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### Title: Avalanches: Slippery Slope to Danger

Extreme Skiing Mixed with Extreme Conditions Warrant Extreme Preparedness. According to the National Ski Patrol, the growing interest in free skiing and riding is pushing more skiers and snowboarders to venture outside of ski area boundaries in search of perfect powder. However beautiful the back country may be, those pristine slopes come with multiple risks, and one of the most significant is the risk of avalanche.

Snow conditions in the back country are far more unpredictable than those where the snow is groomed snow, such as that found at ski resorts. Back country areas are also not patrolled.

Although, snow experts use a wide variety of advanced technology to track and predict avalanche conditions the risk still remains.  So, before you hit those pristine alpine glades this season take a minute to brush up on avalanche safety tips and check out the resources here in Colorado designed to help you stay informed.

### Basic Avalanche Safety Tips

* **30 Degree Slopes:** The key to avoiding avalanches is to stay away from terrain where those conditions exist. Avalanche terrain exists on any slope steeper than 30 degrees. It doesn’t matter if it is a big slope or a very small slope. It doesn’t matter if it is an open slope or one with trees. If it is steeper than 30 degrees it can produce an avalanche.
* **Runout Zones:**  Avalanches have caught many people unaware because they were below avalanche terrain in what is called a runout zone (the place where avalanche debris like trees and rocks typically come to rest). These slopes are as steep as expert black diamond runs and some intermediate blue runs. Even if the slope doesn’t appear that steep it is considered avalanche terrain if the slope above it is steep.
* **Frequency**: Avalanches do not occur every day. It all depends on snow conditions and the weather. Generally, most avalanches occur during storms or during the 24-48 hours following one.
* **Check Conditions:** Because avalanche conditions can change rapidly from one day to the next check current conditions and get avalanche danger ratings from a regional avalanche center.
* **Triggers**: An avalanche will not occur without a trigger. This trigger could be weight from additional snow or weight from a person traveling on the snow.
	+ **Instability**: Avalanches are more likely to occur after a heavy snowfall as this increases snow instability.
	+ **Melting Snow:** Wet avalanches are likely to occur in warmer temperatures. Melting snow adds moisture which weakens the bond between snow layers.
	+ **Recent Activity:** Recent avalanche activity in the same area is an indicator of snow instability. It’s also a sign that more avalanches are likely to occur.
	+ **Wind**: Wind can create dangerous snow slabs. If there has recently been high wind, an avalanche is more likely to occur.
	+ **Cracks**: Cracks in the snow surface and/or “whoomping” sounds mean that a weak layer is collapsing and the snowpack is unstable.

### Safety Tools

According to the [Forest Service National Avalanche Center](http://www.fsavalanche.org/), the following tools should be carried when going into the backcountry:

* General tools
	+ Snow saw
	+ Probes
	+ Slope meter
	+ Monocular (can magnify up close and far away)
	+ Walkie talkies
	+ Bivy Sack (a small, waterproof shelter)
	+ Climbing skins (allow skis to climb on a slope)
	+ Avalanche Beacon
	+ Shovel
	+ Backpack
	+ Spare Strap
	+ Snow science kit
	+ Avalung or an Air Bag System
	+ Helmet
	+ Headlamp
	+ Water bottle
	+ Stove and fuel
	+ Tool kit
	+ Map and compass
	+ First aid kit
* Avalanche preparedness tools
	+ Avalanche beacon – emits a signal over a distance of 60 to 100 feet. Always ski with an avalanche beacon in transmit mode. If searching for an avalanche victim, switch to receive mode.
	+ Avalung – a sling or backpack-style air pack that can allow the user to breathe for approximately one hour if no other air is available.
	+ Airbag pack – Deployable pack designed to keep an avalanche victim closer to the surface. Also helps to increase body volume, giving the victim more free space within the avalanche.
	+ Helmet – Nearly 30 percent of avalanche fatalities are caused by trauma. A helmet can reduce this risk.
* Repair/survival kit
	+ Extra food and water
	+ Extra clothes such as gloves, hat, socks, insulated coat and pants
	+ Headlamp
	+ Extra binding parts
	+ Pocket tool with Pozidrive screwdriver
	+ Wire, duct tape
	+ Epoxy, strip screw inserts, steel wool
	+ Candle/matches/lighter
	+ Emergency thermal blanket
	+ Chemical hand warmers
	+ Knife
	+ Extra beacon and headlamp batteries
	+ Consider carrying a light gas stove to melt snow (they weigh about the same as a liter of water).

### What to do if you get Caught by an Avalanche

The following tips are from the [Forest Service National Avalanche Center](http://www.fsavalanche.org/):

* Try to ski or board off the avalanche slab by maintaining momentum and angling to the edge of slide. Discard poles (never ski in the backcountry with your pole straps on).
* If you have releasable bindings and your skis or board comes off, roll on to your back with your feet downhill. Swim hard up stream to try to get to the rear of the avalanche.
* Dig into the surface to slow yourself down and let as much debris as possible go past.
* Grab a tree if you can.
* Fight.
* As the avalanche slows, try to thrust your hand or some part of your body above the surface and then stick a hand in front of your face to make an air space around your mouth.
* If completely buried, try to remain calm--hopefully your partners have practiced rescue techniques and they will quickly find you.

### Know Before you Go!

In Colorado, the Colorado Avalanche Information Center (CAIC) offers training courses and current snow and avalanche conditions. Visit them online at [www.avalanche.state.co.us](http://www.avalanche.state.co.us)

The CAIC’s Twitter feeds provide timely information and updates on avalanche and snow conditions.

Simply follow the area or areas that are of interest to you:

* CAIC - Steamboat and Flat Tops Info -[http://twitter.com/@CAICsteamboat](http://twitter.com/%40CAICsteamboat%20)
* CAIC - Front Range - [http://twitter.com/@CAICfrontrange](http://twitter.com/%40CAICfrontrange)
* CAIC - Vail and Summit County -[http://twitter.com/@CAICsummit](http://twitter.com/%40CAICsummit)
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* CAIC - Southern San Juan - [http://twitter.com/@CAICsthsanjuan](http://twitter.com/%40CAICsthsanjuan)
* CAIC - Sangre de Cristo - [http://twitter.com/@CAICsangrecrist](http://twitter.com/%40CAICsangrecrist)
* CAIC - Off-Season Avalanche Information - [http://twitter.com/@CAICstate](http://twitter.com/%40CAICstate)

### Information Sources:

* [U.S. Forest Service National Avalanche Center](http://www.fsavalanche.org/)
* [National Ski Patrol](http://www.nsp.org/NSPMember/Safety/Backcountry_Safety/NSPMember/Safety/Backcountry_Safety.aspx?hkey=2176bd18-d6ef-4b9a-80e0-f3492f0875b7)
* [Colorado Avalanche Information Center](http://avalanche.state.co.us)

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