



The Rocky Mountaineers of Western Montana, Box 4262, Missoula, Montana, 59807, welcomes all persons interested in the outdoor activities of hiking, camping, ski-touring, snowshoeing, river floating, bicycling, and technical climbing--summer, winter, autumn, and spring. Subscription to the Mountain Ear is by membership: \$4.00/yr., single; \$5.00/yr., family; or \$2.00/volume to out-of-town addresses. Eight issues per volume.

#### OFFICERS

President, George Howe.....543-6885  
 Vice Pres., Larry Clawson.....721-2608  
 Secretary, Tom Lukowski.....728-6906  
 Treasurer, Kaye Lyons.....549-1507

Mountain Ear Staff: Virginia Vincent,  
 Annette Walker, Pat Washburn

\* \* \* \* \*

NEXT MEETING: January 11, 1978, at 7:30 p.m.  
LOCATION: Hellgate High School Cafeteria  
PROGRAM: "A Climb of the Grand" Mark Klawitter will present this 40 minute slide program of a climb of the Grand Teton undertaken during the summer of 1977.

\* \* \* \* \*

#### WINTER ACTIVITIES SCHEDULE

Please contact trip leaders in advance to determine trip conditions, meeting place, and degree of difficulty of trip. The leader has the option of limiting the number of participants on the trip.

<u>Date</u>	<u>Leader</u>	<u>Details</u>
Jan. 14-15	Anyone have a trip to schedule?	
Jan. 21-22	Kaye Lyons 549-1507	Downhill or cross-country skiing at Discovery Basin & Georgetown Lake. Stay overnight at Fairmont Hot Springs Saturday night. Call by Jan. 15 for details and information.
Jan. 28-29	George Howe 543-6885	Cross-country skiing. See details, page 5.
Feb. 11-13	Kaye Lyons plus volunteers	Izaak Walton Inn, Glacier Park. Cross-Country skiing, hiking, lodge atmosphere. Would need help with reservations, scheduling, rides, etc. Call by Feb. 1 for reservations.
Feb. 18-20	Brian McGiffert 721-1923	Cross-country/snowshoe to Cabin on Little St. Joe. Destination may change, depending on weather. Details later.
April	George Howe 543-6885	Trip to Grand Targhee. See exciting details on page 2.

IF YOU HAVE A TRIP TO SCHEDULE, CONTACT ANY MOUNTAINEER OFFICER TO HAVE IT PUBLISHED IN A FUTURE ISSUE. MANY WEEKENDS ARE OPEN!

\* \* \* \* \* H A P P Y N E W Y E A R \* \* \* \* \*



BEGIN PLANNING NOW FOR APRIL TRIP  
TO GRAND TARGHEE

I invite you to join me in an early-April (couldn't get reservations for mid-March) ski trip to Grand Targhee, on the west slope of the Tetons. I have reserved lodging space for twelve, based on a show of hands at the December meeting. Additional space may be available, but you'll have to let me know by January 20. In any case, I will need to have a deposit from you not later than February 8.

Grand Targhee is my favorite developed alpine ski area--lots of powder and lots of well-designed and groomed runs. There's good skiing for every skill level and taste, much of the skiing above treeline. At Thanksgiving this year I discovered it's got abundant cross-country terrain as well. In fact, the U.S. Cross-Country Ski Team was working out there during my stay. You can ski from the door of the Tee Pee, if you wish.

I've reserved six queen-bed rooms (with private baths) at Teton Tee Pee at Alta, Wyoming, five miles from Grand Targhee. These sleeping rooms surround an enormous, circular, common lounging-dining room with a central fireplace. Overlooking this room are two large balcony rooms, one for TV viewing and one for conversation or card playing. Downstairs is a game room and two dormitories--one for girls, one for boys--for you or your kids. The dorms are at lower rates (let me know if you want dorm space).

Meals (breakfast and supper daily) are served family-style, and are included in the package price. Also included are transportation to and from the ski area, lift tickets, beer, pop, setups for BYOB drinks, and stereo music (as for dancing).

Schedule: Leave Missoula 9:00 a.m., Saturday, April 1. Leave Grand Targhee for Missoula 2:30 p.m., April 4. Approximate driving time 8 hours; approximate distance 340 miles. Transportation to and from Missoula by personal cars, to be arranged, cost to be shared.

