Backcountry Weekly Summary



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Week and Year	2/20/21 - 2/26/21
Backcountry zone:	Crested Butte Area

Notable Weather Events (snowfall, SWE, winds, temps, etc.)

This week's weather can be summarized simply as sunny, warm, and windy.

With no significant snow in over a week, the focus of this week's weather has been the persistent moderate winds with strong guests out of the northwest, west, and southwest. Winds blew for the majority of the week starting **Saturday** (2/20) persisted through **Wednesday** (2/24) and increased again on **Friday** (2/26).

Sunny skies and **warm** temps also dominated this time period as Colorado was under high pressure interrupted only by two quick low-pressure systems. It felt like spring out there with daily highs **above freezing** for most of the week at **11,000'**.

The caveat to this week's weather were two small storms bringing insignificant snow totals to the Central Mountains. The first storm of the week was also the strongest, arriving on **Sunday** (2/21). Under a northwest flow, the Northwest Mountains received the highest snow totals with Irwin reporting 3.5" of new snow.

The next storm arrived **Wednesday** (2/24) evening. The storm tracked north of us, most areas surrounding Crested Butte only picked up a trace of new snow with up to 1" in mountains north of town.

As small as snow totals were, it is worth noting that moderate winds were sustained long enough to blow new snow onto leewards slopes near and above treeline.



Impressive winds drifting snow into East Bowl of Cement Mountain this week.



Snowpack (weak layer date(s) and status, structure, stability trends)

Current surface

A new persistent weak layer has developed on the snow surface, characterized by small grained, near surface facets and meltfreeze crusts with facets. Winds have heavily affected the snow surface this week, in some cases destroying the layer and in other cases, capping it with a thin wind crust. This will be a layer to monitor if and when it gets buried by more snow.

1/19 Interface

A long dry period in early January combined with strong inverted temperatures formed a widespread weak layer of facets and faceted crusts that is now buried near the middle to bottom third of the snowpack. This interface currently can be found buried 2-6 feet deep and has been the cause of very large, widespread avalanche activity throughout the state, and continues to fail with each loading event. In a number of pits, we are seeing the 1/19 interface gain strength now, and the primary failure layer has become the 12/10 interface.

12/10 Interface

The Crested Butte area, along with most of Colorado, suffered through high pressure from 11/23 through 12/9. During this dry period, all areas where snow didn't melt away aggressively faceted. On shadier aspects, this interface consists large grained depth hoar near the ground. On aspects with more solar radiation, these facets are associated with melt-freeze crusts. On 12/10, new snow buried this assortment of persistent weak layers ushering us into a season-long persistent slab problem. This interface has caused widespread avalanche activity throughout the winter, such as this <u>helicopter evacuation</u> and this <u>fatality</u>. This interface is now buried at the bottom of the snowpack. Many avalanches have failed on this layer in recent weeks, or gouged/stepped down to it in cases where the slides failed on the 1/19 interface.



An example of snowpack structure on a north aspect, below treeline, in the Ruby Range on Thursday (2/25).

Snowpack in the NW Mountains

Snowpack in the northwest mountains can be summarized as generally deep with weak layers in the lower half of snowpack and depth hoar sitting at the ground. Weak layers have been **stubborn** to break this week on **specific** terrain features.

Danger in the northwest mountains has been (very) slowly trending towards less dangerous conditions. This week we have seen a drop in danger to **Moderate** conditions at all elevations bands for the first time in 3 weeks. This is due to warm temperatures, lack of significant snowfall, and the simple fact the weak layers are now sitting deep enough in the snowpack that it is hard to affect these layers under the weight of a skier.

Reported avalanches in this zone have been on the decline. The start of this week, heavy winds transported snow and stressed our snowpack enough to where we saw a handful of very large naturals running near and above treeline on easterly and southerly aspects. However, since **Wednesday** (2/23) no new avalanches were reported as winds died down and snow available for transport dwindled. A good reminder though that the most suspect slopes are leeward features near and above treeline where wind transported snow has continued to stress weak layers below.

Snowpack in the SE Mountains

Snowpack in the southeast mountains has been shallow for most of the winter (and still is compared to the Northwest Mountains). However, this zone is now deep enough for slabs to propagate far and wide similar to the Northwest Mountains.

Sensitivity of weak layers in this zone can also be generalized as **stubborn** in **specific** terrain features. Below treeline slabs are thin and soft enough to be more reactive to the weight of a skier in some areas. Slabs near and above treeline are deep enough to where it will be harder to trigger an avalanche but if you do, the avalanche will be large to very large in size. Similar to the northwest mountains, easterly aspects near and above treeline is where you will find the deepest snow but consequently where you will also find the largest avalanches if you trigger one. Danger in the Southeast Mountains was slower to trend down to **Moderate** because we observed more natural activity ongoing through the week. The 12/10 and 1/19 interfaces are generally weaker and were more sensitive to natural and human triggers this week.

Another example of snowpack structure below treeline on a westerly aspect in the northwest mountains.



Avalanches

Here as some avalanches that broke this week due to recent wind loading stressing our persistent weak layer problem.



Natural from this past week. Northeast aspect, near treeline of Cement Mountain

A Large explosive triggered persistent avalanche from this week.



Incident, accidents, close calls

Thankfully there were no reported accidents or close calls in our forecast zones this week. However, tragically last week, three deaths around the state of Colorado were reported. <u>A snowboarder near Loveland pass</u> was caught and buried while recreating in low angle terrain. Unfortunately, this terrain was connected to steep slopes above, and the debris ran into the low angle zone where he was touring.

Two snowmobilers also lost their lives due to avalanches this past week. Read the reports <u>here</u> and <u>here</u>. Our hearts go out to the friends and family of the victims.

Comments (anything unusual/noteworthy, thoughts on the near future)

Take away from this week is simple, although natural and human triggered avalanches have been on the decline, it's still dangerous out there. This message no doubt gets communicated a lot most winters in Colorado, however, this winter is exceptionally more dangerous than winters past.

That being said, it's been finally feeling like winter in Colorado. It's been great skiing this past week and will continue to be going into next. We have snow in the forecast which means expect to see an uptick in danger in the upcoming week. In the meantime, get out, have fun, and when in doubt, keep it at a low angle!



Below is a model forecasting snow totals across Colorado by Sunday (2/28).