



Wilderness Skills

**Recognizing and Avoiding
Hazards in the Backcountry**

What could go wrong?



Aron Ralston
“127 Hours”

Awareness of hazards is the first step to avoiding them!



ENTERING
MOUNT MARGARET BACKCOUNTRY
CAMPING PERMIT REQUIRED
USE DESIGNATED SITES

DRY TRAIL
CARRY DRINKING
WATER



Independence Pass
Trail Closed
2 Miles Ahead
**TRAIL
CLOSED**

1. Losing the trail

A photograph of a mountainous landscape under a heavy, grey mist. In the foreground, a dark, vertical tree trunk stands on the right side, with some bare branches extending outwards. The ground is a mix of grey rocks and patches of green and yellowish vegetation. In the background, a large mountain peak is partially obscured by the mist, with a small white patch of snow or ice visible on its slope. The overall atmosphere is somber and mysterious.

- 
- ❖ Carry a map and compass
 - ❖ Don't take shortcuts
 - ❖ Keep your party together
 - ❖ Leave your travel plans with someone back home
 - ❖ Be prepared to spend one night out

Lost?

S.T.O.P.

❖ Sit


❖ Think

❖ Observe

❖ Plan

2. Terrain

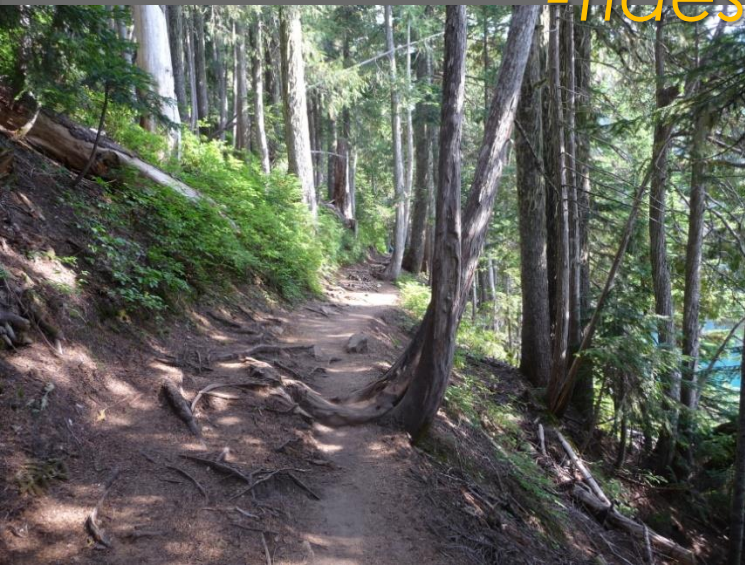


- 
- ❖ Wear good boots / ankle support
 - ❖ Do NOT underestimate the terrain
 - ❖ Be alert for rockfalls
 - ❖ High elevation trails can have snow or ice patches year round



Terrain hazards include:

