

Welcome!

RECLAIMING PALMER 2020

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History Palmer Chairlift Timberline Lodge

- ▶ The original Palmer chairlift was constructed in 1976 by Riblet Tramway Company, it was a fixed grip double. During the first winter significant damage occurred to the line towers due to snow creep, wind and ice loads. The following summer the towers were repaired and tripod legs were added. This lift was only operated in the summer months. During winter, chairs were removed from the line and stored in the basement. Also, the haul rope was lowered and put into winter mode.
- ▶ In 1996, the current Palmer was constructed by Doppelmayr. A high speed detachable quad with a mid-station load (used in summer months). All equipment was new with the exception of the line towers, though a few new towers were added. Knowing of the historic icing events Doppelmayr designed to lift with a night drive mode. To run during storms with carriers removed to prevent ice build up.

Winter 1998-99 & 1999-00

► Christmas storm 1998

- Tower tube 11 buckled above the connection of tripod legs
- Same on tower 21, lifting frame torn from crossarm and landed 50' away
- Tower 10 showed signs of buckling
- Crossarm tower 12 bent, tower deflected east slightly
- Damage to multiple assemblies
- Haul rope damage
- Electrical damage

Repairs completed April 1998

Winter 1998-99 & 1999-00

- ▶ Mid December Storm 1999
 - Damage to towers 10,11,12,and 21
 - Similar line machinery damage
 - Haul rope replacement
 - Converted 4T assemblies to 4T-2FRS
 - Replaced tower cap bolts and console bolts

Repairs completed March 15th 2000

Winter 2019-2020

- ▶ October 16th, 2019 – early season snow storm; began with rain and wind ended with 3' snow accumulation at 6000'. Heavy ice build up on Magic Mile and Palmer. Could not assess.
- ▶ October 20th, 2019 Opened Pucci & Bruno for 1 day. Magic Mile de-roped HS TWR 16,17,19,20 due to wind and ice build up. Palmer de-roped numerous locations with the HS assembly of TWR 20 on the ground.
- ▶ October 24th, 2019 TWR 20 assembly replaced and all Palmer de-ropements recovered.



Winter 2019-2020

- ▶ No significant snow fall early season
- ▶ Re-opened Pucci & Bruno November 28th, 2019
- ▶ All lower lifts (Pucci, Bruno, Molly's, Flood and Norm's) opened December 15th with less than 2' of snow pack
- ▶ Due to the lack of snow, the decision to prep Palmer for a winter open was made December, 23rd
- ▶ Palmer opened for the public December 28th, 29th and 30th, 2019

The Storm

- ▶ Thru January the crew de-iced and ran Palmer in night drive when conditions permitted
- ▶ Winter assemblies were installed and crew was ready to lower the haul rope to winter assemblies on the afternoon of February 5th
- ▶ Weather was coming in and the crew projected a two day delay

February 7th, 2020

Tower 21



Tower 22

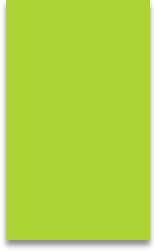


February 7th, 2020

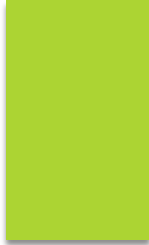




A few days later.



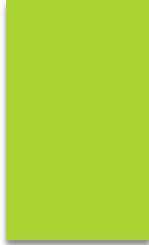






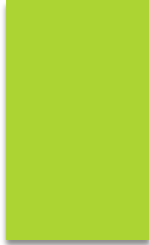




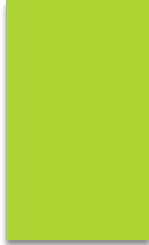




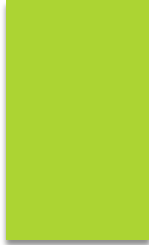




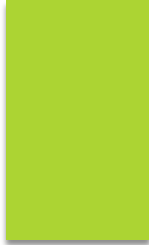












The RECOVERY begins...

