



## Danger Zones: The Grand Teton

By Joel Peach

**When Glenn Exum made the first ascent of the upper south ridge of the Grand Teton in 1931, he did so ropeless and wearing football cleats two sizes too large. The 18-year-old aspiring mountain guide negotiated an exposed traverse by leaping from the end of Wall Street ledge to gain the south ridge, which he followed to the summit.**

Five years later, Jack Durrance and Kenneth Henderson climbed the lower section of the southern ridge and joined Exum's route to the top. The upper Exum Ridge and the original Owen-Spalding Route—first climbed in 1898—on the peak's west face are still the most popular ways to summit the Grand Teton during the busy summer season.

The carefree style of Exum's ascent notwithstanding, an ascent of the Grand by any route is a serious undertaking. The standard route through Garnet Canyon from the Lupine Meadows Trailhead gains about 7,000 feet, including about 1,700 feet of third- to fifth-class terrain, by the time one stands at the summit marker. Navigation can be inobvious, snow travel often presents hazards on the ways up and down, and variable mountain weather presents risks of lightning, ice-glazed rock, and hypothermia.

Underestimating the hazards of these routes has resulted in numerous serious (and in many cases avoidable) injuries, rescues, and deaths. While one may deem the number of incidents commensurate with the popularity of the climbs, it's worth noting that one in four of the Exum and Owen-Spalding incidents reported in *Accidents* resulted in a fatality. The stakes can be high on the Grand Teton. By analyzing the incidents reported in *Accidents*, we hope to offer guidance to future parties, so they can enjoy the alpine majesty of a Grand Teton climb while mitigating its perils.

### METHODOLOGY

We searched *Accidents*' online database for all incidents related to the Grand Teton with a stated objective of either the Exum Ridge or Owen-Spalding Route (which is also the main descent route for all climbs of the Grand).

Most climbers approach and descend these routes via Garnet Canyon, so we included incidents taking place there, provided climbers were on their way to or from a route above the Lower Saddle, regardless of objective. However, we excluded climbs on the canyon walls or neighboring peaks.

Our search returned 74 incident reports from 1950 through 2014, involving 78 parties. Most took place during the peak summer season from June to August. The incidents were roughly split between those taking place on ascent and descent—despite the conventional wisdom that “most” mountaineering accidents happen during the descent.

It's important to note that our data includes only the incidents reported in the pages of *Accidents in North American Climbing*. These reports typically cover the most significant technical climbing accidents on the Grand Teton every year, but other accidents and rescues—some that involve Grand Teton National Park rangers and others that don't—are not recorded in these pages. Rangers and other Teton experts reviewed our conclusions to ensure they were consistent with the complete

accident record.

## **FALLS ON SNOW**

Considering that 85 percent of the Grand Teton incidents took place during the summer, it might surprise climbers to learn the single most frequent contributing factor was a fall on snow. Overwhelmingly occurring during descents, these incidents were clustered among three main zones: at the upper end of the Garnet Canyon approach trail, around the Lower Saddle headwall, and between the Lower Saddle and Upper Saddle.

At the upper end of Garnet Canyon, the elevation is around 10,000 feet and the mountain retains snow for much of the year. Several of the reports from this zone described incidents involving moats (deep, crevasse-like slots found where snowfields meet rock walls and boulders or where meltwater has carved channels under the snow). In 1984, a climber fell on snow and was unperturbed enough to smile and wave at another climber as he slid past her, then he shot off a lip of snow into a moat and drowned. In 2013, a climber failed to follow a guide's instructions to wait for a rope before moving onto a snowfield; he too perished in a moat.

Higher up, just below the Lower Saddle, a snowfield whose bottom abuts the Middle Teton Glacier invites glissading during the descent. In three recorded instances, the climbers who initiated a glissade were unable to self-arrest. One climber in 1985 had been practicing ice axe techniques when a loss of control resulted in a lethal self-inflicted axe wound. In some cases the climbers who slipped in this area were either not carrying an ice axe or had left it strapped to their pack. In one case a guided, roped team was unable to prevent everyone from sliding several hundred meters, even though the guides were properly positioned and the climber who slipped attempted to arrest the fall.