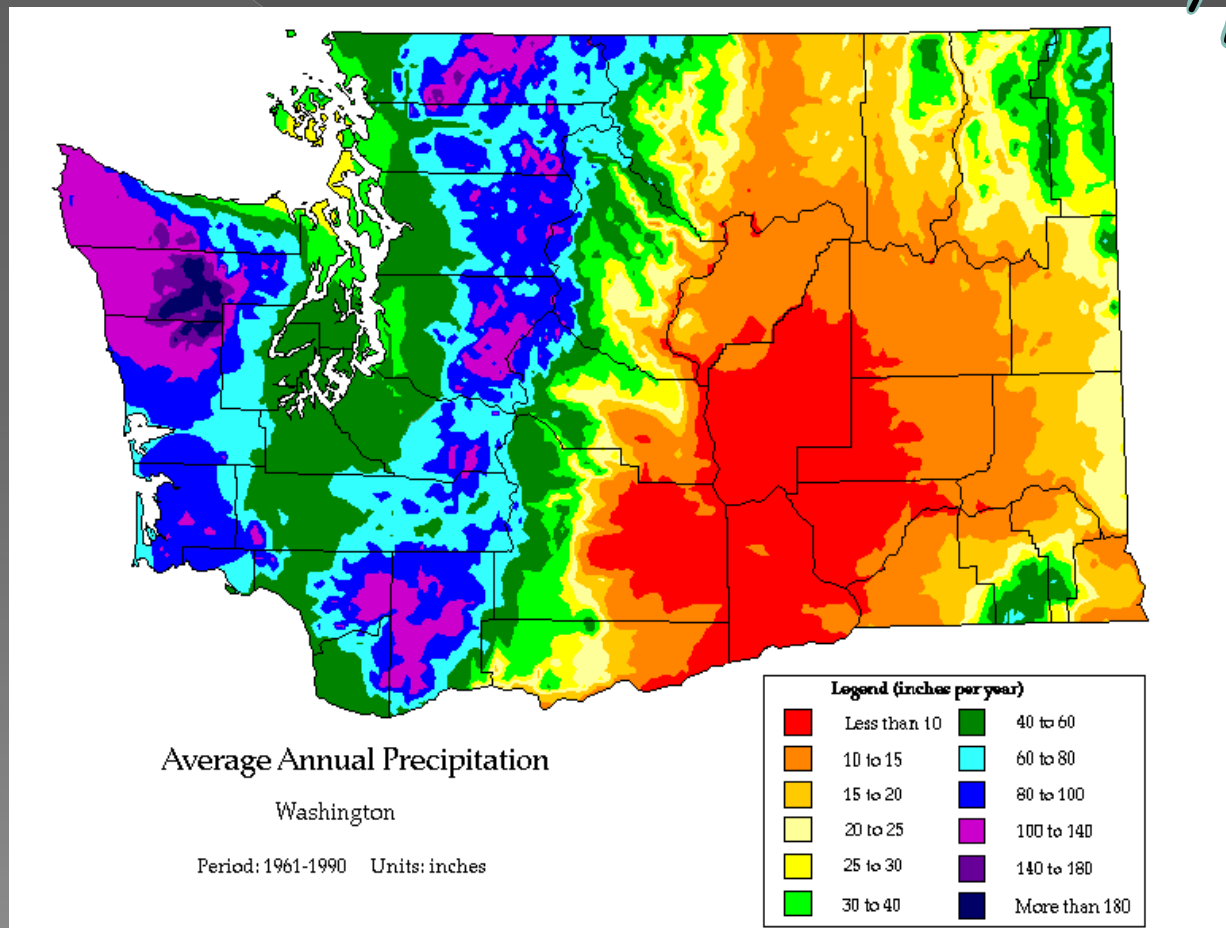
- Steep slopes & cliffs
- Wet surfaces
- Exposed tree roots
- Loose and falling rocks
- Snow patches
- Tides (coastal trails)

