



Welcome to the
Mountaineers
Tacoma Branch

Cross Country Ski Class



Tonight's Agenda

- Technique Review
- Fitness and Flexibility
- 10 Essentials
- Avalanche Awareness
- Winter Driving
- Trip Planning and Signing Up for Trips
- Field Trip Plans

Technique Review



Shoulders Over The Front Ski

Like A Ski Jumper





Knees & Ankles Bent

Keep Pole Baskets Behind Hands

This



Not This



Push & Lean Forward to Glide



Fitness for XC Skiing



Disclaimer

I am not a health care provider or certified fitness trainer. If you have any concerns about medical conditions, injuries, or any physical limitations, please consult with your health care provider to create a fitness plan that is suitable for you.

Getting Fit for Skiing

- Stamina and Aerobic Fitness
- Strength
- Flexibility
- Balance
- Skiing is Great All-around Exercise!

Stamina and Aerobic Fitness

- Pick the plan that works for you
- Make a fitness plan and stick with it
- Vary Activities
 - Walking
 - Working Out at the Gym
 - Hiking
 - Etc.

Stamina and Aerobic Fitness

- Pick the plan that works for you
- Make a fitness plan and stick with it
- Vary activities
- Hire a personal trainer



Strength Training

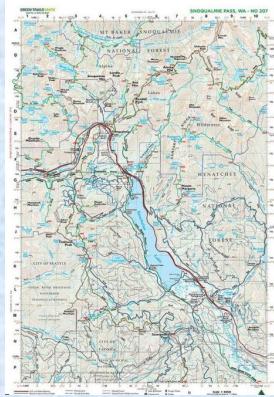
- Core
- Legs
- Arms and Shoulders

Flexibility and Balance

- Train to improve flexibility and balance
- Remember to warm up before you start skiing
- Do some stretching at the end of the day
- Let's try some exercises!



The Ten Essentials



The Ten Essentials



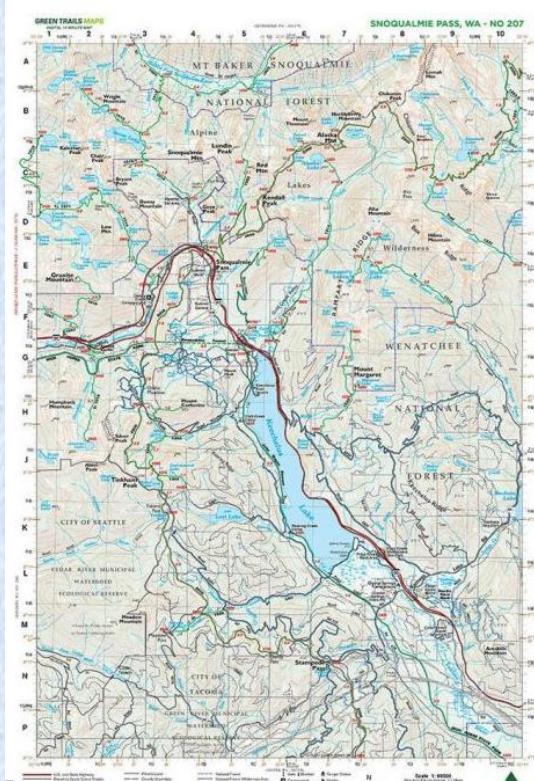
- Useful Items For Every Kind Of Outdoor Trip
- So You Can Respond To An Accident Or Emergency
- So You Can Safely Spend A Night Out If You Have To

The Ten Essentials

1. Navigation	6. Fire Starter
2. Sun Protection	7. Knife & Repair Kit
3. Extra Clothes	8. Extra Food
4. Headlamp	9. Extra Water
5. 1 st Aid	10. Shelter

1. Navigation

- Map
- Compass
- Other
 - Altimeter
 - GPS
 - GAIA



2. Sun Protection



3. Extra Clothing

- For Changing Weather
- For An Unplanned Night Out
- Layers for Warmth
- Extra Socks
- Raincoat
- Extra Gloves



