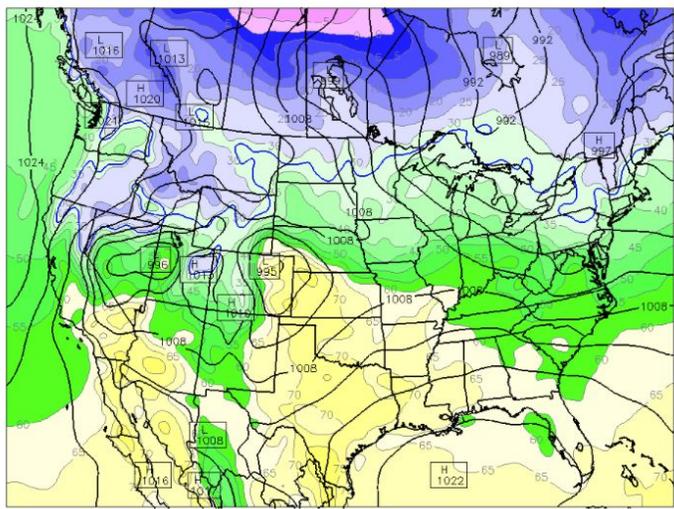


Backcountry Weekly Summary

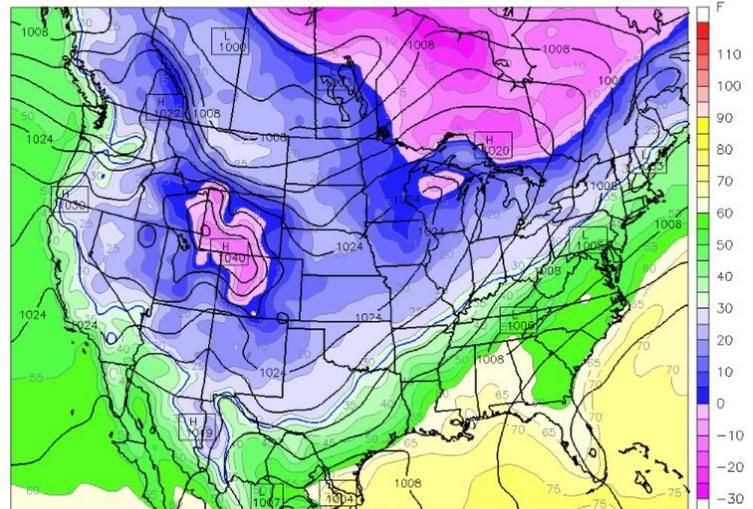
Staff:	Zach Kinler
Week and Year	January 31-February 6, 2020
Backcountry zone:	Crested Butte Area

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

Surface Temperature (F) and Sea-Level Pressure (mb)
Forecast hour: 15 Valid: 1400 MST, Sun, Feb 02, 2020



