

## ***Interactive comment on “A dataset of distributed global water withdrawal from 1960 to 2017” by Denghua Yan et al.***

### **Anonymous Referee #1**

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This is a thoughtful and novel paper that provides a set of water withdrawal intensity product from 1960 to 2017 at administrative level. The description is clear, the methods are innovative, and the validation is convincing. I believe that the task of data collection for this work is tremendously huge since they processed in countries around the world. This paper provides currently the first detailed water withdrawal data set and also fills in the gaps of previous research. It is of great significance for water resources utilization and watershed management in both global and regional scales. Overall the paper is relatively clearly written and I enjoyed reading it. The manuscript is recommended for publication after the following aspects might be modified.

1. Line 17-18, “or the corresponding regions”, What does this mean? Does it refer to the corresponding land use?

C1

2. Line 28-29, “According to the...report”. This sentence is the same as above, it can be abbreviated or omitted.

3. Line 60-61, delete the last sentence.

4. Figure 1, what does the brown FIRST mean?

5. Line 88-89, the accuracy of government data is explained here, please add some references.

6. Line 103-104, it is mentioned in the method that the per capita water withdrawal needs to be calculated, but the population data required for calculation cannot be found in the database. Please provide specific population data.

7. Line 180-182, “Among them, artificial surface and cultivated land are the place where the water withdrawal is mainly concentrated.” This sentence is repeated with the following sentence.

8. Line 188, delete “respectively”.

9. Figure 4, What is the unit of the right ordinate?

10. Line 241, the paper mentioned “the minimum administrative units” many times, how do you define it? To avoid different understandings, please explain it clearly.

11. The last paragraph of the Conclusions is a supplementary introduction to the data set. It might be better in the previous paragraph.

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C2