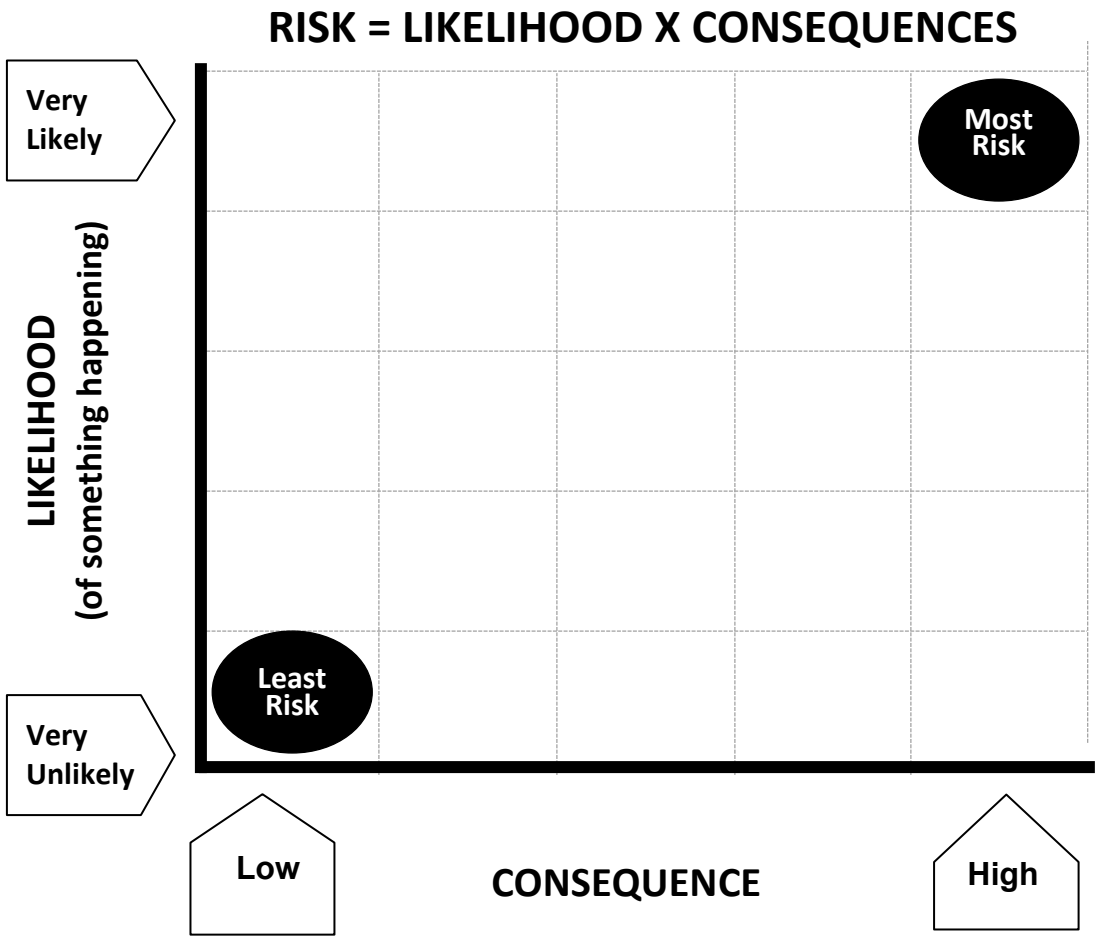
ASSESSING RISK



RISK EQUATION

Hazard – describes a source of potential harm

Risk – the probability of loss (or gain)

Probability/Likelihood – the chance of something happening

Consequence – the impact of the risk

Vulnerability - susceptibility to the impacts of the hazard

Exposure – this is the gas pedal of risk. Do you have to go all in?