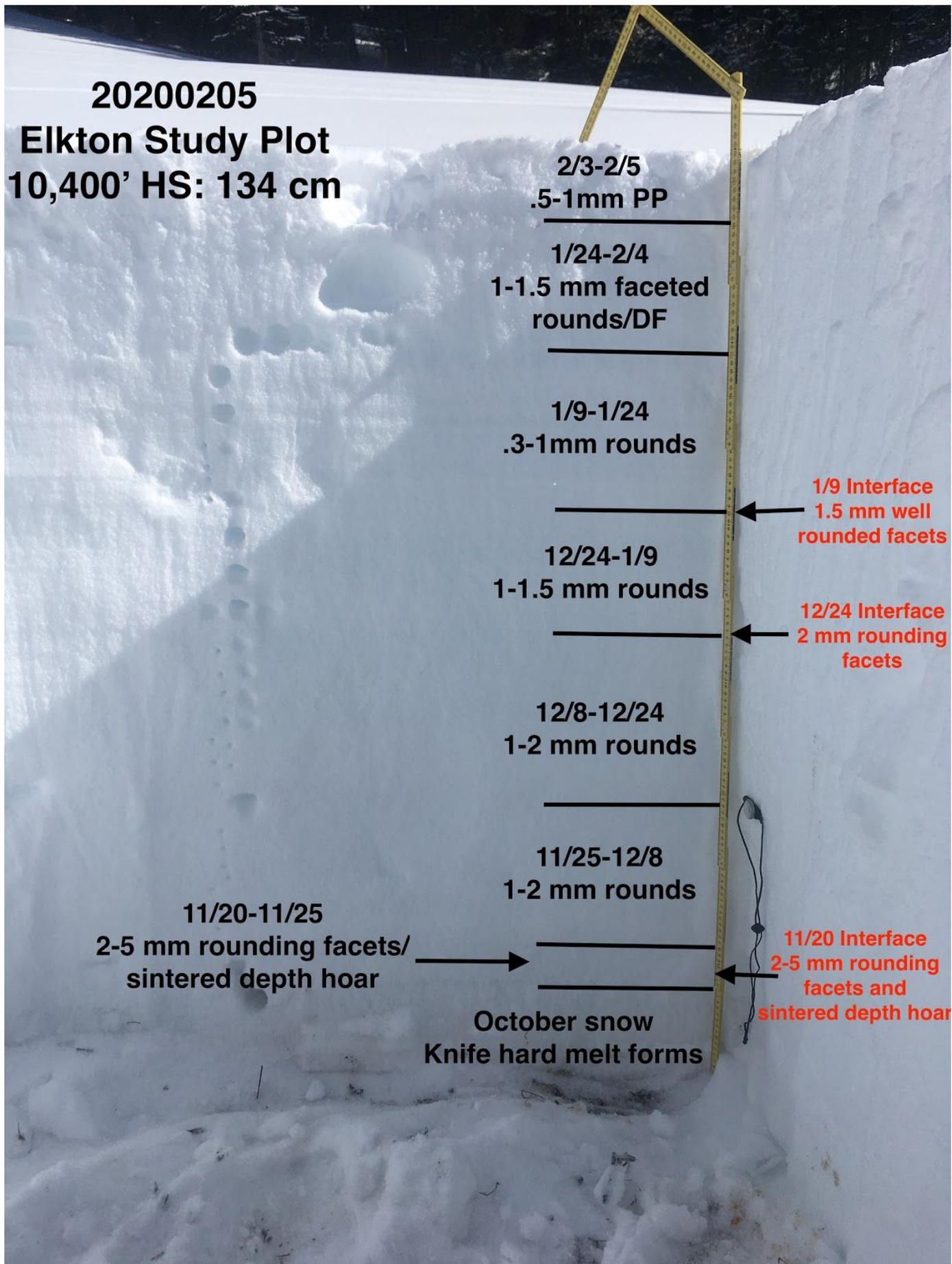
Surface Temperature (F) and Sea-Level Pressure (mb)
Forecast hour: 75 Valid: 0200 MST, Wed, Feb 05, 2020



This week saw the warmest day of the winter on 2/2 ahead of another weak shortwave trough that ushered in some of the coldest temperatures of the winter as well as another shot of light snowfall.

This period began on 1/31 with deep northerly flow in place behind a departing shortwave with strong NE-NW winds. Mostly sunny skies with occasional clouds filtered in and mountain temps remained below freezing. Flow then transitioned west on 2/1 with a warmer air-mass ahead of a quick-hitting shortwave trough. Winds eased and despite high clouds, freezing levels pushed to ~11K. Flow continued to swing towards the SW on 2/2 with mountain temps steady or rising to the mid-upper 20s while inversions remained locked in the valleys. This was the warmest day of the winter with freezing levels rising above 12K under sunny skies and strong solar. On 2/3, with an approaching storm, clouds increased through the am with mild temps around 20F. Snow began around 12:00 for most locations and was light to moderate with strong pre-frontal southerly winds followed by a transition to westerly winds and decreasing speeds. Temps plummeted after frontal passage as arctic air moved in.

2/4 was mostly cloudy with light orographic snow and clouds hanging over the favored areas north and west of town with 2"-8" accumulations favoring the Paradise Divide area. Cold mountain temps in the single were steady to decreasing throughout the day leading into one of the coldest nights of the winter. 2/5 started with valley temps near -30F and mountain locations in the -teens. Mostly clear skies with light to moderate NW winds were observed. Temps rebounded a bit during the day to around 10F before overnight temps began to increase as moisture from our upcoming storm system began to push in. On 2/6, skies were cloudy with light snow beginning to fall under NW flow. Winds were in the 20s and gusting to the 40s as we see the start of a long-duration loading event driven by a large fetch of moisture from the Pacific NW being transported by a consistent and strong jet stream.



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. With the largest loading event of the season upon us, it is likely that this layer may become active again. This layer is now buried ~100-200 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. PST results on 1/22 at the Elkton plot were 107/121 with propagation to END, marking the first time results greater than 50 were observed. This interface is generally ~90-150 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 2/5 at the Elkton plot site continue to show propagation potential on this layer which will be stressed by the incoming load. It is now buried ~50-90 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 2/5 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 ~30-70 cm.

Avalanches

This large persistent slab avalanche was observed on 2/1 on a SE aspect on Taylor Peak. Incremental loading and strong winds at the end of January cross-loaded features like these. This avalanche may have started as a smaller wind slab that stepped down.



Dry loose snow activity on a NE aspect in the Paradise Divide area observed on 2/4 after another weak shortwave delivered 2"-8" of snow and cold temperatures.



