Backcountry Weekly Summary

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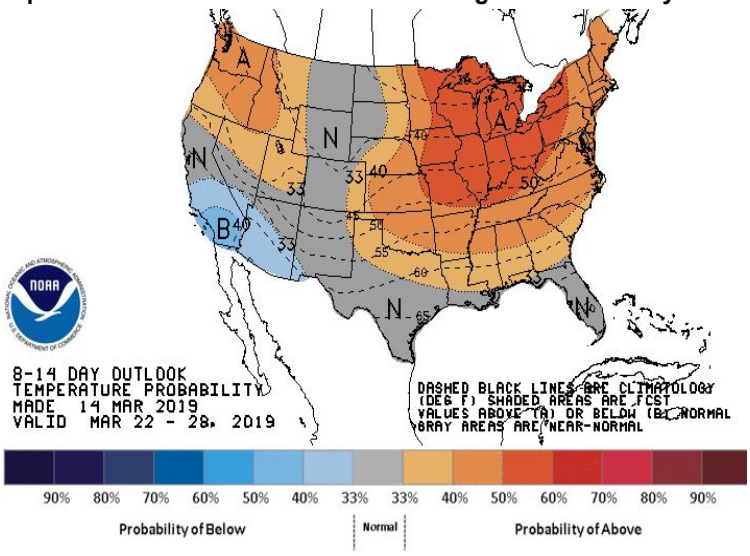
Week and Year	March 22-28, 2019
Backcountry zone:	Crested Butte Area

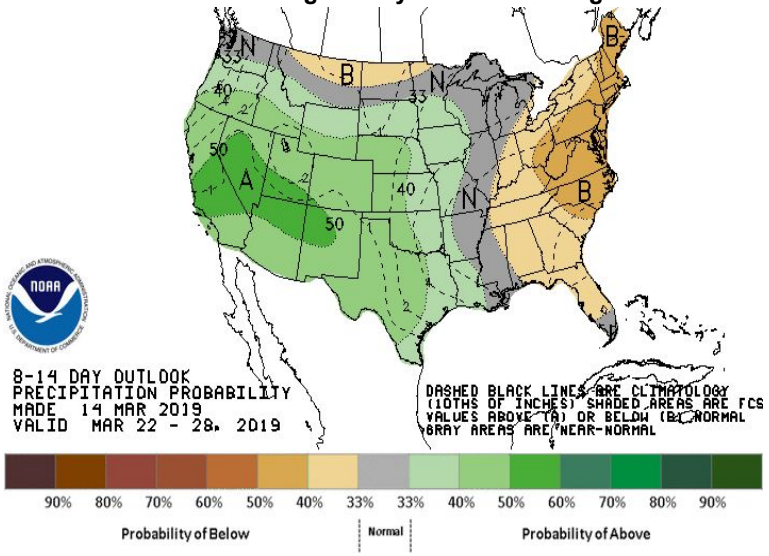
Notable Weather Events (snowfall, SWE, winds, temps, etc.)

This period began with large SW Low, comprised of two distinct shortwaves, moving through our area providing a return to snowfall. On 3/22, moisture filtered in from the South keeping temps warm. With a dry atmosphere it took a good surge of moisture to saturate and eventually produce precipitation which favored the mountains of southern Colorado. Right on the heels of this was the next wave which provided lift and moisture and an easterly trajectory and slightly higher snow totals. This storm was not a strong one with the first wave dropping ~1” and the second wave 2”-7”.

Cool and unsettled conditions hung around through 3/25 when skies finally cleared and a warming trend began. An additional 2”-5” snow fell with the final disturbance before a ridge of high pressure moved in from 3/25-3/28. During this time under warm SW flow, we saw our first major warming in months with temperatures around CB reaching 50F and alpine temperatures going above 32F in many locations. On 2/26 a dry cold front moved through with a few clouds, wind and cooler temperatures ahead of an approaching low from the West. On 3/27-3/28 winds increased and temperatures slowly decreased as the next weak storm got closer.

Temperature and Precipitation forecasts for this period issued on 3/14. The forecast verified well as we saw a couple weaker storms impact our area but no direct hits from large scale storm systems were felt. Conditions were generally unsettled during this time.





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

12/19/2018 Interface: This layer from our mid-December dry spell was unreactive in small and long column tests this week at the study plot. When originally buried, we were dealing with a variety of crust/facet combos on the southerlies with shady aspects having surface hoar down low and near surface facets as you get near and above treeline as seen here: se-s-sw-ntl and afternoon-lap-skook. After the X-mas storm and with SWE amounts on this layer exceeding 1", several D2 avalanches were observed here (p-divide-shaded-treeline-structure and north-below-treeline). After the "Holiday Slabs" came in, we again saw many a small avalanche likely releasing on this layer, especially in the Cement Creek zone. During the avalanche cycle from 1/16-1/24, several very large avalanches on White Mountain and Whetstone likely broke on this layer in the shallower zones near Crested Butte. This interface is still visible in snow pits with varying results in short and long column tests. This Crested Butte area observation revealed a significant slab over this layer with propagating results in a long column test. While less of an issue in our deeper snowpack areas, this interface is still a player, especially in our shallow zones around town and to the East. A couple recent very large avalanches breaking deeply in the snowpack and many step-down avalanches have been failing around this layer. This recent natural activity highlights a couple slides breaking very close to the ground and this very large Gothic West side avalanche breaking at the ground may involve this interface. No test results and no activity on this layer continue as it becomes less of a concern.

