Line Comments

• L. 113-115 – For completeness, please also provide a similar description of snow conditions relative to climatology for the Colorado basins.

Response: Thank you. We agree that the manuscript should also describe the snow condition for the Colorado basins. We will revise the lines to: WY 2019 was characterized by well above average snow accumulation across much of the western United States, making it a wet snow year relative to long-term climatology. In California, peak statewide snowpack was 175% of average with records dating back to 1950 according to the hydroclimate report from California Department of Water Resources. Colorado also experienced above average snow accumulation in WY 2019. Statewide snowpack was 136% of median on April 1, with snowpack in the Upper Colorado River Basin at 130% of median, according to the Colorado Water Supply Outlook Report.

• L. 343 – It seems there is a logic issue here. If Aspen / Gunnison East have higher SWE later in the season than the Merced, how does more canopy interception in Aspen / Gunnison East explain that? I can understand how slower melt rates may prevail in the melt season due to the forest cover in those basins, but the interception component seems less convincing.

Response: Thank you, this is a helpful point. We agree that the original wording is not clear enough on the two distinct canopy effects. Increased canopy interception would reduce snow accumulation but would not explain why Aspen and Gunnison East have higher SWE later in the season. Our intended point was that increased canopy would reduce melt energy and slower snowmelt, which can help retain higher SWE later into the season. This idea is consistent with Sun et al. (2022), which showed that canopy primarily affects accumulation, while snowmelt after peak SWE is generally higher in the open than under the forest due to energy available in the open during the melt season. We will revise this line to emphasize SWE evolution rather than SWE values: Beyond differences among forcing datasets, the ASO-based reference itself exhibits variability across the three watersheds. As shown in Fig. 4, ASO peak SWE in Merced is higher than peak SWE in Aspen and Gunnison East, whereas Aspen and Gunnison East exhibit slower SWE depletion later in the melt season. These differences across watersheds are likely in part due to differences in land type and forest cover (Fig. S1). In particular, increased forest cover may reduce snow accumulation through canopy interception while also reducing melt energy and slowing melt, thereby influencing the seasonal evolution of SWE (Sun et al., 2022).

Reference: Sun, N., Yan, H., Wigmosta, M. S., Lundquist, J., Dickerson-Lange, S., and Zhou, T.: Forest Canopy Density Effects on Snowpack Across the Climate Gradients of the Western United States Mountain Ranges, Water Resour. Res., 58, e2020WR029194, https://doi.org/10.1029/2020WR029194, 2022.