4. Headlamp or Flashlight



Extra Batteries

5. First Aid Kit



6. Fire Starter

- Waterproof Matches or Lighter
- Candle/Firestarter



7. Knife and Repair Kit

- Duct Tape
- Cord
- Needle
- Thread
- Hose Clamp



8. Extra Food



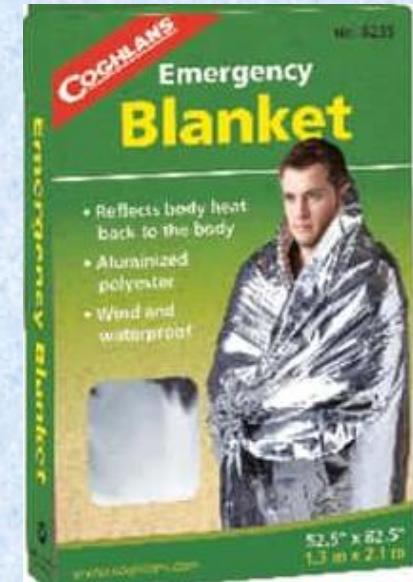
9. Extra Water



- Carry Enough For An Active Day
- It Can Be Easy To Underestimate How Much You Are Sweating
- Also Need to Make Up for Respiration

10. Emergency Shelter

- Plastic Tube Tent
- Jumbo Trash Bag
- Coated Nylon Tarp
- Reflective Emergency Blanket
(can be used for shelter and for first aid)

