

Reas Peak Avalanche Fatality

1 snowmobiler caught, fully buried and killed
Centennial Range, ID
Caribou-Targhee National Forest – January 10, 2018

SYNOPSIS

On the afternoon of January 10 three snowmobilers were riding near Reas Peak in the Centennial Range. The group was riding along a trail in a creek bed with 500-700' high slopes approximately 36 degrees steep on both sides. One rider (Male, 36) rode up a steep gully to one side of the creek and triggered three small pockets of snow above. He was caught and fully buried and his sled was buried. The group had shovels and probes, but no avalanche beacons. The other two riders, with help from another group of five, located and excavated the buried sled, made a fire, and searched for over 3 hours without finding the buried rider. Due to dangerous conditions the group suspended the search for the night and left the area. At 1000hrs the next day, a rescue dog team located and uncovered the buried rider. The avalanche was a soft slab of recent snow that collapsed on sugary, weak facets underneath. It is classified SS-AMu-R1-D2-I.

GPS coordinates:

Victim burial location: 44.54230 N, 111.52181 W

Photos:

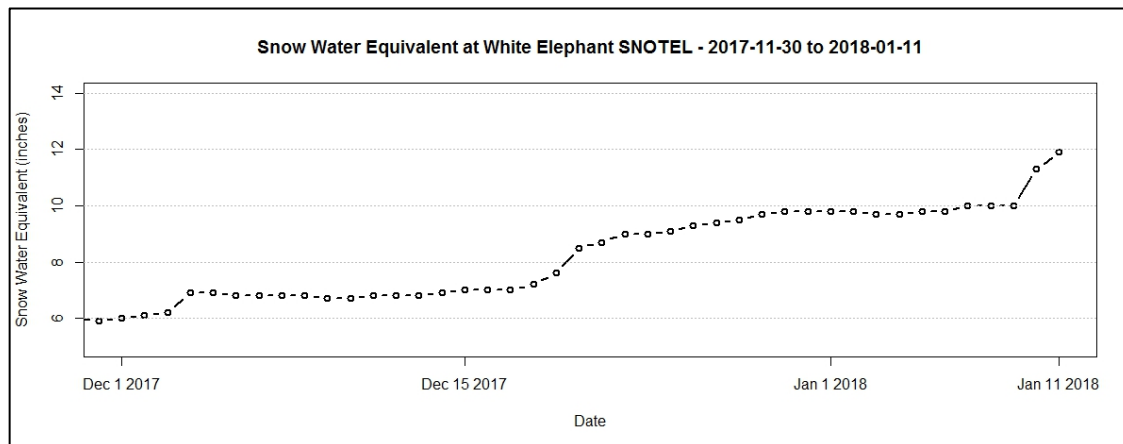
<https://www.mtavalanche.com/images/18/reas-peak-fatality-view-crowns>

<https://www.mtavalanche.com/images/18/reas-peak-fatality-crowns-close>

<https://www.mtavalanche.com/images/18/reas-peak-fatality-debris>

WEATHER

Snow depth and precipitation data are from the White Elephant SNOTEL site located at 7,710', approximately 4 miles east of the avalanche site. Wind speed and direction data are from the Lionhead weather station at 8,775', approximately 15 miles northeast of the avalanche site.

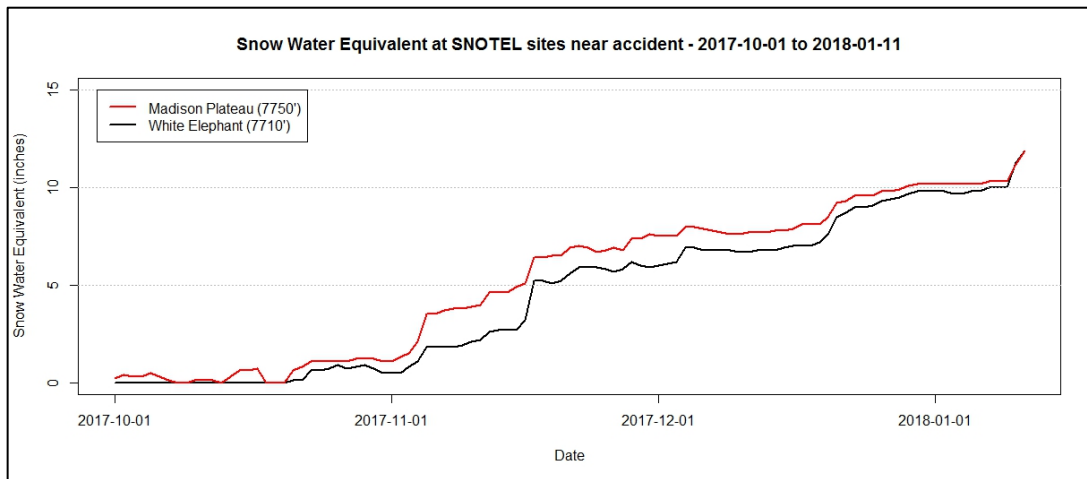


On December 1 the White Elephant SNOTEL had a snow depth of 22" equal to 6" of snow water equivalent (SWE). On December 2 and 3 the station got 8" of snow equal to .8" of SWE. A mostly dry period through December 18 was followed by 1.5" of SWE on December 19 and 20. Steady, light snowfall for ten days added 2.8" SWE to bring total depth to 40" equal to 9.8" SWE on December 30. Through January 8 the station received a couple inches of snow. Then, from January 9 at 0900 to 0900 the morning of the accident the station got 14" of snow equal to 1.9" SWE.