Higher on the mountain, between the Lower Saddle and Upper Saddle, there are often snow patches and snow-filled gullies that can turn otherwise minor missteps into catastrophic events. The majority of the reported incidents occurring in this zone were fatal, owing to the exposure. Most parties were not carrying the proper gear to self-arrest, and those that did were often still injured.

## **RECOMMENDATIONS**

Although the roped climbing on the Grand is mostly on rock, part of the appeal—and danger—of the mountain is that it requires a full range of alpine climbing skills. Snow conditions vary significantly from month to month and year to year—climbers should always inquire with rangers or local guide services to see whether an ice axe and/or crampons will be recommended for a given route. The Jenny Lake rangers' blog ([tetonclimbing.blogspot.com](http://tetonclimbing.blogspot.com)) is a good source of condition reports during the climbing season.

If snow climbing is required, it's essential to know how to climb and descend steep snow and to self-arrest. The 2014 edition of *Accidents* included a feature article on snow travel ([available here](#)), and professional instruction in these techniques is widely available.

Variability of snow conditions during the day also should be considered. Many of the incidents reported in *Accidents* involved climbers who were lured onto firm or icy snow, fell or lost control of a glissade, and were unable to self-arrest. Others ventured onto sun-softened snow that was too slippery for kicking steps or that concealed harder, icier snow underneath. Wet snow also may ball up in crampons, rendering them useless. Late-summer snow can be particularly firm, as one incident analysis suggested: "The snowfields late in August are extremely hard and the use of crampons is almost a necessity when traveling any distance on them." However, climbers in late season often may be able to hike or scramble around patches of snow more easily. Always consider mitigating snow-travel risks with a belay if unexpectedly slippery terrain is encountered while descending.

George Montopoli, a veteran Grand Teton ranger and accident researcher, said his extensive database of Teton Range accidents shows the number of snow-travel accidents has declined in recent years, relative to other causes such as climbing falls, lightning, and rockfall. He suggested this was because of reduced snowfall and quicker melting in many recent summers. "We simply do not see the snow and other climatic conditions now that were present in the '70s and '80s," Montopoli said. Nonetheless, nearly every recent edition of *Accidents*, including this one, has reported falls on snow on or near the Grand.

## **FALLS ON ROCK**

A quarter of the incidents surveyed involved a fall on rock, and the incidence of rock climbing falls has increased as a percentage of all accidents in recent years. These accidents almost always involved multiple contributing factors, the most common of which were solo/unroped travel and weather.

The modest technical difficulty of the Upper Exum Ridge and Owen-Spalding Route invite unroped climbing. Among climbers making their way alone or in teams without ropes, the accident reports show a variety of experience levels, ranging from a person in hiking boots who had only climbed in a gym twice before setting out to a veteran guide who fell to his death while soloing the Lower Exum. Different events precipitated the falls (broken holds, rockfall, wind gusts, etc.), but the decision to travel unroped and/or alone nearly always greatly amplified the consequences.

It's interesting to note that only two of the cases reported in *Accidents* involved a fall where a climber's protection pulled or failed. There were, however, cases where placing better and/or additional protection may have reduced the severity of falls. In one such case, a guide took a fatal 130-foot roped fall. (His client's life was most likely saved by a single nut placed at the belay.) In another incident, an off-route climber struck a ledge after taking a fall from a run-out position. In yet another, a seconding climber was injured in an unintended pendulum after slipping.

## **RECOMMENDATIONS**

Regardless of ability, any decision to climb unroped or place minimal protection should give due consideration to objective hazards, including rockfall, dropped gear, icy or wet rock, loose holds, and other factors. An incident analysis from last year noted, "If this climber had been with a partner and roped up, with protection in place, his fall may have been minimal."

On more technical terrain, climbers should belay and place solid gear that is adequate to protect both the leader and those following. Experienced climbers may consider simul-climbing with some intermediate pro as an alternative to unroped travel on portions of the Upper Exum Ridge, giving some measure of protection against unexpected events. However, keep in mind that any fall while simul-climbing may involve both climbers, not just the leader.

