A Big Earth Data Platform for Three Poles

**Dataset of future land resources exploitation risk in Central Asia (V1.0, 2030s-2050s)**

1、Description

Facing the sustainable development of agriculture in the Central Asia, the risk assessment of land resources exploitation under the influence of future climate change and land use change is carried out with the goal of cultivated land. The evaluation indices of land resources exploitation risk for farmland include topographic factors (such as elevation and slope), land use type, soil texture, precipitation, GDP per capita, grain production per capita, growth rate of agricultural economy, urbanization rate, natural growth rate of population, soil organic matter content, etc. Taking 2015 as the baseline and keeping other indicators remain unchanged, we use multi-model ensemble mean precipitation of climate models in CMIP6 (BBC-CSM2-MR, CanESM5, IPSL-CM6A-LR, MIROC6 and MRI-ESM2-0) and the land cover data under different emission scenarios in the future to estimate the risk of land resources exploitation in Central Asia under different scenarios in the future (SSP1-2.6, SSP2-4.5 and SSP5-8.5). The datasets include land resources exploitation in 2030s (2021-2040) and 2050s (2041-2060) under three future scenarios, with a spatial resolution of 0.5°×0.5°. It is expected to provide basic information for future agricultural production and land resources exploitation in five countries in Central Asia.

2、Keywords

Theme：Land Resources  
Discipline：Human-nature Relationship  
Places：Pan-third pole  
Time：2030s-2050s

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.38MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：56.0 | - |
| west：46.0 | - | east：88.0 |
| - | south：35.0 | - |

5、Time frame:2020-12-31 16:00:00+00:00--2060-12-30 16:00:00+00:00

6、Reference method

References to data:

HUANG Farong, LI Lanhai. Dataset of future land resources exploitation risk in Central Asia (V1.0, 2030s-2050s). A Big Earth Data Platform for Three Poles, doi:10.11888/HumanNat.tpdc.2726742022

References to articles:

于水, 黄法融, 李兰海. (2021). 中亚农业水资源脆弱性及其变化特征分析. 中国生态农业学报(中英文), 29(02), 256-268.

7、Supporting project information

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

8、Data resource provider

name: LI Lanhai  
unit:   
email: lilh@ms.xjb.ac.cn  
  
name: HUANG Farong  
unit:   
email: huangfr@ms.xjb.ac.cn