Burek and Smilovic proposed a new method to identify grid cells from global hydrological or river transport model mesh to match with GRDC gauges. They used the most updated GRDC gauges and delineated the corresponding basin boundaries using a 90m resolution flow direction dataset. They further allocate the GRDC gauges to two coarse resolutions meshes that used by global hydrological model. Instead of using the comparison of drainage area and distance between the identified grid cell to the gauge location, they proposed to use drainage area and basin boundary as objective. They used several basins as examples to demonstrate the improvement of their method in finding the appropriate grid cells to calibrate and validate using GRDC dataset. They further proposed some other criteria, such as measurement period, to filter the gauges that should be used.

This manuscript is a revised version, and it is my first time to review it. First, I agree with the authors that this topic is very important for large scale hydrological models. The data, especially the code will be very useful to the modelers. However, I still have some major concerns about this study.

1. How easily can the user apply the Python code to allocate GRDC gauges to their own mesh? I note there are a lot of large-scale global river network meshes that used by different models. Even at the same spatial resolution, they can have different representations of river network because different algorithms were used. Without the authors' experience, can we successfully use the Python code?
2. Theoretically, the proposed method should be more accurate than previous method. But I failed to see it from the presented results, for example, some clarifications are needed in Figure 2 and Figure 7 (see my detailed comments below). In addition, only two basins were shown to demonstrate the improvement by using the proposed method. I wonder how many gauges in total will be improved (similar to the basin in Figure 2)? This will be a critical metric to report. It will be a significant contribution If the proposed method finds improved drainage area as the previous method for a large fraction of the selected gauges.

Overall, I recommend additional revisions before publication. Please find my additional comments in the following.

Line 21: … such as Nash-Sutcliffe and Kling-Gupta ~~for calibrating global hydrological models~~.

Line 31: GSIM database (cited by the author) provides over 30,000 stations for streamflow measurement, which is more than GRDC. Also, GSIM provides the shapefile of the drainage area for each station.

Line 157: [0,1]

Figure 2: Subplot (a) seems to plot the contributing area of cell No 14 instead of cell No 12.

Line 189-Line192: This be described earlier, probably before the presentation of Figure 1 and 2.

Line 237: Do you mean use stations with UPA larger than 10km^2?

Figure 5: increase the font size. I can barely read the station number from the subplot (a). Add legend for the red and green circles.

Figure 7: What does the red circle mean? It will be helpful to plot the gauge location and allocated cell centers (both the right and wrong ones) on the map too. I don't think Figure 7b is a good example to show the benefit of the proposed method. The dark blue area is very close to the light blue area, though the light blue area is closer to UPA derived from high resolution DEM. But the outlet of the dark blue area is closer to the gauge location. So, the previous method (compare UPA and distance to original gauge location) should give us the right contributing area on the coarse resolution mesh.

Line 358: shown in dark blue in Figure 7b?