

ECT & persistent weak layers – Little Ellis summit

Date

Mon, 01/02/2023 - 14:15

Activity

Skiing

Did two extended column tests on the east-facing slope of Little Ellis, both pits being ~20 ft down from the summit. The snow surface was a layer of surface hoar on top of ~12 cm of new snow. Slope angle was roughly 23 degrees and each pit was 75 cm deep.

We were looking for this season's problematic and persistent weak layers in the snowpack and found them quickly. Our first pit produced an ECTP10 and pulled out all the way to the ground (the entire 75 cm slab propagated on top of a sugary layer of snow at the ground-bed surface). We decided to dig a second pit on the same slope to test again and got different but still unstable results. Our second pit produced an ECTP14 on a layer of sugary snow 30-40 cm deep, and then ECTN on the remaining column of snow (potentially due to a varying ground-bed layer of snow between the two pits – most of the snow beneath the fracture in the second pit was just sugar).

We chose to ski the ridge back to the Mount Ellis parking lot for lower-angle turns (which was our plan before digging the pit, but reinforced by our results).

Region

Northern Gallatin

Location (from list)

Mt Ellis