A Big Earth Data Platform for Three Poles

**Data set of spatial optimization results of irrigation water use in Zhangye basin of Heihe River Basin**

1、Description

Zhangye basin mainly includes 20 irrigation areas. Under the restriction of water diversion, the surface water consumption of the irrigation area is under control, but the groundwater exploitation is increased, resulting in the groundwater level drop in the middle reaches, resulting in potential ecological environment risks. Due to the complex and frequent exchange of surface water and groundwater in the study area, it is possible to realize the overall water resource saving by optimizing the utilization ratio of surface water and groundwater in each irrigation area.  
In this project, on the premise of not changing the water demand of the middle reaches irrigation area, the two problems of maximizing the outflow of Zhengyi Gorge (given groundwater reserve constraint) and maximizing the outflow of Zhengyi Gorge (given groundwater reserve constraint) are studied.

2、Keywords

Theme：Surface Water,Irrigation,Water Resources,Irrigation  
Discipline：Terrestrial Surface,Human-nature Relationship  
Places：Heihe River Basin,   
Time：

3、Data details

1.Scale：1000000

2.Projection：32647

3.Filesize：854.0MB

4.Data format：Word、Shapefile

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.81 | - |
| west：98.942 | - | east：100.919 |
| - | south：38.446 | - |

5、Time frame:2000-01-12 00:00:00+00:00--2009-01-11 00:00:00+00:00

6、Reference method

References to data:

ZHENG Yi. Data set of spatial optimization results of irrigation water use in Zhangye basin of Heihe River Basin. A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2706692016

References to articles:

Wu B, Zheng Y\*, Wu X, Tian Y, Han F, Liu J, Zheng C (2015). Optimizing water resources management in large river basins with integrated surface water-groundwater modeling: a surrogate-based approach, Water Resources Research, 51, 2153-2173, doi:10.1002/2014WR016653.

7、Supporting project information

8、Data resource provider

name: ZHENG Yi  
unit:   
email: yizheng@pku.edu.cn