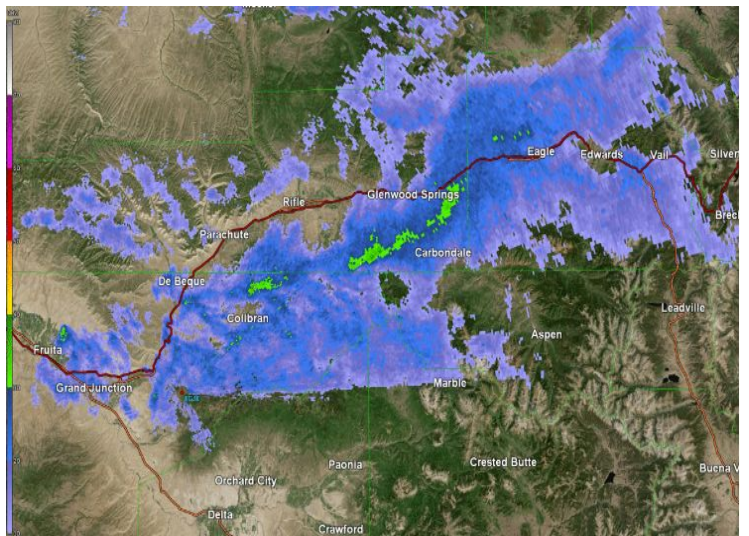
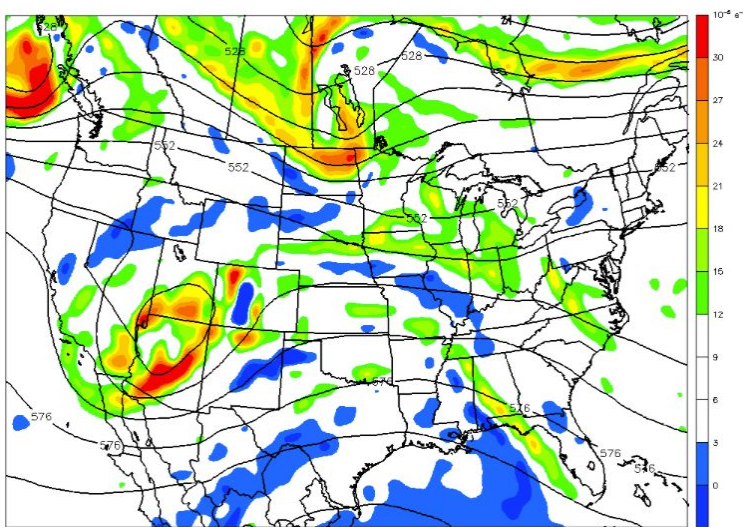


# Backcountry Weekly Summary

Staff:	Zach Kinler
Week and Year	February 21-27, 2020
Backcountry zone:	Crested Butte Area

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

500 mb Height (dm) and Absolute Vorticity ( $s^{-1}$ )  
Forecast hour: 9      Valid: 0200 MST, Sun, Feb 23, 2020



**A vort max ahead of a closed low tracking over Colorado led to a short period of heavy snow in the early hours of 2/23.**

**On 2/24 a strong cold front and tight pressure gradient created a band of heavy snow and wind, seen here moving towards CB.**

This period began on 2/21 with high pressure and warm, stable conditions. Under WSW flow with clear skies and strong solar we saw 11K highs above freezing on both 2/21 and 2/22. High clouds began to drift in on the afternoon of 2/22 ahead of a closed low tracking through the southwest US towards Colorado. This low moved over the area on 2/23 and while it lacked cold air and jet support, a vort max created on the nose of the dry slot produced an area of heavy snowfall as the low tracked overhead. A quick 6" accumulated across most of the mountain areas before skies broke with very light NW flow behind the low. On 2/24 a shortwave trough in NW flow moved into the area dragging a cold front with it which was able to produce heavy snowfall and winds for a couple hours mid-morning. Accumulations of 2"-6" were common with the Kebler Pass area favored.

