

CORNICE CONTROL THROUGH ESTABLISHMENT OF A "FALSE SUMMIT"

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Among several methods for controlling ridge top snow cornices, the use of a snow fence to build a "false summit" of snow windward of the true summit appears to have merit and a reasonable price requirement. This method involves placing the snowfence so that the resulting drift develops short of the true summit, and early cornice buildup from the false summit, if any, is supported by slopes inclined windward. The usual ridge top cornice cannot develop because wind trajectory to the true summit is destroyed.

The full saturated drift position of a double-tiered snowfence at 50% density can be determined through trial and error. Guying methods and materials are critical because of potential fatigue developed in oscillating guys.

Useful Data

1. Site: Bridger Range, Montana, 2590 m above sea level
2. Winds: prevailing from west; mean wind speed for Februaries 1970-76 was 11 mps
3. Fence Height (H): 3 m
4. Position of fence with respect to summit: 14 m upwind on 20 deg. west facing (windward) slope. This position could be increased to 18 m
5. Results: Jan. 1 apex of drift was 3H distance from fence during normal snow year
April 1 apex of drift at saturation stabilized at 7H from fence. Top of drift was 7 m higher than top of fence. Adjacent uncontrolled area showed mature unstable cornice morphology with leading edge located at an equivalent distance of 8H from fence.

Conclusion: Although the fully saturated drift involved about the same mass as the adjacent mature cornice, the gentle convexity of the drift and its slow stable development through the false summit phase was sufficient for winter-long cornice hazard control.