1-km resolution from 2010 to 2100 in China–The case of sweet sorghum. Applied Energy, 239, 395-407.

7、Supporting project information

Interaction and regional performance of natural and human factors on land surface driven by global change

8、Data resource provider

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