A Big Earth Data Platform for Three Poles

**Irrigation ditch map in Zhangye city**

1、Description

Data Overview: Zhangye's channels are divided into five levels: dry, branch, bucket, agricultural and Mao channels, of which the agricultural channels are generally unlined. Mao channels are field projects, so the three levels of dry, branch and bucket channels and a small part of agricultural channels are mainly collected. The irrigation canal system data includes 2 main canals (involving multiple irrigation districts), 157 main canals (within a single irrigation district), 782 branch canals and 5315 dou canals, with a total length of 8, 745.0km.  
  
Data acquisition process: remote sensing interpretation and GPS field measurement are adopted for data acquisition of irrigation canal system. Direct GPS acquisition channel is the most effective method, but the workload of GPS acquisition channel is too large, and we only verify the measurement in some irrigation areas. The main method is to first collect the manual maps of irrigation districts drawn by each water pipe. Most of these maps have no location, only some irrigation districts such as Daman and Shangsan have been located based on topographic maps, and some irrigation districts in Gaotai County have used GPS to locate some channels. Referring to the schematic diagram of the irrigation district, channel spatial positioning is carried out based on Quikbird, ASTER, TM remote sensing images and 1: 50000 topographic maps. For the main canal and branch canal, due to the obvious linear features on remote sensing images and the general signs on topographic maps, it can be located more accurately. For Douqu, areas with high-resolution images can be located more accurately, while other areas can only be roughly located according to fuzzy linear features of images and prompt information of irrigation district staff, with low positioning accuracy. Each water management office simultaneously provides channel attribute data, which is one-to-one corresponding to spatial data. After the first draft of the channel distribution map is completed, it is submitted twice to the personnel familiar with the channel distribution of each water pipe for correction. The first time is mainly to eliminate duplication and leak, and the second time is mainly to correct the position and perfect the attribute data.  
  
Description of data content: The fields in the attribute table include code, district and county name, irrigation area name, channel whole process, channel name, channel type, location, total length, lined, design flow, design farmland, design forest and grass, real irrigation farmland, real irrigation forest and grass, water right area, and remarks. Code example: G06G02Z15D01, where the first letter represents the county name, the 2nd and 3rd numbers represent the county (district) number, the 4th to 6th characters represent the trunk canal code, the 7th to 9th characters represent the branch canal code, and the 10th to 12th characters represent the dou canal code.

2、Keywords

Theme：Irrigation,Channel,Water Resources  
Discipline：Others,Human-nature Relationship  
Places：Heihe River Basin, Linze County, Zhangye city, Ganzhou District, Shandan County, Minle County, Gaotai County  
Time：2006

3、Data details

1.Scale：None

2.Projection：4326

3.Filesize：24.95MB

4.Data format：shp

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：39.82 | - |
| west：99.14 | - | east：101.42 |
| - | south：38.16 | - |

5、Time frame:2018-11-25 18:48:11+00:00--2018-11-25 18:48:11+00:00

6、Reference method

References to data:

MA Mingguo. Irrigation ditch map in Zhangye city. A Big Earth Data Platform for Three Poles, doi:10.11888/Socioeco.tpdc.2706052013

References to articles:

7、Supporting project information

8、Data resource provider

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