- ▶ In total we were de-rope on 23 assemblies
- ▶ Lost two tower crossarms and lifting frames
- ▶ Haul rope needed replaced
- ▶ 15 assemblies needed to be pulled and rebuilt
- ▶ Tower cap bolts and console bolts needed replaced
- ▶ Electrical work

Crew completed Palmer winterizing February 13th , 2020

COVID

- ▶ March 15th the ski area CLOSED for COVID 19
- ▶ April 15th we were given permission to bring critical personnel back to work on recovery efforts
- ▶ The staff that came back worked during weather windows to re-build and replace assemblies while we waited for the haul rope and tower crossarms

Slow and Steady Progress

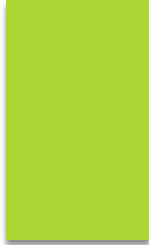
- ▶ May 7th we flew tower crossarms to towers 21 and 22
- ▶ May 15th the ski area re-opened for the public, Stormin Norman and the Magic Mile
- ▶ May 24th project “new rope” commenced with the help of Doppelmayr USA
- ▶ May 30th splice project complete
- ▶ Early June, annual pre-op work and electrical completed

Palmer re-opens to the public for summer June 17th, 2020

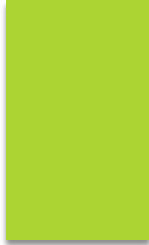












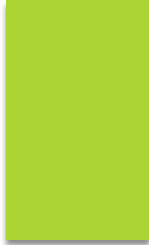
Reclaiming Palmer-Weather/Safety

Tom Scully-Loss Control Consultant

PNSAA Conference

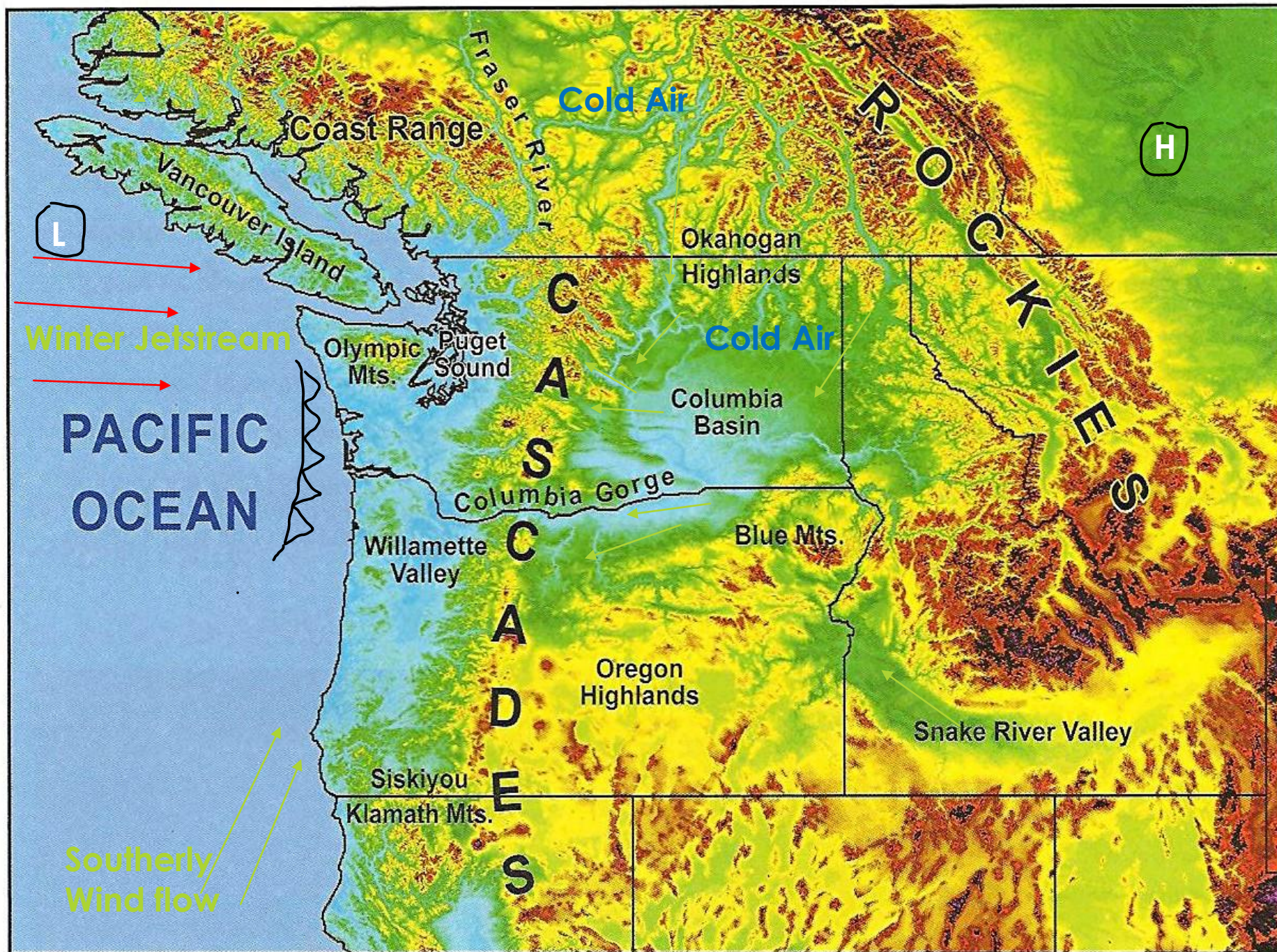
Bend, Oregon

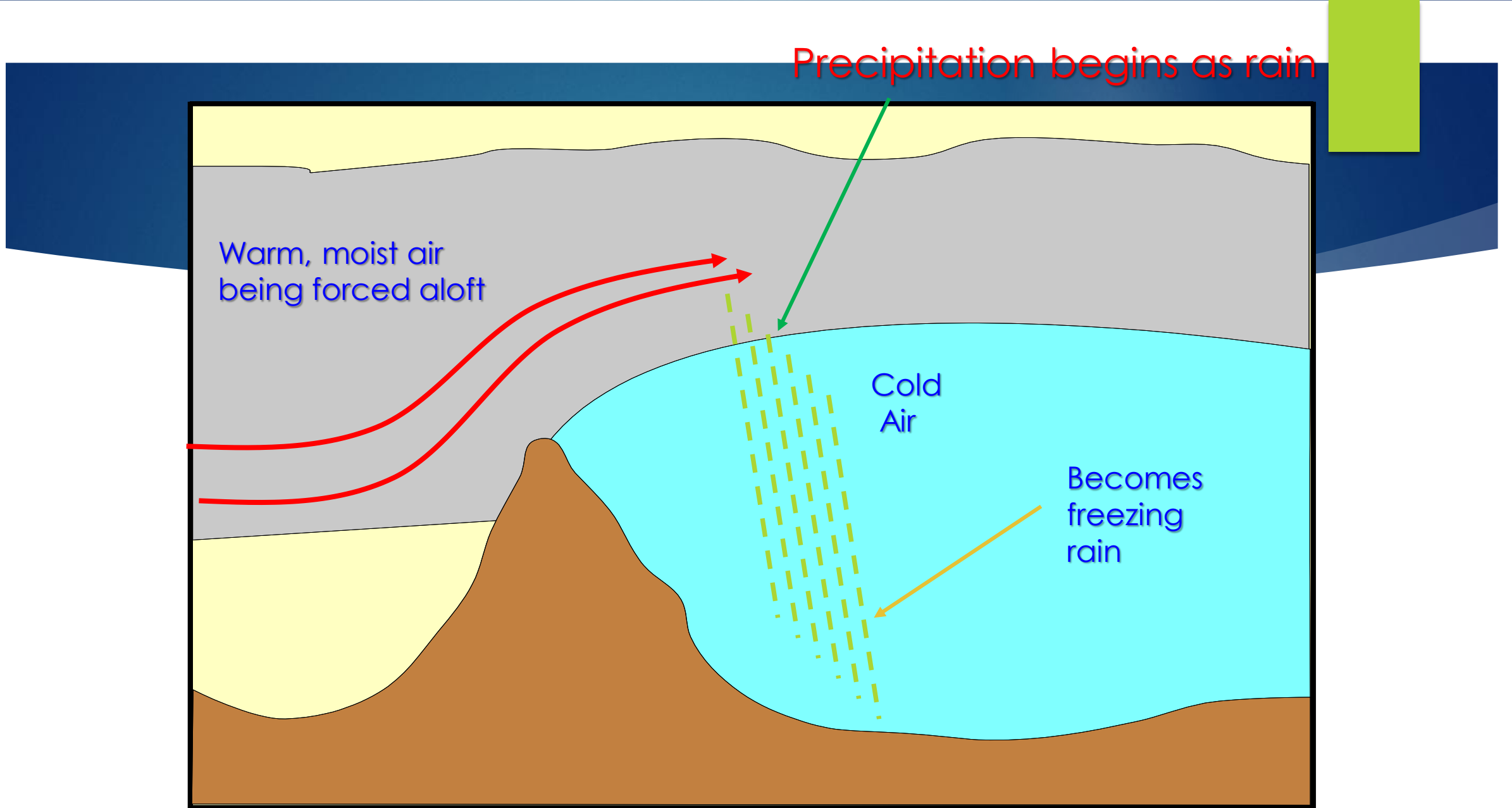
April 26, 2021





https://www.youtube.com/watch?v=uOjxUKKVGI&feature=youtu.be&fbclid=IwAR1gi260Qs6llsid_mcRT_eqxGU5YXwyUS6jQREhX4f1X44yHni1pW00OJk





Icing

Weather Info for the Northwest



<https://a.atmos.washington.edu/data/>
<https://cliffmass.blogspot.com/>

<https://a.atmos.washington.edu/wrfrt/>

<https://www.cnrfc.noaa.gov/satellite.php>

<https://www.cnrfc.noaa.gov/graphicalRVF.php?id=TRCC1>

Best practices/training/rescue

- ▶ Fall Protection/tower climbing/anchoring
- ▶ Lockout/Tagout/Failsafes
- ▶ PPE
- ▶ Safe Zone/RED zones
- ▶ Back-up plans
- ▶ Options
- ▶ Rescue



More than one way to get it done



Arrival side grip cleaning

E. Shutdown

Adjustable
Friction plate
brush

Mobile Jaw
Brush



Tools-Adjustable Friction Plate Brush



- ▶ Hands off
- ▶ Guarding by space
- ▶ Stopping
- ▶ No straps
- ▶ Talk
- ▶ Plan
- ▶ Train

Prepare For Worst Case



Safe
r

Not
Safe

Labor Intensive Method

- ▶ Time and Labor
- ▶ Crew morale and safety
- ▶ Dangerous positions if derailment occurs
- ▶ Falls possible/rescue plan details crucial
- ▶ Communication critical-radio breaks, dead battery, safe states, lockout procedures
- ▶ Management and guest pressure?



Rope Cleaning With Cat

- ▶ No staff on towers
- ▶ Chain down and secure rope/assembly
- ▶ Old Rope Tow rope works great
- ▶ Shackle on haul rope
- ▶ Lookouts and communication with driver
- ▶ Go slow!





