Temporal and spatial differences in snow accumulation and trends in snowpack characteristics, as illustrated by the vertical snow profile, are variables that are conditionally influenced by elevation, with changes occur over the winter months. Differences between the snowpack accumulation and ablation at two field sites within close geographic proximity, were assumed to be the result of elevation. The two field sites, selected for snowpack characterization, were located along State Highway 14 near Cameron Pass in forest clearings that created similar wind transport and deposition characteristics. The upper elevation field site was located in a clearing adjacent to the Joe Wright SNOTEL Site (3084 m), and the lower elevation field site (2865 m) was located in a meadow along the Michigan River on the western side of the pass. Snowpack profile descriptions were collected from both sites over regular intervals, and included density, temperature, and layer characteristics. Analysis of the snow profile characteristics distinguished 3 temporal phases of development during which snow profile similarities and differences were exhibited between the two sites. The snowpack accumulation phase at both sites exhibited similar profile characteristic trends. The snow profile trends at the two sites exhibited the greatest differences when the lower elevation snowpack had begun ablation and the higher elevation snowpack was still accumulating. After snowpack ablation had begun in both locations the profile characteristics again exhibited similar trends within the snow profiles.

Keywords: snow accumulation, spatial snowpack similarities, snow density, snow temperature profile