01/15/2019 Interface: This layer formed after the minor accumulations around 1/10-1/12 fell on the weak surface from after 1/06 and was observed as 6 mm SH on a SE aspect @ 11,500, and 3-4 mm SH at the Elkton Study Plot @ 10,400'. Take a look at this observation, surface-obs, from the Paradise Divide area which documents this interface as well. This skier triggered avalanche on a S aspect in the Kebler Pass area ran on this layer, which was a crust, as did this avalanche. Last week in the Crested Butte zone, this layer was observed as SH on top of a crust/facet combo on a SW aspect near treeline and produced propagating results. This interface was involved in a skier triggered avalanche on the South face of Baldy(see "Incidents, accidents and close calls" below). This Kebler Pass zone observation reveals this layer of concern in our deeper zones as does this with Propagating results. Explosives testing got results on this layer last week and future loading will certainly stress this interface. This CBAC observation reveals this layer to be healing in a deeper snowpack as do tests in the Elkton Study plot, however in shallower zones less than 200 cm, it likely has not healed as efficiently and may still be a culprit as many recent avalanches are stepping down deeply such as this recent very large Gothic avalanche. No test results and no activity on this layer continue as it becomes less of a concern.

1/21/2019 Interface: Warm days with highs above freezing and cold nights under brief High Pressure following our 1/15-1/18 cycle led to the formation of surface hoar, near-surface facets and crusts depending on aspect/elevation which got buried initially by our "MLK" storm and now sits ~60-80cm deep after the most recent loading. This layer was the culprit in this Elk Creek skier triggered avalanche. This large remote-triggered avalanche occurred a few days later with this interface likely involved. In late February, there were no results on this layer at the Elkton Study Plot and this CBAC observation reveals this layer to be healing in deeper snowpacks but still a potential offender in the shallower snowpacks less than 200 cm. Again, recent natural avalanches breaking deeper into the snowpack may be stepping down and through this layer. No test results and no activity on this layer continue as it becomes less of a concern.

02/03/2019 Interface: This is our most recent layer of concern and is fairly widespread layer of small near surface facets on shadier aspects and crust/facet combos on sunnier aspects. This layer formed during a period of stable weather with sunny skies, cold nights and warm days after last week's storm cycle and got buried in the first hours of 2/03 by a storm which came in with widespread graupel making it easy to identify in pit walls. This interface was immediately reactive in pit tests as seen in this Paradise Divide observation. On a South aspect, this layer produced propagating results before the Valentine's loading as seen here. Prior to our "March Madness" event which has buried this layer under 185 cm of P hard slab at the Elkton Study Plot, facets were observed on 2-3 mm graupel particles. No test results were seen however prying of the slab produced planar fractures. Because of the current depth and trend, this layer is not concerning at this point.

02/16/2019 Interface: This layer formed on 2/15 when skies cleared and late the February sun was able to form a crust on aspects in the sun. This layer is seen on a WSW aspect in this observation from above Pittsburg with small facets forming below. It appears this layer is confined to sunny aspects as a melt-freeze crust which has broken down this week at the Elkton Plot and does not present any concerns at this point.

2/28/2019 Interface: The warmest temperatures of the season led to a widespread melt-freeze crust which got buried on 2/28. No faceting was seen yet at the Elkton Study Plot last week, however temperature gradients were very strong under this crust. During our historic “March Madness” loading event, many avalanches broke initially at this new/old interface however it is now under 4-6 ft of dense slab and while it is a smooth sliding surface, it does not appear that this will be a layer of concern moving forward. Recent tests such as this Paradise Divide ob documents this well. Small rounding facets were observed above this crust with prying of the long and short column tests producing planer fracture here but it most likely would take a huge load to wake this layer up.

Avalanches

With intermittent snowfall and warming temperatures, most of the avalanche activity this period was of the wet variety. There were fairly widespread wet loose avalanches in the D1-D1.5 size occurring on aspects from E-S-W at all elevations. A few isolated small wind slabs occurred in the alpine during the small loading events. The wet slab avalanche cycle began but had little time to endure as temperatures quickly dropped behind the strong cold front. This activity was confined to below tree line slopes on the south and east side of the compass.

Incident, accidents, close calls

This week there were not incidents, accidents or close calls reported to the CBAC.

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

This week we saw the first glimpse at a potential wet slab cycle that will return once we get near to above average temperatures to return. The late March sun is high in the sky and very powerful this time of year. Unsettled weather looks to stick around with cooler temps and periodic moisture.