Very cold temperatures were ushered in behind this shortwave on 2/25 as cold N-NW flow pumped arctic air into the area. Winds blew 10-20 mph with gusts to 60 mph under partly cloudy skies and orographic clouds over the highest peaks. Mountain highs only reached around 10F as it felt more like December than late February. After a clear and cold start on 2/26 with valley temps around -20F, we began a warming trend to close out the week as a large ridge of high pressure moved through the western US. On the final day of the period we saw mostly clear skies with passing clouds and light westerly winds bringing in a warmer air mass ahead of the next cutoff low making its way southward from the Pacific NW. With abundant sunshine, freezing levels made it to 11K.

**20200226**  
**Elkton Study Plot**  
**10,400' HS: 160cm**

**.5 mm near surface facets**

**2/23-2/26**  
**.5-1mm DF**

**2/3-2/23**  
**1 mm rounds**

**2/3 Interface**

**1/9-2/3**  
**1 mm rounds**

**1/9 Interface**

**12/24-1/9**  
**1.5 mm rounds**

**12/24 Interface**

**12/8-12/24**  
**1-2 mm rounds**

**11/20-12/8**  
**2-3 mm melt forms**  
**rounding facets**

**11/25 Interface**

**[\\*\\*Click here for full profile and test results\\*\\*](#)**

**11/20/19 Interface:** Multiple early season storms dropped 1-2 feet of snow throughout our area in October. An extended dry period followed for most of November with warm temps and sunny skies which left the southern half of the compass mostly bare while continuous old snow remained on shady aspects facing N-E from around 10,000 ft. and up. Sheltered areas free of wind and sun harbor the weakest grains. This old snow was buried on 11/20 and is now our layer of most concern. Initially, a thin crust was observed on top of this old snow as seen in this [Paradise Divide Ob](#) with facets and early stage Depth Hoar growing to 4mm underneath. This [Kebler Pass ob](#) highlights this interface and where it was found west of town. Moderate snow and wind loading stressed this layer leading to our first widespread avalanche cycle around 11/30 as seen [here](#). This [Cement Creek Ob](#) shows this layer is more isolated but present at upper elevation drifted spots near and East of town. Check out this [natural avalanche ob](#) from Kebler Pass area highlighting large, persistent slabs failing on this layer. A widespread natural avalanche cycle followed the 12/12 cycle with large avalanches breaking near the ground on this interface. No avalanches were reported to fail on this interface from mid-December through early January until strong northerly winds cross-loaded Westerly slopes near treeline. This put a slab on very weak layers near the ground and led to several large avalanches. While stubborn, large triggers such as [cornice falls](#) have shown this layer to still be a concern and the possibility of smaller avalanches breaking down to this layer remains. This layer is now buried ~150-250 cm deep.

**11/25/19 Interface:** Following the 11/20 cycle, the area saw 2 days of sunny skies and cold clear nights which effectively melted or crusted the recent snow from the southerlies while near surface facets and large grain Surface Hoar were able to form on the northern half of the compass. This weak snow is observed on the surface in this [Photo](#) and this [Photo](#). A ski cut released a very small avalanche on this layer in this [Ob](#), and time will tell if this layer remains active with additional loading. At the [Elkton Study Plot](#) on 12/4, propagating results were observed on this layer as the slab on top has settled into a 1F slab with warmer temps. On 12/5 a [rider-triggered D2](#) avalanche failed on this layer. This interface is near the ground where October snow did not exist, and rests on melt forms or large grain facets where snow remained from October. On 1/8 at the Elkton Study Plot, further rounding of the 2 mm facets was observed as well as consolidation into 1F hardness from 4F. On 2/26 this interface was Pencil hard melt forms and rounding facets, well sintered. This interface is generally ~100-150 cm deep.