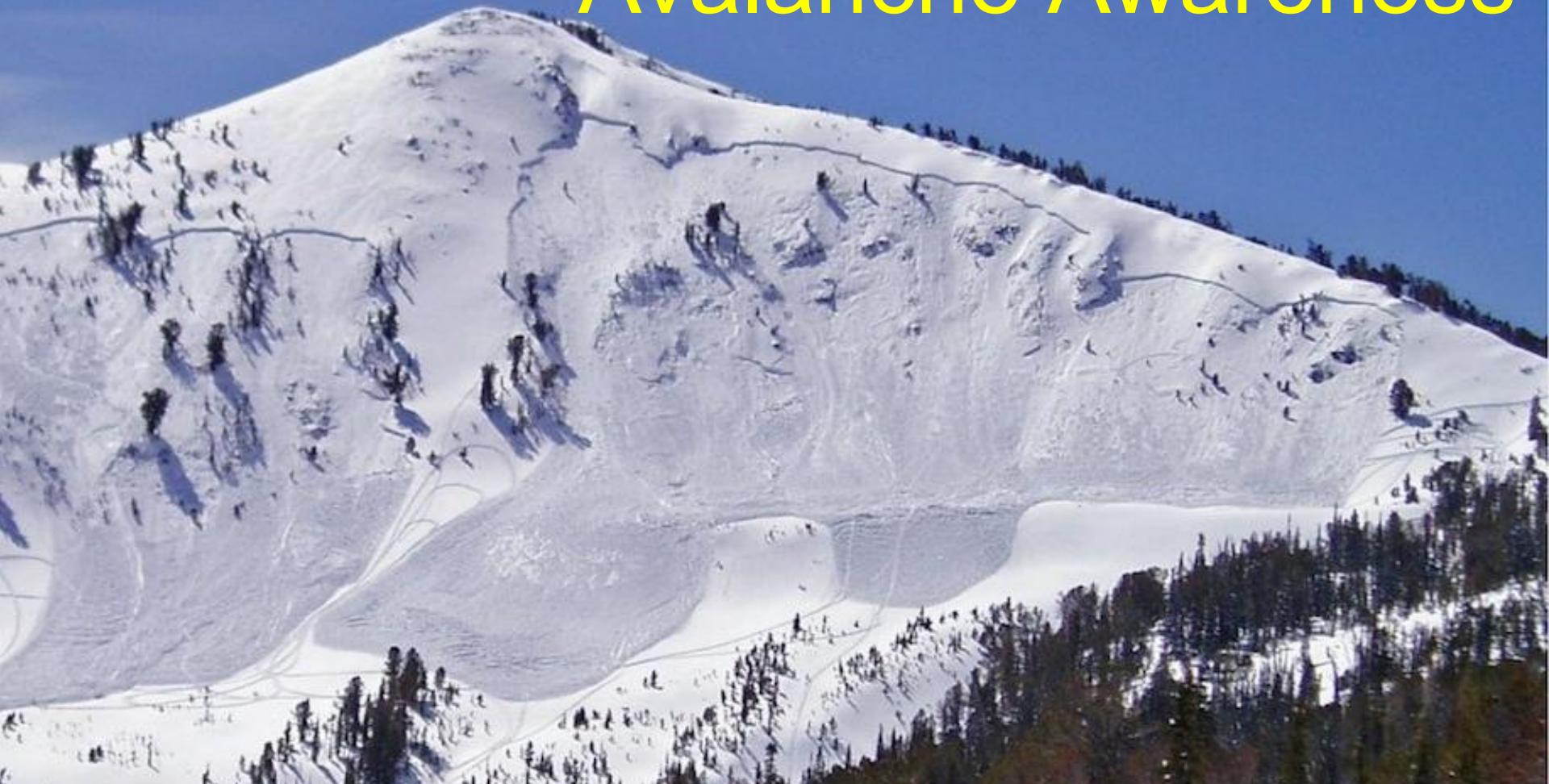


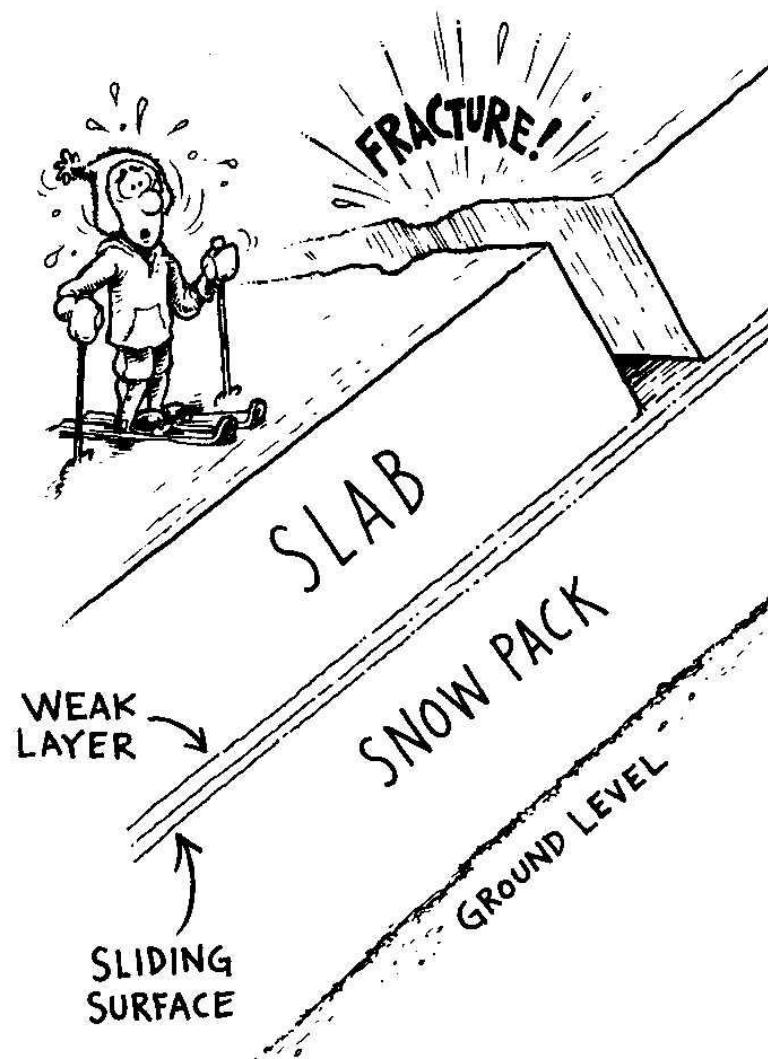
Extras to Have in the Car

- Thermos of Hot Cocoa or Soup
- \$ to Help With Gas & Sno-Park Permit
- Snacks
- Dry Clothes
- Plastic Bag for Wet Gear