## **WEATHER**

The entire Owen-Spalding and Exum routes are above treeline, and exposure to poor weather continues until one is well down the trail into Garnet Canyon. Midday storms are common during the climbing season and bring with them the danger of lightning, high winds, hail, and snow. Snowstorms occurred during reported incidents on June 11, July 26, July 28, August 31, and September 12—covering nearly all of the summer season.

When the weather turned sour, many climbers in our reports made mistakes while attempting to beat storms to the summit or retreat away from them. Storms also increase the difficulty of the routes themselves. In 1999, a properly equipped leader fell from the Friction Pitch (the 5.4 crux of the Upper Exum) after a storm made the route icy and a wind gust blew him back.

Be prepared for weather to change the nature of the entire climb. An accident analysis in 1962 cautioned, "Nearly all storms in the Tetons leave the rock either ice-covered or wet and change most grade 3 climbs to grade 5 or 6, and also increase the amount of rockfall." Snow or icy rock may linger in shadowed areas of the routes long after a summer storm has passed.

Lightning is a particular hazard on the exposed upper mountain. Climbers have been struck by lightning bolts or ground currents on the Upper Exum, at Wall Street, and in the Owen Chimney on the Owen-Spalding Route. In an incident on July 26, 2003, a single lightning bolt appears to have sent electricity the entire length of the Exum Ridge, injuring several climbers, one fatally. The analysis of the 2003 accident noted that the party size was large (13 people), and combined with a late start and poor position on the mountain (arriving at Wall Street at 11 a.m.), this made it nearly impossible to safely retreat.

## **RECOMMENDATIONS**

In all but one of the reported lightning strikes, the parties were hit after noon. The earliest strike recorded in our reports was at 11:30 a.m. in August 1999. Descending from the upper mountain before noon greatly increases one's chances of avoiding lightning. However, an early start is not a guarantee of avoiding storm danger. Cold fronts passing through the area can add lift and instability to the atmosphere and, when coupled with existing moisture, may produce storms any time of day or night. Under certain conditions, monsoon moisture originating in Mexico can make its way to Wyoming, carrying greater cloud density and storm-producing humidity.

Mountain forecasts get stale quickly. Check local forecasts frequently and inquire with the Jenny Lake rangers about expected weather conditions as close as possible to your climb. In several incidents reported in these pages, park rangers had specifically cautioned climbers against ascents or certain routes due to conditions or weather.

Stay aware once you're on the route and be willing to change your plans. Early cloud build-up in Idaho, to the west of the mountain, is often a sign of impending storms. If you can hear thunder or see lightning flashes, you're close enough to be struck by lightning and should turn around. The book *Reading Weather*, by Tetons-based forecaster Jim Woodmencey, is an excellent introduction to meteorology and field forecasting.

## **ROUTEFINDING**

One in ten incidents reported in *Accidents* involved a problem staying on route, either on the way up the mountain or during the descent. Getting off-route often means encountering more challenging terrain, with an increased risk of falling. Poorer quality rock also may be encountered off the main routes. Finally, losing the route leads to delays and potential stranding, greatly increasing the risk of weather-related trouble.

## **RECOMMENDATIONS**

Before you leave home, take advantage of guidebooks and online trip reports to familiarize yourself with the intended route. Photocopy descriptions of routes and the planned descent to carry with you. (Consider carrying descriptions of alternate routes in case your planned climb is crowded or you get off-route.) Once you arrive at the park, stop by the Jenny Lake Ranger Station to inquire about current conditions and route-finding advice.

Study the route ahead from your highest camp. During the climb, make a point of pausing as soon as it's light to note key landmarks of the route and descent. Be willing to retreat and know the options for doing so. However, there are few efficient options for retreat from the Upper Exum. Once high on the upper ridge, the best way off is to continue to the summit and descend the Owen-Spalding.

## **FINAL NOTES**

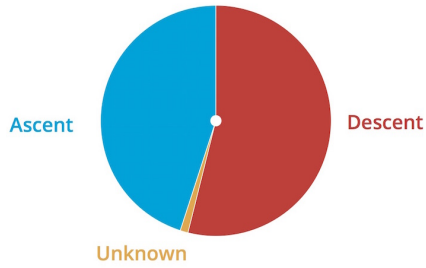
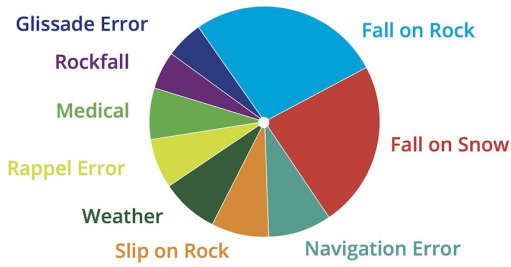
A handful of reported incidents involved large parties, ranging up to 13 climbers. The analyses mentioned that larger parties can make it difficult to manage ascents safely—and may cause additional problems in a retreat.

