A Big Earth Data Platform for Three Poles

**Population, urbanization, GDP and industrial structure predictions for the Aksu River Basin (Version 1.0) (2010-2050)**

1、Description

Taking 2005 as the base year, the future population scenario was predicted by adopting the logistic model of population. This model not only effectively describes the pattern of changes in population and biomass but is also widely applied in the field of economics. The urbanization rate was predicted using the urbanization logistic model. Based on the observed horizontal pattern of urbanization, a predictive model was established by determining the parameters in the parametric equation by applying nonlinear regression. The urban population was calculated by multiplying the predicted population by the urbanization rate.
The data represent the non-agricultural population. The logistic model was used to predict the future gross domestic product of each county (or city), and then the economic development level of each county (or city) in each period (in terms of GDP per capita). The corresponding industrial structure scenarios in each period were set, and the output value of each industry was predicted.
The trend of industrial structure changes in China and the research area lagged behind the growth in GDP, so the changes were adjusted according to the need for future industrial structure scenarios in the research area.

2、Keywords

Theme：Population,Gross domestic product,Social and Economic,Urbanization,Industrial structure,GDP per capita,Population number,Environment Pollution and Control
Discipline：Human-nature Relationship
Places：Aksu River Basin
Time：2010-2050, 2005

3、Data details

1.Scale：250000

2.Projection：

3.Filesize：0.04MB

4.Data format：EXCEL

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.0 | - |
| west：80.0 | - | east：81.0 |
| - | south：40.0 | - |

5、Time frame:2005-01-09 15:10:00+00:00--2051-01-08 15:10:00+00:00

6、Reference method

References to data:

YANG Linsheng. Population, urbanization, GDP and industrial structure predictions for the Aksu River Basin (Version 1.0) (2010-2050). A Big Earth Data Platform for Three Poles, doi:10.11888/Socio-econ.tpe.0000007.file2018

References to articles:

张九天, 何霄嘉, 上官冬辉, 钟方雷, 刘时银. (2012). 冰川加剧消融对我国西北干旱区的影响及其适应对策[J]. 冰川冻土, 34(4), 848-854.

国家发改委应对气候变化司, 21世纪议程管理中心. (2012). 气候变化对中国的影响评估及其适应对策——海平面上升和冰川融化流域[M]. 北京: 科学出版社,

7、Supporting project information

CASEarth:Big Earth Data for Three Poles（grant No. XDA19070000）

8、Data resource provider

name: YANG Linsheng
unit: Instute of Geographic Sciences and Natural Resources Research,Chinese Academy of Siences
email: yangls@igsnrr.ac.cn