Avalanche Awareness





Instability Factors



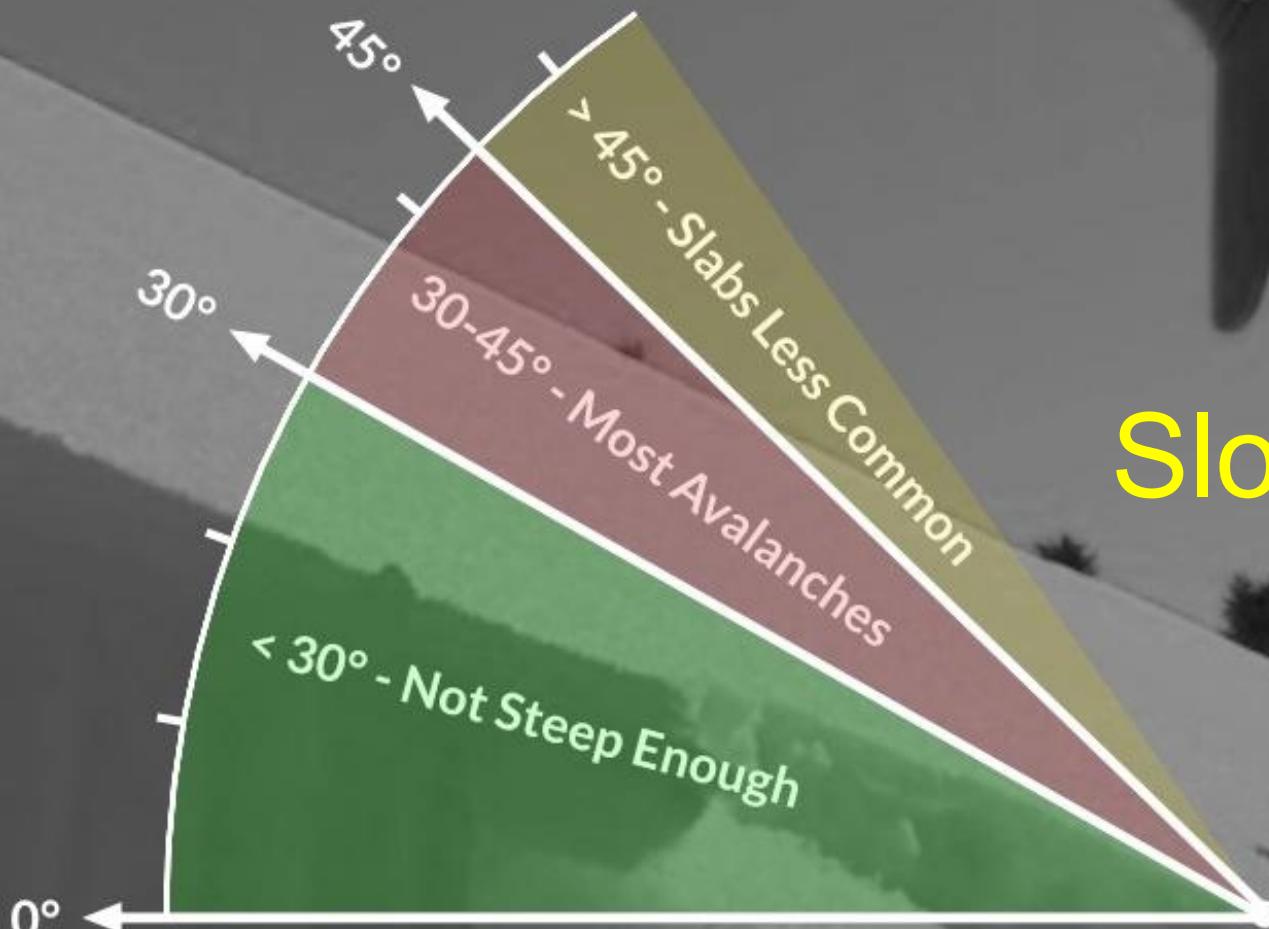
Instability Factors

- A Large Storm With a Warming Trend
- Storm With Heavy Snow and High Winds
- New Cold Snow on a Hard-frozen Crust
- Snow Building on Buried Weak Snow Layer
- **More than 12 inches of New Snow in 24 Hours**
- A Sudden Midwinter Warming Trend
- Springtime Warming

Terrain Factors

