What are the Chances of an Avalanche Happening

What are the Consequences of the Avalanche

What is the Capability of the Team to Deal with a Poor Outcome

Learn From Each Tour Regardless of How Well it Went

What are the Chances of an Avalanche Happening	ALARE RISK MANAGEMENT FRAMEWORK Continue your avalanche education
What are the Consequences of the	Practice avalanche rescue Track the season's conditions Investigate trip: options Teach Backcountry Day
Avalanche	COMPLANCE Assemble Your Group Anticipate The Hazard Den Your Noute Discuss an Emergency Plan
What is the Canability of the Team to	
Deal with a Poor Outcome	Conduct A Departure Check Conduct A Departu
Learn From Each Tour Regardless of How Well it Went	Constant Series Constant Seri
	El Hennew locary's Locasions El Improve Today's Plan







	Maritime	Continental	Intermountain
Precipitation	High Rate Large Accum.	Low Rate Small Accum.	Mod-High Rate Med–Large Acc.
Wind Transport	Much pre storm Much in-storm Little post-storm	Little pre Some-much in Much post	Little-some pre Some-much in Some post
Temperatures	Warm	Cold	Cool
Depth/Distribution	Deep, uniform	Shallow, variable	Shallow - mod, var. early winter. Deep - uniform later
Layering	Uniform Rounded	Strong over weak Faceted	Variable, faceted early More uniform, rounded later
Temperatures	Warm	Cold	Cool
Avalanches	"Direct action"	"Delayed action."	Direct and delayed
Avalanche Danger	Quick to rise Quick to fall	Slow to rise Often very slow to fall	Quick to rise Often slow to fall early winter. Quicker to fall late season.

	Maritime	Continental	Transitional	
Precipitation	High Rate Large Accum.	Low Rate Small Accum.	Mod-High Rate Med–Large Acc.	
Wind Transport	Much pre storm Much in-storm Little post-storm	Little pre Some-much in Much post	Little-some pre Some-much in Some post	
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Temperatures Avalanches	Warm "Direct action"	"Delayed action."	Direct and delayed	

Non-Persistent:

- Strengthen quickly
- Observable over hours or days

Persistent:

- •Strengthen slowly (weeks to months)
- Don't bond readily to bed surface or slab

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	5 15 15 1 15 1 15 1 15 1 15 1 15 1 15	Very dangerous avalanche conditions. Travel in avalanche terrain <u>not</u> recommended.	Natural avalanches likely; human- triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable	3	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	2	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 re	equires training a	nd experience. You control your own risk by c	hoosing where, whe	n and how you travel.

May of 1970 an earthquake triggered an avalanche from Mt. Huascaran in Peru that wiped out the villages of Yungay and Ranrihirca. Approximately 19,000 people were killed in that event.

Terrain What are the Chances of an Avalanche Happening What are the Consequences of the Avalanche

12/1/20

Weather

- 1. Builds or creates the snowpack layers
- 2. Triggers avalanches
- 3. Limits visibility
- 4. Stresses YOU physically and mentally

When

Time of year

- Early season/shallow snow pack
- Mid-winter moderate thickness cold snow pack
- Late season mature warm snow pack

Did the plan get hatched

- Long range based on your schedule
- Short-term based on conditions
- Spontaneous

Decision Making & Bias
Where
Mini Golf ski trail no avalanche bazard
Simple Terrain
some avalanche terrain but small and not very hazardous
• Challenging Terrain you'll be in it but the paths are distinct not overly
steep, consequences can be fatal but there are
Complex Terrain
big terrain with multiple overlapping paths, big consequences and limited options for safer travel

Weather

- I'm a meteorologist
- I've look at mountain forecasts, weather maps of the appropriate elevations/MB, lapse rate and remote observation sites that include temperature, precipitation and wind.
- I've got a weather app on my phone and I have been looking at the area's current conditions and forecast for the last couple of days.
- On the drive up I heard a forecast while I was listening to the alternative rock station

Movement skill

- Expert skier and in good cardio shape
- Expert skier but I've been taking lifts a lot lately
- I win running races in my age group but I'm just an OK skier but new to the backcountry
- I can hike OK but like to take my time new to this outdoor stuff
- I get winded going up stairs and haven't skied since college

Group Skill and Composition

- All professional
- Strong group with a good solid equivalent skill base 3 to 5 people
- Mixed group of good friends 3-5 people
- Mixed group of strangers or small group of friends in a larger group of people (meet-up)
- Organized club group with distinct leaders
- Guided group with 1 person under contract to be in charge.

Pre-mortem

Imagine how the accident report that describes the situation you are in would sound if an accident did occur. Write it in your head, give yourself the 20/20 hindsight by projecting yourself into the future where a bad outcome has already occurred.

Debrief the Trip

- In risky situations, not all good decision lead to good outcomes, and not all bad decisions lead to bad outcomes.
- Could things have been done better?
- Did you get away with something?
- Use your previous debriefings to recognize current potential poor decisions before you carry them out. Try not to repeat mistakes. Have I been in a situation like this before? When I debriefed it what did I say I should have done?