Package price (includes 3 nights' lodging, 2 meals per day, lift tickets, transportation to ski area):		<u>Dorm Bunk Bed</u>	<u>3 days per person</u>
<u>Queen Bed</u>	<u>3 days per person</u>	ages 5-12	\$50
double occupancy	\$113	ages 13-18	82.50
single occupancy	135	adults	105



Please have your \$50 (per person) deposit to me not later than February 8. Make checks payable to Teton Tee Pee. George Howe, 442 South Ave. West, 543-6885 (home), 329-3183 (office).



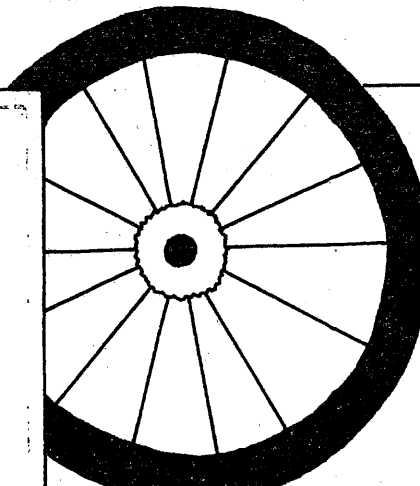
"AN OASIS FOR THE  
CYCLO-TOURIST"

SPECIALIZING IN BICYCLE ASSEMBLY  
WHEEL BUILDING AND FRAME REPAIR

Sales      Repairs      Parts

2100 South Ave. W.  
Missoula, Montana 59801

Sam, Shirl & Bart Braxton  
Phone (406) 549-2513



## WEATHER INDICATORS

A thorough knowledge of the types of cloud formations and the wind and temperature variations that bring about changes in the weather is extremely valuable for mountaineers to narrow the margin of error in area forecasts and to prepare themselves for variations in weather patterns that often occur in the high country.

Stormy weather can broadly be put into three categories: local storms of short duration, traveling storms causing changes over a broad area, and seasonal moisture bearing winds which bring bad weather for weeks at a time. The occurrence of these weather conditions can be predicted to some degree by recognition of cloud types and by wind and temperature changes.

Generally, cloud types consist of the following formations:

1. Cirrus clouds are composed of ice crystals and occur 4 to 7 miles high. They may be detached white clouds with fibrous structure, or thin veils.
2. Alto stratus clouds are dark formations in a continuous sheet at elevations from 8,000 to 16,000 ft. They may cover the sky completely and develop from the descending and thickening cirrus or merging of high cumulus types.
3. Cumulus clouds resemble great patches of cotton and form at heights from 1,500 to 7,000 ft. They are brilliant white in sunlight, but dark appearing on the shaded side.
4. Alto cumulus clouds, similar in form to cumulus clouds, are smaller and appear in a rather uniform layer or deck at 8,000 to 16,000 ft.
5. Cumulo nimbus (thunderheads), overgrown and darkened cumulus clouds, can start as low as 1,500 ft. and build up to heights of 6 to 7 miles.
6. Stratus clouds, similar to alto stratus clouds but much lower, can develop from a fog layer in which the bottom portion has evaporated or where up slope winds are blowing.

Each cloud type characterizes phases in a given weather situation. Following is a description of some common weather indicators.

1. Local disturbances: Conditions under which scattered cumulus clouds increase in size and rapidly thicken during the afternoon. The approach of a line of large cumulus or cumulo nimbus clouds with an advance guard of alto cumulus. At night increasing lightning to the windward of the prevailing wind gives the same warning. Massive cumulus clouds hang over a ridge.
2. Traveling storms: A. Thin veil of cirrus spreads over the sky, thickening and lowering until alto stratus clouds are formed. (At night a halo will form around the moon until the moon is obscured, cirrus clouds dim the stars. As alto stratus are formed the sky will be blackened entirely.) B. Low clouds which have been persistent on lower slopes begin to rise at the time upper clouds appear. C. Confused layers of clouds move in at different heights and become more abundant. D. Lens-shaped clouds accompanying strong winds lose their streamlined shape and other cloud types appear in increasing amounts. E. A change in the direction of the wind is accompanied by a rapid rise in temperature not caused by solar radiation. This usually indicates a warm damp period. F. An intense green sky is observed shortly after sunrise in mountain regions above timberline.
3. Strong winds are indicated by plumes of blowing snow from the crests of ridges and peaks or ragged shreds of clouds moving rapidly; persistent lens-shaped clouds, or bands of clouds, over high peaks and ridges or down wind from them; a turbulent and ragged banner cloud which hangs in the lee of a peak.

(concluded on page 5)