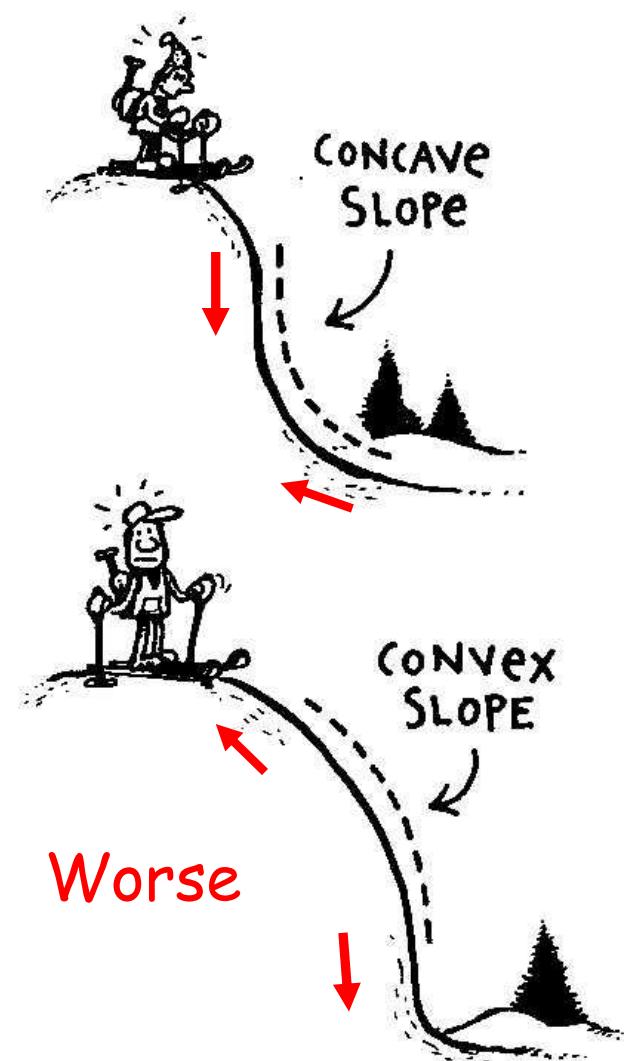
- Trees, Talus, and Stumps Enhance Stability
 - But Trees Do Not Guarantee Security
 - Trees that are too far enough apart allow avalanches to sweep through
- Slippery Surfaces for Snow
 - Rocky Slabs
 - Grassy or Heather Slopes
- Gullies Are “Terrain Traps”
- Avoid Areas That Can Dump Snow on You
 - Directly Below Steep Cliffs
 - Large Slopes

