AVALANCHE NEWS NO. 11

FEBRUARY 1983

EDITORIAL NOTE

The intention of AVALANCHE NEWS is to assist communication between persons and organizations engaged in snow avalanche work in Canada. Short articles cover reports of accidents, upcoming and past events, new techniques and equipment, publications, personal news, activities of organizations concerned with avalanche safety, education and research. Contributions are expected from the readers.

Avalanche News is issued three times per year, usually in January, June, and October. There is no subscription fee. Requests for copies and notifications of changes of address should be sent to the publisher.

Editor: Peter Schaerer
National Research Council of Canada
3904 West 4th Avenue
VANCOUVER, B.C. V6R 1P5

Telephone: (604) 732-4829

Publisher: Geoff Freer
Snow Avalanche Section
Ministry of Transportation and Highways
940 Blanshard Street
VICTORIA, B.C. V8W 3E6

Telephone: (604) 387-1738

AVALANCHE NEWS
Canadian Avalanche Association, 3904 West 4th Ave., Vancouver, B.C., V6R 1P5
FEBRUARY 1983, No. 11

WEATHER FORECAST

Gary Wells, Officer-in-Charge of the Pacific Weather Centre, wishes to inform us about revisions of the Mountain Forecast Guidance.

The modified mountain forecast program for 1982-1983 has been underway since November 1, 1982. Some revisions were made to the program early in December, namely:

a) forecasts of sky condition and weather were added for each mountain forecast region;

b) attempts were made to introduce more technical terminology in the synopsis.

After an analysis of this program and in consultation with various users, it appears that the mountain forecast guidance is not yet meeting the requirements of all user groups. In particular, major users of the product would prefer more technicality in the synopsis. Furthermore, there are significant difficulties in forecasting specific quantitative snowfall amounts for large areas in which each site has its own individual micro-climate.

In an attempt to provide a more useful product and a more realistic forecast of snowfall amounts, the following changes were incorporated effective January 10, 1983:

a) The synopses contain a technical discussion of the movement and position of weather systems. Associated weather and wind conditions, and freezing level trends, continue as an additional feature to the synopsis.

b) In lieu of specific quantitative precipitation amounts, the regional forecasts contain forecasts of ranges. Generally these ranges will be: up to 15 cm; 15-30 cm; and, more than 30 cm. The ranges may vary, however, at the discretion of the forecaster.

At the end of this season we will review the mountain forecast products for further improvements. Weather information and forecasts will be discussed between the users and officers of the Pacific Weather Centre on May 5 and 6, 1983 in Vancouver. The users are requested to critically evaluate the Mountain Forecast Guidance throughout the winter and to be prepared to make suggestions at the forthcoming meetings.

INTERNATIONAL COMMITTEE ON ALPINE RESCUE

Submission by Peter Fuhrmann,
Member of the Sub-Committee Avalanches

The annual conference of the International Committee on Alpine Rescue (IKAR) was held at Banff, October 4-8, 1982.

The general opinion of the Sub-Committee Avalanches was that a lot of work still had to be done to reduce the number of persons involved in avalanche accidents. It seems that an increasing number of winter travellers take to the uncontrolled slopes in the backcountry, either on downhill mountaineering or cross-country equipment. Protectional location devices are under continuous review and improvements are being made. The diversity of the equipment, however, leaves room for concern.

On the electronic transceiver line, we are now desperately trying to ensure that only two frequencies will be used and that a further frequency will not be permitted. We are trying to obtain help from Federal Departments of the various nations.

A further concern is that the two-frequency units do decrease the distance of transmission. We feel that especially in connection with used batteries, distances are being reduced to an unacceptable level.

Austria developed an instrument through which the crew of a helicopter can locate avalanche victims. Basically, it is a microphone which hangs underneath the helicopter which is moved by the pilot over the slide debris. The tone can then be picked up by the pilot or crew members in the helicopter. It was felt that this particular instrument would be especially beneficial on large slides or in the helicopter ski industry, considering that helicopters are usually readily available. This piece of equipment is compatible with all two-channel transceivers and one channel transceivers of the Pieps frequency. Swiss Helicopter Rescue has built an attachment within the helicopter which works on the same principle. However, due to the fact that the Autophone's signal reaches over a large distance and is usually loud, the Sonde hanging underneath the helicopter is not necessary, as the signal can easily be detected by the pilot or crew members from within the machine.

Concern was voiced in connection with passive detection units. Apparently, some of these are already being marketed in Norway. In addition, some of the other European companies are looking into their distribution. Again, we hope to restrict the use of these to a one-frequency situation only.