Wind at the Lionhead weather station over 24 hours prior to the accident was west-southwest at 5-10 mph with gusts of 15-20 mph. At 0700 the day of the accident temperatures were 30 F at White Elephant and 26 F at Lionhead, and by 1700 had dropped to 17 F and 13 F, respectively.

SNOWPACK

The avalanche occurred near Reas Peak in the Centennial Range on the border of Montana and Idaho. There is no public avalanche advisory or public backcountry weather and snowpack information for this area. The Gallatin National Forest Avalanche Center (GNFAC) issues daily avalanche and mountain weather advisories for The Lionhead area near West Yellowstone, 15 miles east-northeast of the accident. The snowpack in the Centennial Range is often similar to the Lionhead area, so data used for avalanche conditions at Lionhead are used here to assess avalanche conditions in the Centennial Range the day of the incident. The below graph of snow water equivalent at the Madison Plateau SNOTEL station near Lionhead and the White Elephant station near Reas Peak shows a similar pattern of snowfall at the two areas this winter.



The avalanche released as 3 separate pockets of snow, each 100-150 feet wide, 150-200 feet long, and 2-2.5 feet deep. The crowns were on a west-southwest aspect with an estimated average slope angle of 36°. The highest crown was at 8,700' and the debris was at 8,360', piled 6-12 feet deep on a bench.

The avalanche was a soft slab of recent snow that collapsed on sugary, weak facets underneath. It is classified SS-AMu-R1-D2-I. A relatively shallow snowpack became faceted and weak during cold, dry weather the first half of December. Warm temperatures on Thanksgiving had created a crust 1-2' above the ground. Then weak, sugary facets formed below and above the crust. Steady, light snowfall from

December 18 to December 30 formed a slab above the weak snowpack and created unstable conditions. On December 30, the GNFAAC issued an avalanche warning for the Lionhead area near West Yellowstone, meaning avalanche danger was rated high on all slopes. On that day, a snowmobiler triggered, was caught and buried in an avalanche on Mt. Jefferson, one and a half miles from the Reas Peak accident site.

On January 10, the area near the accident received 1.9" of SWE in 24 hours on top of a very unstable snowpack and the GNFAAC issued an avalanche warning for the Lionhead area near West Yellowstone. Prior to this new snow, cracking and collapsing of the snowpack were observed in addition to unstable stability test results and large natural avalanches (see videos and photos below).

There was no official investigation or crown profile data collected at the accident site. Rescuers noted widespread natural avalanches and collapsing on their way to the site where they noted snow depth was 70-90 cm with weak, sugary snow at the bottom. Lack of wind loading at the site was also noted.

GNFAAC Avalanche Advisory for January 10, 2018: <https://www.mtavalanche.com/advisory/18/01/10>

GNFAAC Avalanche Advisory for December 30, 2018: <https://www.mtavalanche.com/advisory/17/12/30>

Video from Lionhead, January 9, 2018: <https://youtu.be/e9OACzfb7pQ>

Snowpit from Lionhead, January 9, 2018: <https://www.mtavalanche.com/images/18/lh-wx-station-9-jan>

Photo from Lionhead, January 9, 2018: <https://www.mtavalanche.com/images/18/poor-snowpack-structure-lionhead>

AVALANCHE

On the afternoon of January 10, a group of three snowmobilers were riding near Reas Peak in the Centennial Range, and one rider (Male, 36) was caught, buried and killed in an avalanche. The Centennial Range is an east to west running crest of peaks on the border of Idaho and the southwest corner of Montana. The avalanche was on the southern side of the range in Idaho, 10 miles northwest of Island Park and 30 miles west of West Yellowstone, MT.

The group was riding along a trail in a creek bed with steep, 500-700' high slopes on both sides. One of them rode up a gully to one side of the creek and from low on the slope triggered three small pockets of snow above. He was caught and fully buried and his sled was buried. The group had shovels and probes, but no avalanche beacons. The other two riders were close by and saw the first rider get caught and buried. They immediately started digging and probing. They heard another group's snowmobiles and got them to help. They located and excavated the buried sled, made a fire, and searched for over 3 hours without finding the buried rider.

RESCUE

The group called 911 from a cell phone and Fremont County Search and Rescue was notified at 1700 on January 10. Rescuers responded to the accident that night to assist group members out. Due to dangerous avalanche conditions the search was suspended until the following day. They considered the use of explosives deployed from a helicopter to mitigate the avalanche hazard, but poor weather

prevented this operation. On Thursday, January 11, rescuers from Fremont County SAR and a Teton County SAR rescue dog team left at 0830 on snowmobiles up the Willow Creek drainage from Yale-Kilgore road and arrived at the accident site by 1000. The victim was located and uncovered by the rescue dog within 5 minutes. He was buried 18 inches deep under soft debris, approximately 10 feet downhill from his sled. Rescuers packaged the victim in a rescue sled and transported his body to the trailhead where he was transferred to an ambulance.

INVESTIGATION

This report was compiled by Alex Marienthal of the Gallatin National Forest Avalanche Center. Information from the avalanche site was gathered through phone interviews with Jason O' Neill from Teton County SAR and Randy Gravatt from Fremont County SAR, both went to the site for the rescue.

Any questions should be directed to:

Alex Marienthal
Avalanche Specialist
Gallatin National Forest Avalanche Center
406-587-6984
amarienthal@fs.fed.us