Slope Angle

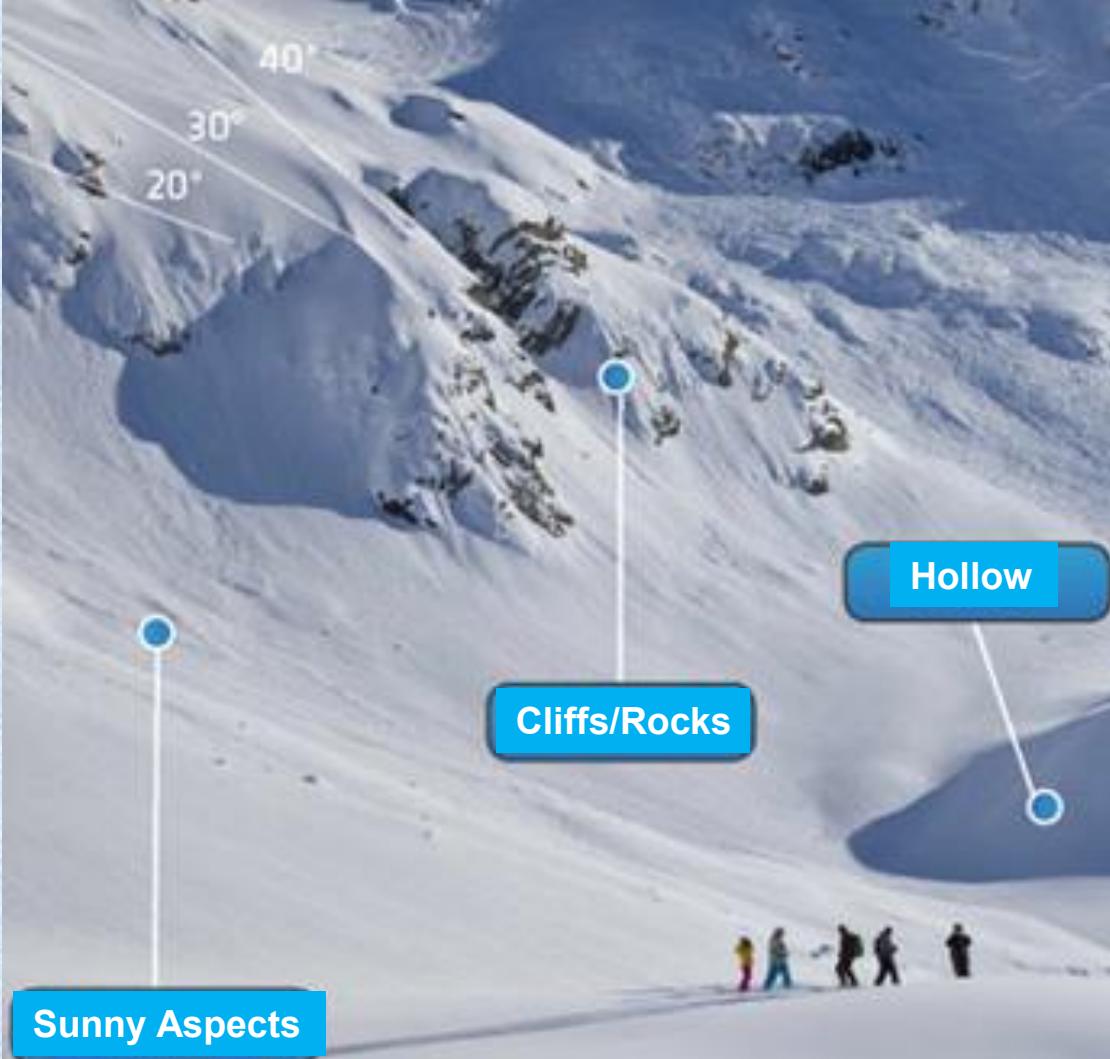


- Concave Slopes
 - Compress the Snowpack Parallel to its Surface
 - Less Likely to Avalanche

- Convex Slopes
 - Stretch the Snowpack
 - More Likely to Avalanche



Things to Be Aware of





A photograph of a majestic mountain peak. The upper portion of the mountain is covered in a thick layer of white snow, contrasting with the dark, cloudy sky above. The lower slopes are densely covered with a forest of tall, dark green evergreen trees. The foreground shows a snow-covered slope leading up to the mountain, with some tracks or debris visible on the right side.