A further point of interest was the Hohenester Balloon. Hohenester has now authorized a company in Europe to go into production with prototypes. The balloon will be inflated by three small compressed air bottles activated by a ripcord. Two types are being considered; one will be built into a ski-jacket vest sort of garment; the other will be suitable for carrying with a pack-sack. The first prototype should be available in short order and will be sent to me here in Canada so that tests can be carried out. Again, this piece of equipment will benefit all persons travelling in avalanche terrain but we feel that predominantly the helicopter ski industry might be especially interested.

The report of the sub-committee chairman, Guy de Marliave (France) containing further details will be made available later.

PRIVATE AVALANCHE DOG HANDLERS

Submission by Margie Jamieson

An informal training session was held for all interested dog handlers January 6-10, 1983. Participants from Alberta and eastern British Columbia were in attendance. It is hoped that another session will be held later this season for handlers from the western part of British Columbia. For information please contact Bruce Watt, Box 397, Pemberton, B.C., VON 2LO.

With instruction from Warden Dale Portman (Parks Canada), Cpl. Gordon Burns (R.C.M.P.), all participants felt the training session was quite successful. This year there were more new trainees and young dogs who got off to a good start.

It is felt that some teams are ready for certification, and talks are going on with Parks Canada and the R.C.M.P. to arrange for this possibility later this season. If all goes well we will have our first certified Canadian Private Avalanche Rescue Dog Teams this year.

For further information please contact:

Rod Pendlebury, Chairman
Box 364
FERNIE, B.C.
V0B 1M0

or

Margie Jamieson
Box 11
KIMBERLEY, B.C.
V1A 2Y5

AVALANCHE AWARENESS COURSES

As announced in Avalanche News No. 10, a seminar was held at Lake Louise on November 13-14, 1982 for the purpose of discussing proposed guidelines for an introductory avalanche awareness course. The seminar was attended by 31 participants who were interested in teaching awareness courses to the general public and within mountain clubs. During the seminar seven of the participants shared in the presentation of the chapters of the course.

The presentations and discussions revealed that the original outline contained more material than could be usefully taught in a short course. As a result, the outline was revised. This revised format will be applied in courses throughout this winter. Following final revisions, the outline will be presented at the meeting of the Canadian Avalanche Association on May 6, 1983, and if accepted, will be recommended to instructors of avalanche awareness courses.

MEETING OF THE CANADIAN AVALANCHE ASSOCIATION

The annual end-of-season meetings of personnel of avalanche safety operations in Canada will be held at Vancouver, B.C. as follows:

On May 5: Meetings of committees for discussion of specific topics, for example, weather forecast, avalanche courses, explosives.

May 6, morning: Annual general meeting of the Canadian Avalanche Association and technical meetings for members only.

May 6, afternoon: General public technical meeting open to any interested persons.

The members of the Association will be informed by letter about the time and location of the meetings. Others should obtain information from a member, Peter Schaerer or Geoff Freer.

We wish to draw attention to the contest for a logo of the Canadian Avalanche Association. Design proposals should be submitted to the President, Peter Schaerer, by April 1, 1983. Final selection will be made by the members at the Annual General Meeting, at which time the award will be presented to the winner.

The logo contest is open to anyone, including persons not associated with the Association.

STUDY TOUR ON SILVICULTURE OF MOUNTAIN FORESTS

The International Union of Forestry Research Organizations is organizing a study tour in France, Italy, and Switzerland, September 4-10, 1983 on the topic of "Silviculture of Mountain Forests with Respect to Snow, Avalanches, and Erosion."

Purpose of the study tour:

a) Visiting study sites in Western European Alps (Haute Savoie/France; Valle D'Aosta/Italy; Western part of Switzerland).

b) Promoting the discussion between research people and officers of the forest service.

Detailed topics:

a) Tending of sub-alpine Spruce forests and sub-alpine Larch-Cembra pine forests with respect to the snow and avalanche conditions and soil erosion.

b) Forest tending, afforestation and avalanche defense with deflecting structures in avalanche tracks.

c) Afforestation and avalanche defense with supporting structures in avalanche starting zones.

Deadlines:

- provisional registration	February 28, 1983
- second circular, full program, and further information	May 1, 1983
- final registration	June 15, 1983
- study tour guide	July 15, 1983

Costs:

- participants fee (covering: local organization, study tour guide, one common dinner)	sFr. 100.--
- travelling and accommodation (approx.)	sFr. 700.--

Address for all correspondence:

Swiss Federal Institute for Snow
and Avalanche Research
Branch Office Fluelastrasse 9

CH-7260 Davos-Dorf

Switzerland

Telephone:

083/5 13 47

Telex:

74 309 slf ch

FILM

"SWEPT AWAY"
An Avalanche Awareness Film

Submission by Alberta Mountain Council

The Alberta Mountain Council is pleased to offer for public distribution, the avalanche awareness film, "Swept Away". This film was awarded the runner-up title for mountain safety at the 1982 Banff Festival of Mountain Films.

