Alpine Field Safety & Backcountry Emergency Protocols Manual

Standard Operating Procedures for Niwot Ridge Observatory, Weather Hazards, and Avalanche Safety

ALPINE FIELD SAFETY STANDARD OPERATING PROCEDURES

Section 1: Pre-Trip Planning & Authorization

All student and faculty field expeditions above 9,000 ft require a logged Field Trip Plan.

The plan must designate an expedition leader, emergency contact, and check-in timeline.

Section 2: Required Personal Backcountry Equipment

? Avalanche transceiver (three-antenna digital beacon with fresh alkaline batteries)

? Collapsible 300-cm aluminum avalanche probe and metal snow shovel

? Minimum 3-layer weatherproof mountaineering apparel (wicking base, insulating fleece, waterproof shell)

? Two independent navigation tools (calibrated GPS datalogger + physical topographical map and compass)

? Emergency space blanket, 2,000-lumen headlamp with spare cells, and personal first-aid trauma kit

Section 3: Weather Thresholds & Mandatory Retreat Criteria

? Sustained summit winds exceeding 45 knots (52 mph) or gusts over 60 knots

? Ambient air temperature below -15℉ (-26℃) or windchill below -35℉

? Visible cloud-to-ground lightning within a 10-mile radius (30-30 flash-to-bang rule)

? CAIC Regional Avalanche Danger Rating of 'CONSIDERABLE' or higher on slopes steeper than 30 degrees