Avalanche
Path

Picking A Safe Route







Avalanche Danger Ratings

Danger Level	What It Means
LOW	Travel Is Generally Safe
MODERATE	Use Caution In Steeper Terrain on certain slope aspects
CONSIDERABLE	Be Increasingly Cautious in steeper terrain
HIGH	Travel Is Not Recommended Stay on windward ridges and low angle slopes <u>without steeper terrain above</u>
EXTREME	STAY HOME



Northwest
Avalanche
Center



<https://nwac.us>

- Avalanche Forecasts by Zone
- Mountain Weather Forecasts
- Weather Station Telemetry Data
- Recent Observations
- Training

Winter Driving



Winter Driving Tips

- ❖ **SLOW DOWN**
- ❖ Increase Your Following Distance
- ❖ 4 Wheel Drive Does Not Help You Stop
- ❖ Use a Lower Gear to Control Downhill Speed
- ❖ Easy on the Brakes
- ❖ Give Snow Plows Lots of Room

Tires

- ❖ All Season vs Winter Tires
 - ❖ All Season – Longer Tread Life
 - ❖ Winter – Tread Stays More Flexible When Cold
- ❖ Inspect Your Tires At Least Once A Month
- ❖ Check Tire Pressure When They're Cold
(not driven on for at least three hours)
- ❖ At Least 2/32" of Tread On All Tires
(Including the Spare)

Tire Chains



Regular
Chains
(Best)



Cable
Chains
(Better)



Tire Sock
(If Your Vehicle
Can't Use Chains)

Tire Chains

- ❖ Installation
 - ❖ Front Tires for FWD
 - ❖ Rear Tires for RWD
 - ❖ Consult Owner's Manual for AWD or 4WD
- ❖ Don't Use on Dry Bare Pavement
- ❖ 30 mph Max
- ❖ Practice Putting Them on At Home

What to Have



What to Have

- ❖ Snow Shovel, Broom, and Ice Scraper
- ❖ Sand or Kitty Litter
- ❖ Jumper Cables, Flashlight and Warning Devices
- ❖ Tarp or Insulation Pad (for putting on chains)
- ❖ Blankets or Sleeping Bag(s)
- ❖ Cell Phone & Charger, Water, Food, & Necessary Medicine
- ❖ A Full Gas Tank
- ❖ -25°F Windshield Washer Fluid

In Case of Emergency

- ❖ Stay With Your Car and Don't Overexert Yourself
- ❖ Let Your Car Be Seen
 - ❖ Put Out Warning Triangles
 - ❖ Put Bright Markers on the Antenna or Windows
 - ❖ Keep the Interior Light On
- ❖ Be Mindful of Carbon Monoxide Poisoning
 - ❖ Make sure your Exhaust Pipe is Clear of Any Snow
 - ❖ Run Your Car Only Long Enough to Stay Warm
 - ❖ Don't Run Your Car for Long Periods of Time With The Windows Up or In An Enclosed Space

If You Get Stuck

- ❖ Don't Spin Your Wheels
- ❖ Use Lowest Gear
- ❖ Keep Wheels Straight
- ❖ Rock Forward & Back
- ❖ Use Sand or Kitty Litter for Traction
- ❖ If Out of Your Vehicle
 - ❖ Wear a Reflective Vest to be Seen
 - ❖ Watch Out for Other Vehicles

Field Trip 3

- Feb. 7
- White Pass Nordic Center
- 2.5 Hour Drive from Tacoma
- Car Pools Will Be Arranged Beforehand
- Consider Staying in Packwood the Night Before

Field Trip 3 White Pass Nordic Center



