A Big Earth Data Platform for Three Poles

**Hydrological data of Kafinigan hydrological station in Amu Darya River Basin,Central Asia (2020)**

1、Description

This data is from the hydrological station of kafinigan River, a tributary of the upper Amu Darya River. The station is jointly built by Urumqi Institute of desert meteorology of China Meteorological Administration, Institute of water energy and ecology of Tajik National Academy of Sciences and Tajik hydrometeorological Bureau. The data can be used for scientific research such as water resources assessment and water conservancy projects in Central Asia. Data period: November 3, 2019 to December 3, 2020. Data elements: Hourly velocity (M / s), hourly water level (m) and hourly rainfall (m). Site location: 37 ° 36 ′ 01 ″ n, 68 ° 08 ′ 01 ″ e, 420m  
1、 300w-qx River velocity and water level observation instrument  
（1） Flow rate parameters:  
1 power supply voltage 12 (9 ~ 27) V (DC)  
The working current is 120 (110 ~ 135) MA  
3 working temperature (- 40 ~ 85) ℃  
4 measurement range (0.15 ~ 20) m / S  
The measurement accuracy is ± 0.02m/s  
The resolution is less than 1 mm  
The detection range is less than 0.1 ~ 50 m  
8 installation height 0.15 ~ 25 m  
9 sampling frequency ＜ 20sps  
（2） Water level parameters:  
1 measuring range: 0.5 ~ 20 m  
The measurement accuracy is ± 3 mm  
The resolution is less than 1 mm  
The repeatability was ± 1 mm  
2、 SL3-1 tipping bucket rain sensor  
1. Water bearing diameter Φ 200mm  
2. The measured precipitation intensity is less than 4mm / min  
3. Minimum precipitation of 0.1 mm  
4. The maximum allowable error is ± 4% mm  
3、 Flow velocity, frequency of data acquisition of the observation instrument: the sensor measures the flow velocity and water level data every 5S  
4、 Calculation of hourly average velocity: the hourly average velocity and water level data are obtained from the average of all the velocity and water level data measured every 5S within one hour  
5、 Description of a large number of values of 0 in water level data: the value of 0 in water level data is caused by power failure and restart of sensor due to insufficient power supply. The first data of initial start-up is 0, resulting in the hourly average value of 0. After the power supply transformation on July 26, 2020, the data returned to normal. At the end of September 2020, the power supply began to be insufficient. After the secondary power supply transformation on December 25, 2020, the data returned to normal  
6、 Description of water level monitoring (such as line 7358, 2020 / 11 / 3, 16:00, maximum water level 6.7m, minimum water level 0m, how to explain? In addition, the maximum value of the highest water level is 6.7m, which appears many times in the data. It seems that 6.7m is the limit value of the monitoring data. Is this the case?  
）: 6.7m is the height from the initial sensor to the bottom of the river bed. The appearance of 6.7m is the abnormal data when the sensor is just started. The sensor is restarted due to the power failure caused by the insufficient power supply of the equipment. This abnormal value appears in the initial start-up. After the power supply transformation on December 25, 2020, the data returns to normal

2、Keywords

Theme：Stage height,Surface Water,Water flow rate  
Discipline：Terrestrial Surface  
Places：amu darya river, Tajikstan  
Time：2020, hourly

3、Data details

1.Scale：None

2.Projection：

3.Filesize：0.56MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：41.0 | - |
| west：70.0 | - | east：71.0 |
| - | south：40.0 | - |

5、Time frame:2020-12-02 16:00:00+00:00--2020-12-02 16:00:00+00:00

6、Reference method

References to data:

HUO Wen, SHANG Huaming. Hydrological data of Kafinigan hydrological station in Amu Darya River Basin,Central Asia (2020). A Big Earth Data Platform for Three Poles, doi:10.11888/Hydro.tpdc.2711742021

References to articles:

7、Supporting project information

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

8、Data resource provider

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