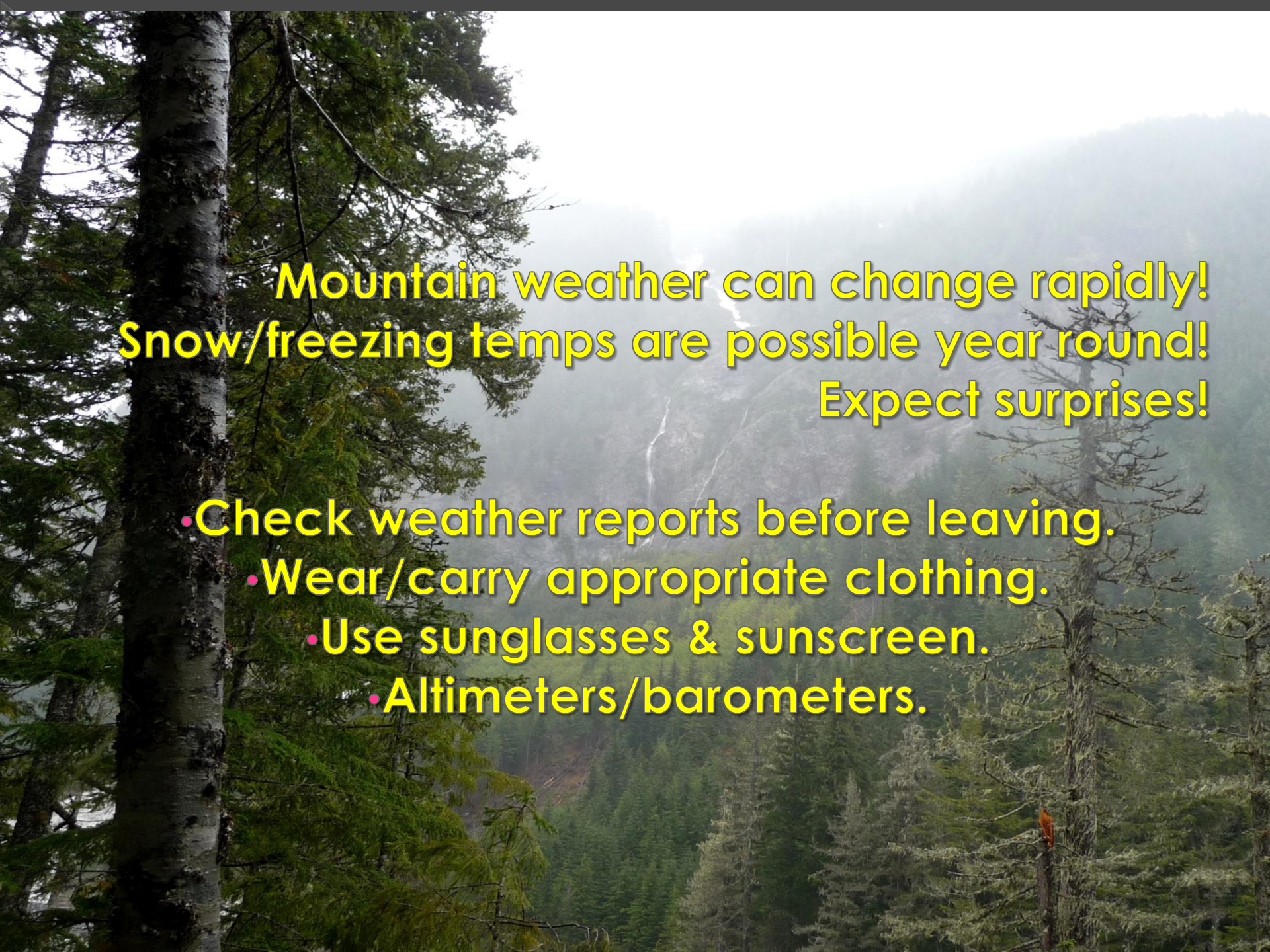


3. Weather

A winter landscape featuring a frozen lake in the foreground, a snow-covered shoreline, and a dense forest of evergreen trees in the background. The sky is overcast and grey. The text "3. Weather" is overlaid in yellow.

**Washington precipitation -----
The east side is dry,
The west side is wet.**





**Mountain weather can change rapidly!
Snow/freezing temps are possible year round!
Expect surprises!**

- **Check weather reports before leaving.**
- **Wear/carry appropriate clothing.**
- **Use sunglasses & sunscreen.**
- **Altimeters/barometers.**

Wind & the Wind Chill factor



		Temperature (°F)																	
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
	60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times ■ 30 minutes ■ 10 minutes ■ 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

Fog



4. Injury and illness

Know some wilderness first aid --- MOFA.
Carry a first-aid kit.
Others may need your help.



Injuries include:

- ❖ Blisters
- ❖ Sunburns
- ❖ Strains and sprains
- ❖ Broken bones



5. Dehydration

Can occur in any climate!

Carry AND drink water regularly.

Lack of water => heat exhaustion/heat stroke.

Heat exhaustion => pale skin, sweating, thirst, nausea, dizziness, headaches, muscle cramps.

6. Hypothermia



A misty forest landscape with a rocky riverbed and a large tree trunk in the foreground. The scene is overcast and foggy, with a riverbed filled with grey rocks and some water flowing through it. A large, dark tree trunk is on the left side of the frame. The background is a dense forest of evergreen trees, partially obscured by mist.

Hypothermia – “decline in core body temp”

Causes - exposure to cold (rain, wind, snow) and physical exhaustion.

First signs - shivering, disorientation, difficulty using your hands.

**Dress in layers.
No cotton!
Keep hydrated.**



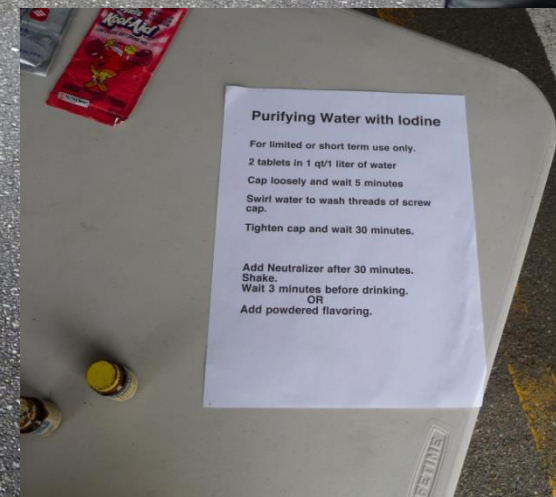
WAHKEENA SPRINGS →

7. Drinking water

Bacteria and parasites can exist in untreated water!



