This paper used a bias correction and downscaling method to estimate snow cover fraction from regional climate models. The method and results are difficult to follow. Comments and questions are below.

- Figure 1, the outline of the small study area is not clear. Please also give the description of the small study area. In Figure c and d, which data source does the snow cover duration come from?
- L95-100 belong to “Study Area”, rather than “Data”.
- Section 2.1 “Observed snow cover fraction from remote sensing”, in addition to pointing to referenced paper (Matiu et al., 20201), state how you obtained the daily cloud-free snow cover maps?
- Change “2.1 Snow cover fraction from regional climate models” to “2.2 Snow cover fraction from regional climate models”.
- L155-157, please provide more detailed information for the conversion from snow water equivalent to snow cover fraction. Snow cover fraction is a ratio, how did you use the threshold of 5 mm to get the snow cover fraction.
- L162-164 why use 19 GCM-RCM for RCP8.5 and 3 GCM-RCM for RCP2.6?
- L169-170, the full name of DC, QM, QDM have provided in the Introduction section, here just use DC, QM, QDM.
- How did you validate the estimated snow cover fraction?