Interactive comment on "Hydrometeorological Data from a Remotely Operated Multi- Parameter Station network in Central Asia" *by* Cornelia Zech et al.

Anonymous Referee #4

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The high mountains such as the Pamir and Tien Shan where most of the water originates from glaciers and snow provide important water resources for the Central Asia region. However, limited or scarce gauge station measurements lead to a lack of information that are key for water resource managements. To address this issue, the authors provide a dataset including near real-time meteorological and hydrological data collected from 18 remotely operated multi-parameter stations in the high mountains of Central Asia. In this manuscript, the authors provide a detailed description of station infromation, data collection methods as well as data quality issues. Certainly, this dataset is openly accessible, which is of great importance for applications in climate change and water resource management studies. However, there are still additional

work need to be done. Thus, I recommend major revisions before publication. My comments and suggestions are as follows:

1. Firstly, all the figures and tables should be thoroughly revised to make them more readable.

2. The captions of the tables and figures should be more concrete.

3. Although the authors try to show that the stations are located in remote areas and high altitudes, it's hard to get this information from Figures 2 and 3. I suggest the authors provide additional information such as elevation, mean temperature, and mean precipitation on these two Figures.

4. Since precipitation is the most difficult variable to measure, I suggest the authors provide clear figure about compact Weather Transmitter, especially precipitation sensor. Additionally, the authors should provide relevant parameters and measuring error of precipitation sensor.

5. I also suggest the authors provide close-up of Snow Pack Analyzer, which is useful for understanding the description on how to measure snow depth/snow density and its possible error sources.

6. I think it's better to move Parts 7 to supplementary material, since it's not quite important for this manuscript.

7. I suggest the authors add information such as elevation, longitude and latitude of all the stations into Table 2.

8. The authors stated that "the primary purpose of the network is to provide near real-time data for the Hydromet services without major time delay. A consistency or QC on this dataset is beyond the scope of the network operation". However, I think at least the systematic errors and apparent outliers of the data should be removed before the publishing.

9. In lines 49-52, the authors pointed out that "The monitoring network degraded significantly after 1991 mainly due to economic shortening resulting in a lack of information urgently needed for water availability decisions". Do all the stations stop working since 1991? If not, please provide addtional information about which stations are still working. Besides, are the 18 stations enough? How do you optimize the geographic locations of these stations?

10. I suggest publishing a copy of this dataset in the National Tibetan Plateau/Third Pole Environment Data Center http://data.tpdc.ac.cn/en/. This could help facilitating the High Mountain Asia study.