A Big Earth Data Platform for Three Poles

**Dataset of China's urban expansion and urban growth boundaries (2021-2100) V1.0**

1、Description

This dataset is derived from the article: Huang, M., Wang, Z.C., Pan, X.H., Gong, B.H., Tu, M.Z., & Liu, Z.F. (2022). Delimiting China's urban growth boundaries under localized shared socioeconomic pathways and various urban expansion modes. Earth's Future, 10, e2021EF002572. The dataset shows the urban expansion and urban growth boundaries of China in 2021-2100 under different socioeconomic scenarios and diverse urban expansion modes. To produce this dataset, the patch-based LUSD-urban model was used to simulate the urban expansion with 11 modes under the localized shared socioeconomic pathways, and the morphology approach was used to delimit urban growth boundaries according to the maximum extent of urban expansion. Using this dataset, the authors quantified the impacts of future urban expansion on ecosystem services under different scenarios and diverse modes, as well as the pressure of urban shrinkage, which is helpful to the Chinese government to demarcate urban development boundaries.

2、Keywords

Theme：Land Use/Land Cover,Land use change,Land cover change,Urban and rural area
Discipline：Terrestrial Surface,Human-nature Relationship
Places：China
Time：2021 to 2100

3、Data details

1.Scale：None

2.Projection：Albers

3.Filesize：583.11MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：56.52 | - |
| west：64.65 | - | east：139.67 |
| - | south：14.86 | - |

5、Time frame:None--None

6、Reference method

References to data:

WANG Zichen , GONG Binghua , TU Mengzhao , PAN Xinhao , LIU Zhifeng, HUANG Miao . Dataset of China's urban expansion and urban growth boundaries (2021-2100) V1.0. A Big Earth Data Platform for Three Poles, doi:10.11888/HumanNat.tpdc.2728522022

References to articles:

Huang, M., Wang, Z., Pan, X., Gong, B., Tu, M., & Liu, Z. (2022). Delimiting China's urban growth boundaries under localized shared socioeconomic pathways and various urban expansion modes. Earth's Future, 10, e2021EF002572. https://doi.org/10.1029/2021EF002572

7、Supporting project information

National Key R&D Program of China (Grant No. 2019YFA0607203)
National Natural Science Foundation of China (41871185)

8、Data resource provider

name: LIU Zhifeng
unit:
email: zhifeng.liu@bnu.edu.cn

name: GONG Binghua
unit: Beijing Normal University
email: bnu\_gongbh@qq.com

name: PAN Xinhao
unit: Beijing Normal University
email: pan\_xinhao@163.com

name: HUANG Miao
unit: Beijing Normal University
email: huangmiao\_mia@qq.com

name: WANG Zichen
unit: Beijing Normal University
email: 201811051104@mail.bnu.edu.cn

name: TU Mengzhao
unit: Consulting & Research Center of Ministry of Natural Resources
email: tumengzhao@126.com