

<RESPONSE TO COMMUNITY>

- **Title: CAMELS-KR: Catchment attributes, meteorology, and streamflow for large-sample hydrology in South Korea**
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((Acknowledgment))

We sincerely thank Community #1, Dr. Iiro Seppä, for his insightful and constructive feedback. Below, we address each comment in detail.

((Comment #1)) I noticed from figure 7 that there are quite many catchments where the runoff exceeds rainfall ($n \sim 15$) and catchments where more of the precipitation is lost before runoff measurement than PET alone explains ($n \sim 25$). It would be very beneficial to investigate where these issues likely arise, because there are many possible explanations, such as changes in storages, short timeseries, extractions for human uses, leaky catchments (subsurface flow or bifurcations removing or adding water to the catchment) or quality issues in the source products or catchment delineation.

((Response #1)) In response, we examined the catchments outside the theoretical Budyko limits and expanded the discussion of Figure 7b. We identified 24 catchments below the energy-limit line and 16 catchments with runoff ratios greater than unity ($Q/P > 1$). Most catchments are located in urban areas, suggesting that their anomalous water balances may be associated with anthropogenic influences, including interbasin water transfers, imported municipal water, and reservoir operations. However, uncertainties in precipitation and streamflow observations may also contribute. Similarly, the catchments below the energy limit may reflect water losses or other processes that are not represented by the standard long-term Budyko assumptions. Because the available data do not permit an unambiguous attribution for each catchment, we now explicitly caution users that these deviations may represent either non-closed catchment behavior associated with human water management or inconsistencies among the source datasets. The corresponding discussion has been added to the revised manuscript.

((Comment #2)) I noticed that you did not explain the catchment delineation and quality control procedure or source data anywhere. This is crucial information, and directly affects the quality of the rest of the data.

((Response #2)) We have expanded the catchment delineation section to document the source data and processing procedure. Gauge coordinates were obtained from WAMIS and HRFCO, and catchments were delineated using the 30 m AW3D30 DEM. The revised manuscript now describes the hydrological conditioning of the DEM, generation of flow-direction and flow-accumulation grids, adjustment of gauge locations to appropriate channel cells, extraction of upstream contributing areas, and conversion to vector boundaries. We have also specified that these procedures were conducted in Python using Rasterio and GeoPandas.