The manuscript entitled "Datasets for research on groundwater flow and its interactions with surface water in an alpine catchment on the northeastern Tibetan Plateau, China" investigates the alpine groundwater flow and its interactions with surface water through a series of field experiments. Groundwater is critical for alpine regions but is often overlooked and in particular with respect to prospected degrading permafrost and glaciers under global climatic warming. The understanding for subsurface flow in alpine regions has long been limited because of the lack of observed data to explore. Thus, the topic and research of this study fit well the scope of ESSD and merits publication in this journal. However, there are some major issues and specific logical flaws in this stage.

Major issues

1. Although the ESSD aims to provide high quality datasets for the earth science field, it is still a scientific journal to present the new results, knowledge and understanding based on obtained dataset, rather than simply describing the measurements of datasets. The manuscript in this stage seems like a field experiment report, but lack the critical analysis for datasets, the knowledge indicated from datasets and understanding implicated from datasets.

   For example, the groundwater level variations from four well groups indicate that deeper depth has the larger variations (over 15 m) of groundwater head (Figure 3), which implicates the mountainous groundwater level particular in high elevation would be very sensitive to changes in land surface or hydrogeology structure (thawing permafrost will reshape the hydraulic connectivity). All of these observations are worthy of in-depth analysis and discussion.

   Therefore, I would like to suggest restructuring the section 3 and 4, presenting the data with a clear result analysis and discussion part, to demonstrate how these data help improving understanding for surface-groundwater interactions of Tibet Plateau, and what insights to provide for other alpine regions.

2. The authors give detailed descriptions for observed process, but lack a clear scientific objective for experimental design. Readers will be wondering, such as, why they put wells in those four locations, why they collected samples from western tributary…

   Thus, a clear objective corresponding to measurement should be need, which will strongly demonstrate the significance of the study and datasets.

Specific issues:

1. Title: "research on groundwater flow and its interactions with surface water" is so general that easy to lose readers who hope to find relevant datasets. Moreover, the manuscript lacks the in-depth analysis of how these data indicate the groundwater flow and surface-groundwater interaction. So I would like to suggest a direct and clear title, such as "Dataset for alpine groundwater levels and hydrogeochemistry in northern Tibetan Plateau".

2. Lines 58-59: Actually there are some groundwater studies focused on TP, and need to be included.
   Yao, Y., et al. (2017). "What Controls the Partitioning between Baseflow and Mountain Block Recharge in the Qinghai-Tibet Plateau?" Geophysical Research Letters 44(16): 8352-8358.
   Yao, Y., et al. (2021). "Role of Groundwater in Sustaining Northern Himalayan Rivers." Geophysical Research Letters 48(10).

3. Line 94: “Groundwater level and ground temperature changes are also explained”. Explain what? Maybe it is better to use “show”.

4. Line 100: Since the whole manuscript did not mentioned the significance of this study for the Heihe River, I would like to suggest highlighting that this is a typical case for permafrost regions or headwater areas of TP.

5. Line 104: should be “annual averaged precipitation”.

6. Line 107: Since the daily discharge is much highly varied, I would like to convert the volume unit of (m^3/day) to depth (mm/year).

7. Line 121: Should be “good hydraulic connectivity”.

8. Line 124: Since the precipitation involves the snow, this should be revised as “the aquifer is recharged by rainfall, melt water from glaciers and snow”.

9. Line 126: How low of the vegetation coverage? This should provide a percentage value at least. And this sentence is inconsistent with the following descriptions on vegetation coverage in line 135 (shrubs) and 147 (meadows). All these three parts should be combined and presented in consistency and with a clear percentage.

10. Line 128-129: how about the active layer thickness, 2 m?

11. Line 140: Is this unconfined aquifer?

12. Figure 1: I would like to suggest adding one or two photos to show your field experiments.

13. Line 155: “Well groups” will make readers misunderstanding there are multiple wells in a group. Direct using well would be better, and indicate one well includes multiple boreholes in different depth.

14. Line 181: Is this clay layer the top of the confined aquifers?

15. Line 218-220: Should give a detailed discussion for WW04, because it is the only well in the permafrost area.

16. Figure 3: The caption should note this is “daily variations”.

17. Section 4.2 and 4.3: Any results and information we obtained from these part of datasets?