► <https://www.youtube.com/watch?v=qiqsLuvY200>

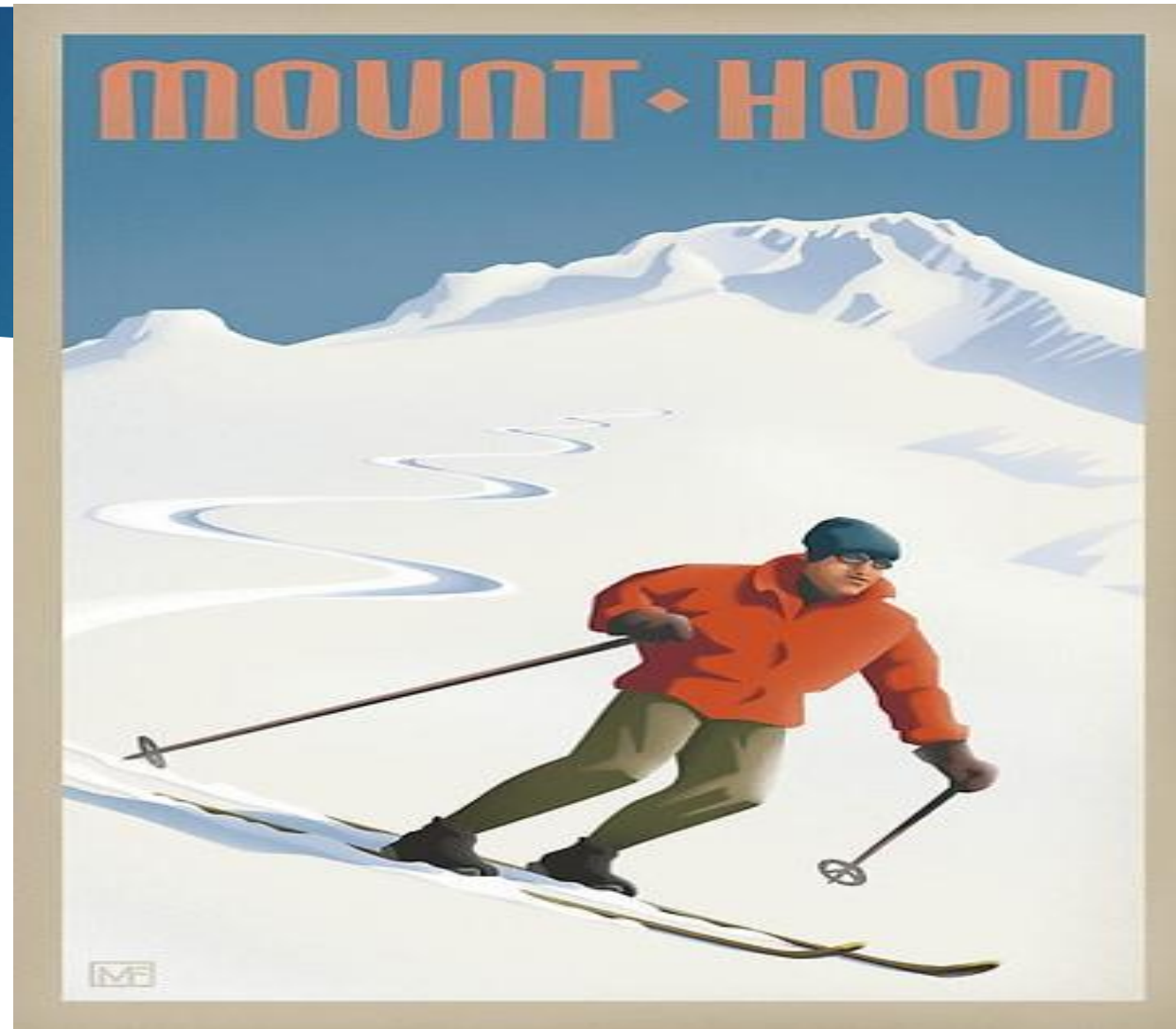
Maintenance Deicing



KEEP THE NIGHT DRIVE ALIVE-BUT DO IT SAFELY

What Could Possibly Happen?





Questions?