North American Danger Scale

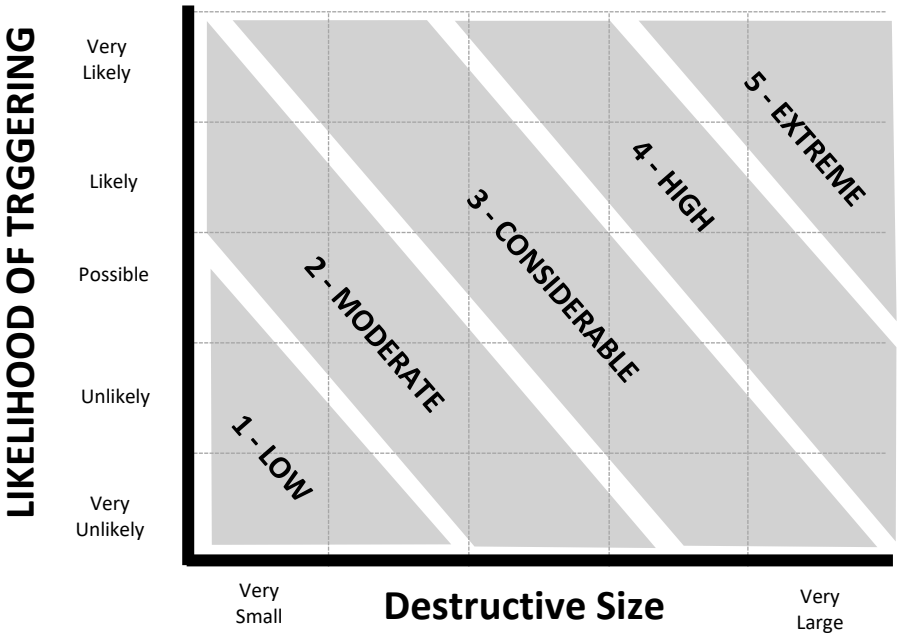
North American Public Avalanche Danger Scale

Avalanche danger is determined by the likelihood, size and distribution of avalanches.

Danger Level		Travel Advice	Likelihood of Avalanches	Avalanche Size and Distribution
5 Extreme		Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High		Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable		Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or large avalanches in specific areas; or very large avalanches in isolated areas.
2 Moderate		Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low		Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.

Safe backcountry travel requires training and experience. You control your own risk by choosing where, when and how you travel.

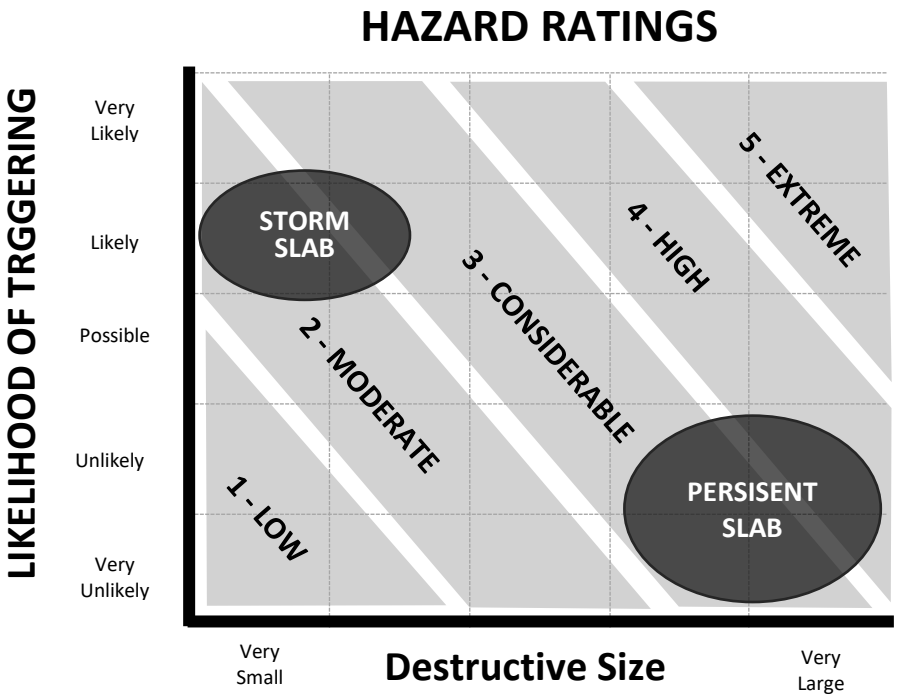
HAZARD RATINGS



Forecasters consider the likelihood of triggering an avalanche, as well as the size of the avalanche that could be triggered. These boundaries are NOT as clear cut as this chart indicates.

AVALANCHE FORECASTING AND RISK

Forecasters consider the likelihood of triggering an avalanche, as well as the size of the avalanche that could be triggered. These boundaries are NOT as clear cut as this chart indicates.