"Swept Away" was produced by Bob Sandford of Canmore, Alberta, for the Alberta Mountain Council. The Council perceived the need for a low budget audio visual aid to inform backcountry users of the dangers of travelling in avalanche terrain.

The material was written by Peter Fuhrmann, Alpine Specialist for Banff National Park, and Tony Daffern, a well-known author and authority on avalanches.

The film discusses briefly the hazards of avalanches - as it was when the C.P.R. fought to keep its lines open to the western reaches of Canada. It moves poignantly and rapidly to the present time, presenting avalanches as unchanged and untamed despite the many new resources and improved techniques of the present age.

Through an excellent range of visual scenes combined with a fast but detailed narration, the backcountry user is taken through a trip in time with a party of skiers who are reasonably aware of the environment, and who attempt to do the right things within the scope of their experience and resources.

"Swept Away" can be both light-hearted and serious. It is designed to heighten the awareness of the viewer and should be seen more than once in order to absorb the many messages to be learned.

The Alberta Mountain Council is an independent body, funded by the Alberta Government through The Alpine Club of Canada. It is composed of representatives from educational professions, professional mountain guides, National and Provincial Parks, the Alpine Club of Canada and the public sector. The Council's aim is to promote the research and distribution of material relating to mountain recreation, leadership, safety and instruction. The film is one of the many projects the Council is actively supporting. The majority of the funding came from a grant by the Recreation, Parks and Wildlife Foundation.

"Swept Away" is available for purchase on 16 mm film, and in the near future will be available on 3/4" video cassette. It was created from a complex 35 mm dissolved image slide program, with soundtrack, and then transferred to these media for ease of public showing. For further information regarding this educational tool, contact The Alberta Mountain Council: P.O. Box 1026, Banff, Alberta, TOL 0C0; telephone: 403-762-4481.

The purchase price for the 16 mm film is $195.00 (Canadian). Shipping and handling is:

	1 Unit	2 Units
Alberta	$3.85	$ 4.25
British Columbia, Saskatchewan, Manitoba	4.60	6.00
Other Provinces	6.00	8.00
U.S.A.	8.80	12.00

PUBLICATIONS

UNESCO, Avalanche Atlas, illustrated international avalanche classification, 265 pp, 1981.

Published by UNESCO, 7 place de Fontenay, 75700 Paris. Available in Canada through Renouf Publishing Company, 2182 St. Catherine Street West, Montreal, Quebec, H3H 1M7; telephone: 514-937-3519.

Branch Store: 522 West Hastings Street, Vancouver, B.C., V6B 1L6; telephone: 604-687-3320

The atlas was compiled by the Working Group on Avalanche Classification of the International Commission on Snow and Ice under the International Association of Hydrological Sciences (IAHS). It describes with photographic illustrations the Avalanche classification proposed by the same working group and published in the Hydrological Sciences Bulletin of the IAHS (Vol. 18, No. 4, pp. 391-402, 1973). In that classification, avalanches were classified according to morphological criteria, such as the manner of start, position of the bed surface, form of the path, form of movement, liquid water content, and type of the deposited snow. The publication makes no reference to the size classifications commonly applied in Canada and the U.S.A.

The book contains excellent illustrations of avalanches making it a valuable reference and tool for education.

Daffern, Tony, Avalanche Safety for Skiers and Climbers, Rocky Mountain Books, 106 Wimbledon Crescent, Calgary, Alberta, T3C 3J1, 1983.

Size: 8.5" x 11", 176 pp. 186 illustrations.

The publication is an introduction to avalanches, avalanche hazards, and safety measures for the backcountry skier and mountain climber. Recognition of hazards from observations of the terrain, the snow, and the weather is explained, and safety measures such as equipment, and route selection are discussed. The numerous excellent photographs and drawings assist greatly in understanding the material.

Transport Canada, Flying the Weather, Ministry of Supply and Services, Ottawa, 1982.

Available from agencies that carry Canadian Government publications, other bookstores, or by mail from Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, K1A 0S9. In Western Canada the agent for government publications is Renouf Books, 522 West Hastings Street, Vancouver, B.C., V6B 1L6; telephone: 604-687-3320. Price in Canada: $4.50, other countries: $5.40 (include a cheque when ordering the book).

