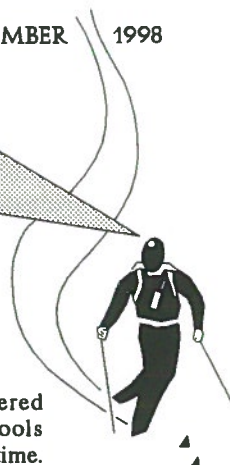


Snowline

The Official Newsletter of the
Tahoe Nordic Search & Rescue Team, Inc.

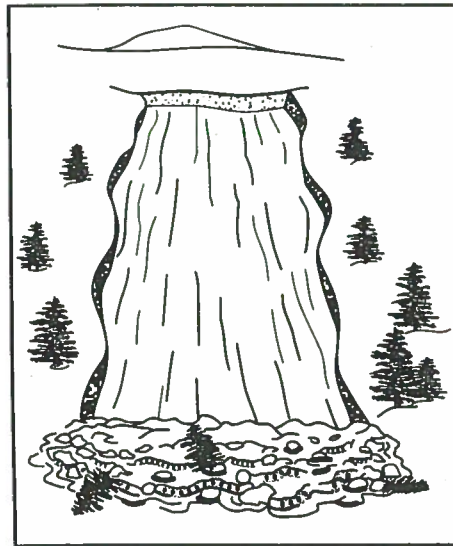
Lake Tahoe · Truckee · Donner Summit



When bunches of new snow accumulate above chair lifts, ski patrols go out and blow up the snow. When slopes hang heavy with new snow above our tattered highways, road crews go out and blow up the snow. When snowy mountain faces threaten heavy industry below, engineers consult on the blowing up of snow. Blowing up snow is expensive, exciting, and falls on the danger scale somewhere between baby-sitting and north Atlantic commercial fishing. It is also the default mode of *active* snow avalanche control around the world. Not all applied explosives propagate avalanches. At our local ski areas that employ explosives, roughly half of the bombs detonated produce an avalanche, and half do not. The explosives are applied as much to test the slope for avalanche potential as they are to produce avalanches. And a good test they are. Like a whole grammar school full of chubby fifth-graders cannonballing into a swimming pool all at once, explosives apply a large force in a short period of time. As backcountry skiers we generally have no such assemblage at our dispatch. Ignoring the few active control methods at our disposal, the backcountry skier operates predominantly within the realm of *passive* avalanche control, namely: avoidance.

If we want to ski through mountainous terrain while avoiding avalanches we must understand at least some of the truths about the contributing stresses upon the immediate snowfields; use this information (repeat *information, not* gut feelings, attitude, ego, peer pressure, complacency) to evaluate the hazard; and dovetail this with what we feel an acceptable risk. Because there are pieces of the puzzle we'll never possess when formulating our stability evaluation, the key is to make a decision that *minimizes* risk. Assessing snowpack stability can be as simple or as complex as you'd like to make it. Simplicity here, interestingly, is both synonymous with ignorance and safety. The simple snow stability forecast, if made correctly, is also the most conservative. And that's fine. But almost by definition backcountry skiing is not a conservative sport. There are moments when as a skier you want to play conservatively, but other times you want to get down and put the fruit forward. Following is a simple three-ingredient recipe—a naked introduction—for directing

one's snow stability evaluation from guessing to assessing.



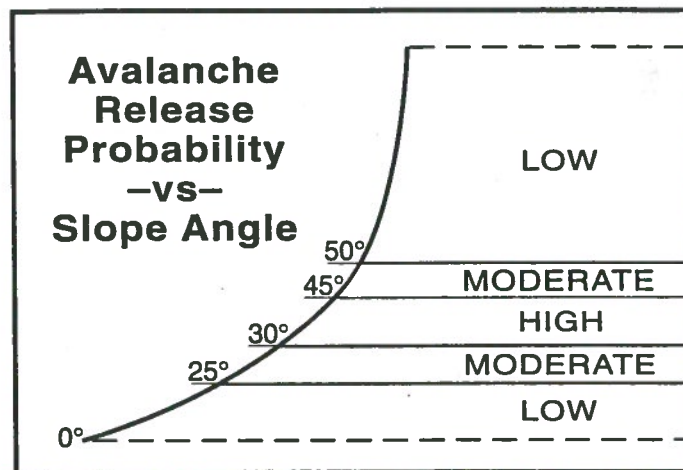
SNOWPACK, WEATHER, TERRAIN. Could the SNOWPACK slide? Is the WEATHER contributing to instability? Is the TERRAIN capable of producing an avalanche? These three categories, and these three questions, are what need addressing. There are many physical factors that ultimately need to be considered for a thorough stability evaluation, but in each of these categories there is one overwhelmingly important piece

of information. These can be gathered without sophisticated tools or biblical amounts of time. They are:

SNOWPACK. Could the snowpack slide? The number one indicator that the snowpack is unstable is the presence of naturally occurring avalanches. The fact that the snowpack is avalanching for your viewing pleasure should impress you. This is a very meaningful piece of information, but oddly enough, one often ignored. Don't forego the obvious. The snowpack avalanching around you can be disconcerting, especially when eyeballing the slopes that haven't avalanched (yet). If a path has avalanched and has not been reloaded with snow, odds are very low it will avalanche immediately again. If you're in dire straits for a safe route through steep terrain, ascending or descending the bed surface of a freshly run avalanche can be a safe bet. Don't get blind-sided: watch out for different paths that share a common runoff—prevalent below the parallel-gully architecture of the Sierra.

WEATHER. Is the weather contributing to instability? With few exceptions, the majority of mid-winter avalanche activity in the Sierra Nevada is coincident with new snowfall. Usually great amounts of new snow. Big snowfall overnight? Expect decreasing stability. What's "big" snowfall? (Ask two people: a resident of Norden and a

resident of La Jolla. A meter? Half meter? 15 cm?) Can't really answer that; all things being equal, the addition of any amount of new snow adds new stress to the snowpack. Our snowpacks avalanche during and immediately after storms because a significant new load is deposited in a relatively short time: the stresses (additional mass) build faster than the strengths (bonding). The rate at which the snow falls, therefore, can be as



of information. In Jill Fredston and Doug Fesler's handy guide *Snow Sense*, they refer to these as "bull's-eye" pieces of information—facts that carry weight and are meaningful.

critical (if not more so) as the net amount. And don't underestimate the redeposition of snow by wind. Wind-driven snow deposition rates can far exceed those of precipitation

Next General Meeting is Monday, December 7, 1998, 7:00 p.m. at the Granlibakken Resort's Ski Hut

alone. Rain? Different story, same ending. Dry snow avalanches due to an increase in shear stress; wet snow avalanches because of a decrease in shear strength. Like snowfall, there's a general decrease in stability during and immediately after rainfall.

TERRAIN. Is the terrain capable of producing an avalanche? Simple—avalanches tend to initiate on steep slopes. Avalanche activity starts to increase on slopes with angles equal to or greater than around 25 degrees. How do you know how steep the snow is? Measure it. When assessing snow stability, slope angle is an overriding variable. Want nothing to do with avalanches your entire ski career? Stay away from steep snow.

As you've paid more and more attention to the snows around you, you've no doubt logged dozens of additions and exceptions (and questions) pertaining to these three categories. All of the data should be scrutinized, pondered, cogitated, meditated. Think about them too. When initiating a stability evaluation these three bull's-eyes are a great place to start—and to fall back on: *Naturally Occurring Avalanches*; *Recent Snowfall*; *Steep Snow*. **SNOWPACK**; **WEATHER**; **TERRAIN**. Hey, don't take my word for it: read avalanche books; watch instructional videos; talk to avalanche workers; attend a multi-day field course.

Training Exercises

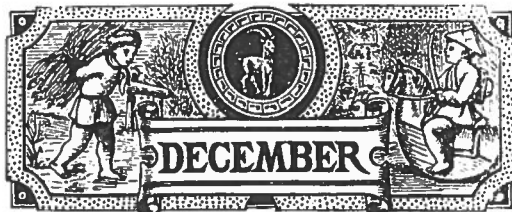
Tahoe Nordic Search and Rescue Team trainings scheduled for the immediate future include:

December 9: Backcountry first aid. Meet at the Kings Beach fire station at 6:30 PM.

December 12: Avalanche rescue practice. Meet at the bottom of the old Granlibakken ski jump at 8:00 AM.

CPR Certification/Medic First Aid; CPR courses are offered at Tahoe Forest

Hospital in Truckee on the following dates: December 12, December 15, January 9, January 19. These courses are four hours long. First Aid and CPR combination courses are offered at Tahoe Forest Hospital December 19 and January 16. These are eight hours long. To pre-register, call (530) 582-3483.



Tahoe Nordic Search & Rescue Team Officers

President	Gerald Rockwell	583-5376
Vice President	Joe Pace	583-1806
Treasurer	Scott Schroeffer	546-2809
Secretary	Jackie Thomas	587-2687
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Snowcats	Tony Remenih	583-1684
Snowmobiles	Ray O'Brien	581-4358
Training	Paul Honeywell	546-8609
Truck/Equipment	Russ Viehman	582-1695
Tahoe Nordic Search & Rescue Team garage		581-4038

All phone numbers area code (530) unless noted otherwise.

Tahoe Nordic Search and Rescue Team, Inc.

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Tahoe City, California 96145



For Christmas,
Char Boy received his usual lump of coal,
which made him very happy.

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