AVALANCHE PROBLEMS/CONCERNS

Loose-dry avalanche

Release of dry unconsolidated snow. These avalanches typically occur within layers of soft snow near the surface of the snowpack. Loose-dry avalanches start at a point and entrain snow as they move downhill, forming a fan-shaped avalanche. Other names for loose-dry avalanches include point-release avalanches or sluffs. Loose-dry avalanches can trigger slab avalanches that break into deeper snow layers.

Loose-wet avalanche

Release of wet unconsolidated snow or slush. These avalanches typically occur within layers of wet snow near the surface of the snowpack, but they may quickly gouge into lower snowpack layers. Like Loose-Dry Avalanches, they start at a point and entrain snow as they move downhill, forming a fan-shaped avalanche. They generally move slowly, but can contain enough mass to cause significant damage to trees, cars or buildings. Other names for loose-wet avalanches include point-release avalanches or sluffs. Loose-wet avalanches can trigger slab avalanches that break into deeper snow layers.

Wind-slab avalanche

Release of a cohesive layer of snow (a slab) formed by the wind. Wind typically erodes snow from the upwind sides of terrain features and deposits snow on the downwind sides. Wind slabs are often smooth and rounded and sometimes sound hollow, and can range from soft to hard. Wind slabs that form over a persistent weak layer (surface hoar, depth hoar, or near-surface facets) may be termed Persistent Slabs or may develop into Persistent Slabs.

Storm-slab avalanche

Release of a soft cohesive layer (a slab) of new snow which breaks within the storm snow or on the old snow surface. Storm-slab problems typically last between a few hours and few days. Storm-slabs that form over a persistent weak layer (surface hoar, depth hoar, or near-surface facets) may be termed Persistent Slabs or may develop into Persistent Slabs.

Wet-slab avalanches

Release of a cohesive layer of snow (a slab) that is generally moist or wet when the flow of liquid water weakens the bond between the slab and the surface below (snow or ground). They often occur during prolonged warming events and/or rain-on-snow events. Wet slabs can be very destructive.

Persistent-slab avalanche

Release of a cohesive layer of soft to hard snow (a slab) in the middle to upper snowpack, when the bond to an underlying persistent weak layer breaks. Persistent layers include: surface hoar, depth hoar, near-surface facets, or faceted snow. Persistent weak layers can continue to produce avalanches for days, weeks or even months, making them especially dangerous and tricky. As additional snow and wind events build a thicker slab on top of the persistent weak layer, this avalanche problem may develop into a Persistent, Deep-Slab.

Persistent, deep-slab avalanche

Release of a thick cohesive layer of hard snow (a slab), when the bond breaks between the slab and an underlying persistent weak layer, deep in the snowpack or near the ground. The most common persistent weak layers involved in deep, persistent slabs are depth hoar, deeply-buried surface hoar, or facets surrounding a deeply-buried crust. Persistent, Deep-Slabs are typically hard to trigger, are very destructive and dangerous due to the large mass of snow involved, and can persist for months once developed. They are often triggered from areas where the snow is shallow and weak, and are particularly difficult to forecast for and manage. They commonly develop when Persistent Slabs become more deeply-buried over time.

Cornices / Cornice Fall

Release of an overhanging mass of snow that forms as the wind moves snow over a sharp terrain feature, such as a ridge, and deposits snow on the down-wind side. They range from small wind lips of soft snow to large overhangs of hard snow that are 30 feet (~10 meters) or taller. They can break off the terrain suddenly and pull back onto the ridge top and catch people by surprise even on the flat ground above the slope. Even small cornices can have enough mass to be destructive and deadly. Cornice fall can entrain loose surface snow or trigger slab avalanches.

Glide Avalanches

Release of the entire snow cover as a result of gliding over the ground. Glide avalanches can be composed of wet, moist, or almost entirely dry snow. They typically occur in very specific paths, where the slope is steep enough and the ground surface is relatively smooth. They are often proceeded by full depth cracks (glide cracks), though the time between the appearance of a crack and an avalanche can vary between seconds and months. Glide avalanches are unlikely to be triggered by a person, are nearly impossible to forecast, and thus pose a hazard that is extremely difficult to manage. Predicting the release of Glide Avalanches is very challenging. Because Glide Avalanches only occur on very specific slopes, safe travel relies on identifying and avoiding those slopes. Glide cracks are a significant indicator, as are recent Glide Avalanches