The book was written to meet the needs of private pilots, but will assist anyone who depends on weather observations and weather forecasts in avalanche hazard forecasting and for making decisions about control and safety measures. In easily understandable language the publication explains the elements of the weather, weather systems, how to read weather maps, the terminology, and the weather information available. A discussion on how mountains influence the weather is included.

Brown, R.L., Colbeck, S.C, Young, R.N., Proceeding of a Workshop on the Properties of Snow, April 8-10, 1981, Snowbird, Utah.

Special Report 82-18, U.S. Army Cold Regions Research and Engineering Laboratory, 72 Lyme Road, Hanover, New Hampshire, 03755, U.S.A., 135 pp., 1982.

The workshop was organized for the purpose of discussing current problems associated with the properties and processes of snow. This was accomplished by presentation of a series of review papers at the beginning of the workshop followed by discussion sessions in five committees.

The proceedings contain the review papers, the reports of the Committee Chairmen, and a final position paper by the Steering Committee.

Review papers:

"Mechanical properties of snow" by B. Salm

"Surface friction, surface resistance, and flow of snow" by T. Lang and J. Dent

"Seasonal snow metamorphism" by S.C. Colbeck

"Snow acoustics" by R.A. Sommerfeld

"Optical properties of snow" by S.G. Warren

"Electrical properties of snow" by W.H. Stiles and F.T. Ulaby

Committee reports:

"Mechanical properties" by R. Oakberg

"Viscous, frictional and blowing snow properties" by D. McClung

"Electrical, acoustical and optical properties" by H. Gubler

"Snow metamorphism" by E. LaChapelle

"Experimental methods, data reporting and snow classification" by F. Smith

The book is a good source of information about snow for readers with some knowledge of physics. It contains quite an extensive list of unsolved problems and areas where studies should be undertaken.

Information applicable to understanding the failure of snow and the start of avalanches can be found in the review paper and the report on mechanical properties. However, the principal conclusion of the discussions was that we are a long way from understanding the mechanism of snow failure and from being able to predict with a few simple field measurements whether or not avalanches would start. The discussions again revealed the complexity of the problem, and at the Workshop it was not even possible to identify the index properties that should be studied.

The review paper on surface friction, surface resistance and flow of snow contains a summary of the state-of-the-art of modelling the flow of avalanches. Specific research areas identified were the collection of data about avalanche velocities along the avalanche path and within the avalanche body, and data about profiles of densities of the moving snow. The participants recognized the extreme difficulties and personal risks encountered in performing experiments on full-scale avalanches.

Bigras, P, and Hebert, A., 1982. Jees, un système météorologique de prévision des avalanches.

Rapport de B.Sc., Département de géographie, Université de Sherbrooke, Sherbrooke, Québec, 31 pp.

Bigras, P., Hebert, A. and Gwyn, Q.H.J., 1982. A meteorological approach to avalanche prediction, Mount Washington, New Hampshire.

Rapport présenté à U.S. Forest Service, Departement de géographie, Université de Sherbrooke, Sherbrooke, Québec, 30 pp.

The two references above were brought to our attention by Simon Ommanney (National Hydrology Research Institute, Ottawa).

Second Symposium on Applied Glaciology

Avalanche News No. 10 contained a summary of the papers of interest to avalanche workers and a note that the proceedings of the conference will be available in mid 1983. The quoted price of £12 for the publication, however, refers to members of the International Glaciological Society only. Non-members will have to pay a considerably higher price.

PERSONAL

Willi Pfisterer (Alpine Specialist, Parks Canada) had an operation to relieve him from stomach ulcers. As a consequence, he has missed most of the avalanche season, and his jokes and expertise were missed at the avalanche courses. We wish Willi a speedy recovery.

AVALANCHE RESOURCE AGENCIES LIST

Please note the following change to the attached Avalanche Resource Agencies list:

Page 5

Alberta Provincial Parks

Kananaskis Provincial Park
Box 59
CANMORE, ALBERTA T0L 0M0

Telephone: 403-678-5508 (Canmore office)
403-591-7222 (Kananaskis Park)

Attention: Lloyd Gallagher, Gavin More, Rod Gee

Services: a) backcountry travel
b) search and rescue
c) educational programs

FROM:

Snow Avalanche Section
Ministry of Transportation
and Highways
940 Blanshard Street
VICTORIA, B.C.
V8W 3E6

9
32

Jim Bay
Box 1193
REVELSTOKE, B.C.
V0E 2S0

1 St Ave RR # 4
Terrace BC
V8G 4V2