A few instances of high altitude illness have been reported, including high altitude pulmonary edema (HAPE) or high altitude cerebral edema (HACE). The risk of altitude illnesses increases above 8,000 feet, and the Grand rises to 13,776 feet. Give yourself time to acclimatize, especially if coming from lower elevations. Familiarize yourself with altitude illnesses' signs and symptoms, and descend if anyone in the partner is stricken.

In summary, those aiming to climb the Grand must have the equipment and skills to complete a varied alpine climb and deal with rapidly changing conditions. The huge elevation gain and miles of hiking, carrying heavy packs laden with camping and climbing gear, require climbers to be in excellent physical shape. Those who approach the Grand with the requisite information, expertise, physical conditioning, and equipment stand the best chance of enjoying this great mountain safely.

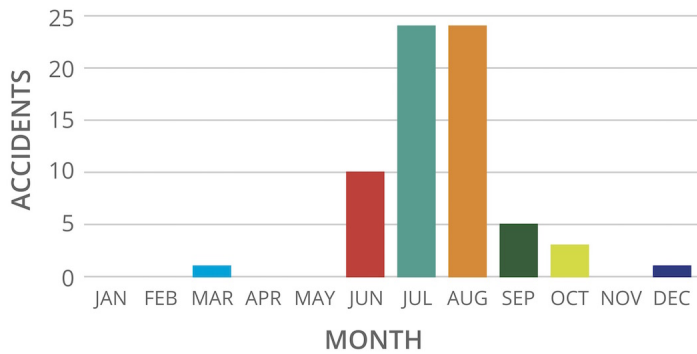
Thanks to Rich Baerwald, Chris Bellino, David Bowers, Bob Irvine, George Montopoli, Nat Patridge, Jed Williamson, and Jim Woodmencey for providing information and feedback for this article.

# Images



**Accident Types.** Design: MichaelSkaug.com

## Accident types on the Grand Teton.



**Accidents by Month.** Design: MichaelSkaug.com

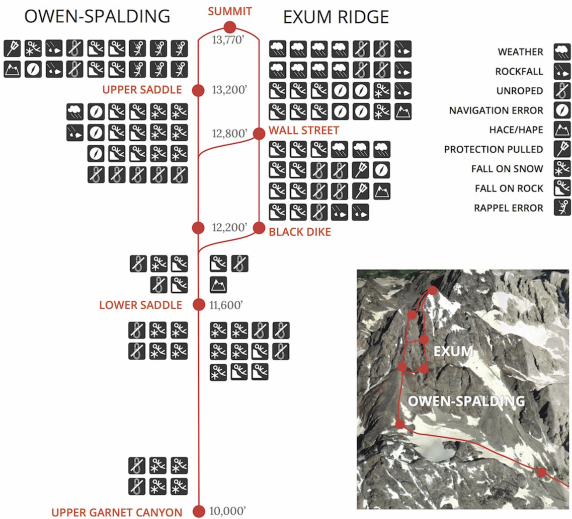
## Accidents by month on the Grand Teton



The Grand Teton, high point of the Teton Range, from the Climbers' Ranch.



Steep snow must be climbed and descended near the Lower Saddle in early season. (Inset) A moat along one side of a snowfield. In June 2013 a climber slid into a moat and died.



Accident Types by Location  
 Google Earth Image USDA Farm Service Agency Image © 2016 DigitalGlobe. Design: MichaelSkaug.com

Accident types by location on the Grand Teton.



Ice axe blasted by lightning on the Grand Teton.



## Article Details

Author	Joel Peach
Publication	ANAM
Volume	11
Issue	69
Page	21
Copyright Date	2016
Article Type	Feature article