Raindrop size distribution and the number of raindrops is an important parameter to describe the microstructure of precipitation. Numerous studies have been carried out the statistical characteristics of DSD in different regions. Qilian mountains are the vitally important ecological protection barrier and important water source in northwest arid areas of China. In this paper, the authors select 6 sites with different backgrounds representing the southern slopes, northern slopes and inside of Qilian mountains. This study reveals the microphysical variability of precipitation in the complex topography of the arid and semi-arid regions of Northwest China, which is of great significance to solving the shortage of water resources in the arid and semi-arid regions. The manuscript is of high quality and innovative. The data are full and reliable. I suggest that it be accepted after minor revisions.

- The English and grammar of the article need to be carefully revised.
- How to determine the observation instruments are at the same accuracy standard in the 6 sites?
- In Fig 1, the size of sites is small and unclear. Add the photos of observation station or equipment.
- The research needs to further highlight the reasons for the differences between sites in the discussion and conclusion. And how is the precipitation different from other areas?
- Extended discussion: Whether the change of DSD is related to other meteorological factors, such as local wind speed?