Boil or filter all drinking water!



8. Wildlife

No matter how tame they may seem,
all wildlife are unpredictable and
potentially dangerous!







Bears



9. Stream crossings



A photograph of a mountain stream with a waterfall. The water flows over a rocky, greyish-brown stream bed. The surrounding area is a dense forest of tall, thin evergreen trees. The sky is overcast and grey. The text is overlaid in yellow on the left side of the image.

Mountain lakes & streams are very cold year round.

Fording rivers/streams can be risky.

Falling in can result in hypothermia or physical injury.

A group of hikers is crossing a makeshift bridge made of logs over a stream in a forest. The stream is flowing rapidly, and the bridge is constructed from several large logs. The hikers are wearing backpacks and outdoor gear. The forest is dense with green trees and undergrowth. The text is overlaid in yellow on the image.

**Cross make-shift bridges with care.
Leave boots on or bring other footwear if
crossing the stream itself.**

**Undo your pack's waistbelt for easy removal
if you lose your balance.
Face upstream while crossing.
If the current is too strong, turn back!**

10. Avalanches



Avalanche awareness. Pay heed to posted signs.



Danger Level and Color	Avalanche Probability and Avalanche Trigger	Degree and Distribution of Avalanche Danger	Recommended Actions in the Backcountry
What...	Why...	Where...	What to do...
LOW (Green)	Natural avalanches very unlikely. Human triggered avalanches unlikely.	Generally stable snow. Isolated areas of instability.	Travel is generally safe. Normal caution is advised.
MODERATE (Yellow)	Natural avalanches unlikely. Human triggered avalanches possible.	Unstable slabs possible on steep terrain.	Use caution in steeper terrain on certain aspects.
CONSIDERABLE (Orange)	Natural avalanches possible. Human triggered avalanches probable.	Unstable slabs probable on steep terrain.	Be increasingly cautious on steeper terrain.
HIGH (Red)	Natural and human triggered avalanches likely.	Unstable slabs likely on a variety of aspects and slope angles.	Travel in avalanche terrain is not recommended. Safest travel on windward ridges of lower angle slopes without steep terrain above.
EXTREME (Red with Black Border)	Widespread natural and human triggered avalanches certain.	Extremely unstable slabs certain on most aspects and slope angles. Large destructive avalanches possible.	Travel in avalanche terrain should be avoided and travel confined to low-angle terrain well away from avalanche path run-outs.

**Backcountry travelers must know how
to travel safely in avalanche terrain.**

Learn to recognize and avoid hazardous slopes.



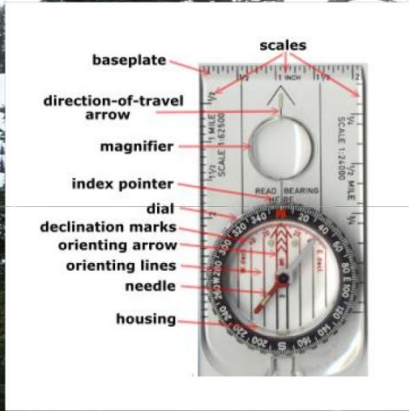
Mountaineers winter travel course.

Hazards in the Backcountry



1. Losing the trail
2. Terrain
3. Weather
4. Injury & illness
5. Dehydration
6. Hypothermia
7. Drinking water
8. Wildlife
9. Stream crossings
10. Avalanches

The 10 Essentials



====> Finding your way

1. Illumination
2. Navigation



The 10 Essentials

====> For your protection

3. Hydration

4. Nutrition (extra food)

5. Insulation (extra clothes)

6. Sun protection

The 10 Essentials

====> For emergencies

7. Repair kit

8. First aid kit

9. Fire (matches, flint)

10. Emergency shelter



.....plus one more!



Leave a schedule!

1. Where you are going.
2. When you plan to return.
3. Who you are with.

4. Who should be contacted should you not return by a set time.



While out on the trail.....

1. Keep an eye on the time.
2. Keep the group together.
3. Know where you are.
4. Pay attention to signs & advisories



In conclusion.....

- ❖ **Anticipate**
- ❖ **Communicate**
- ❖ **Hydrate**
- ❖ **Make good choices**
- ❖ **And enjoy the backcountry!**