**12/24/19 Interface:** After a week of sunny and warm weather, crusts formed on south aspects as well as small surface hoar and near surface facets on the shadier aspects. On 12/26 at the Elkton Study Plot, 1 mm near surface facets were observed at this interface with CT9 Q3 results and ECTN10 results. This [Kebler Pass ob](#) and this [Coon Basin ob](#) highlight this interface on southerlies while this [Paradise Divide area ob](#) illustrates the issue on shady aspects. On 1/1 at the Elkton Plot, this layer was observed as 1.5 mm near surface facets 28 cm below the surface with 1.5" SWE resting on top and hard Q2 CT results. Non-propagating ECT results were seen in this [ob](#) and on 1/8 at the Elkton Study Plot CT and ECT test revealed no failure here while a PST (40/100) SF was observed. Rounding and sintering of grains is occurring in these areas. PST END results less than 50 cm were observed the last three weeks at the Elkton plot on this interface which remains somewhat weak. Several human-triggered avalanches in the upper snowpack this week point to this layer as a possible culprit. This large [scary avalanche](#) is the most recent evidence of this weak interface. PST results on 2/26 on this layer were PST 75/100 (END) with continued rounding. It is now buried ~70-120 cm.

**1/9/20 Interface:** Following the New Year's storm, skies cleared Colorado style with very cold nights and sunny skies during the day with freezing level pushing to 11K. This created thin crusts on southerly slopes while near surface facets and surface hoar formed on shady slopes. This [Kebler Pass area ob](#) highlights this layer on each side of the compass. This [Paradise Divide ob](#) documents propagating ECT results on a crust/facet combo. This interface is a scary [Surface Hoar](#) layer which produced an intentionally triggered avalanche in the Anthracite range on 1/13. Recent human-triggered avalanches in the upper snowpack point to this layer as the culprit. On 2/26 at the Elkton plot site this layer continues to show rounding and sintering with neighboring slabs with no alarming results on short and long column test. This layer is buried ~60-100 cm.

**2/3/20 Interface:** Temperatures the first 2 days of February were well above average with 2/2 being the warmest day of the season. This led to the formation of crusts on many slopes from E-S-W. This was followed by some of the coldest temperatures of the season promoting faceting around the crust. CBAC staff documented this layer in this ob from a [West aspect](#). This [observation from NNE aspects](#) highlights this layer on the shady side of the compass as 1 mm facets. Following the 2/6-2/7 cycle this [Ruby Range ob](#) shows several large avalanches likely initiating on this interface, with some of them stepping down. Recent [very large avalanches](#) on south aspects appear to be failing near this interface in the upper snowpack and stepping down. This [Crested Butte area ob](#) from this week shows stubborn but not unreactive results on this layer below treeline. This layer is buried ~40-80 cm.

# Avalanches



**Wet loose activity on southerly slopes near treeline after warming on 2/21-2/22.**



**Widely propagating wind slabs observed on Gothic Mt after two rounds of snow and wind on 2/23 and 2/24.**

Seasonably warm temperatures on the first two days of the period led to a small wet loose avalanche cycle. These slides were observed on steep southerly aspects at mid and lower elevations. They were small in size (D1). During this warming period we also saw large [cornices](#) that have been building throughout the season with consistent west winds, start to warm and break.

An avalanche cycle followed the snow and winds on 2/23 and 2/24 as we saw avalanches up to D2.5 in size. Wind was the primary driver of this cycle as once again we saw modest amounts of snow with large amounts of wind. Wind directions during this time ranged from SW-W-NNW with East aspects near and above tree line being the bullseye for activity. Most activity remained in the recent snow however a large avalanche on Teocalli Mt and another near Rustler's Gulch on south aspects were able to break deeper.

**A large avalanche on Teocalli Mt that likely failed ~2/25 after strong N-NW winds and snow**



#### Incident, accidents, close calls

On 2/25 a [skier triggered](#) D1.5 avalanche was reported. On 2/26 a [snowmobile triggered](#) D1.5 slide was reported.

