

April 16, 2006

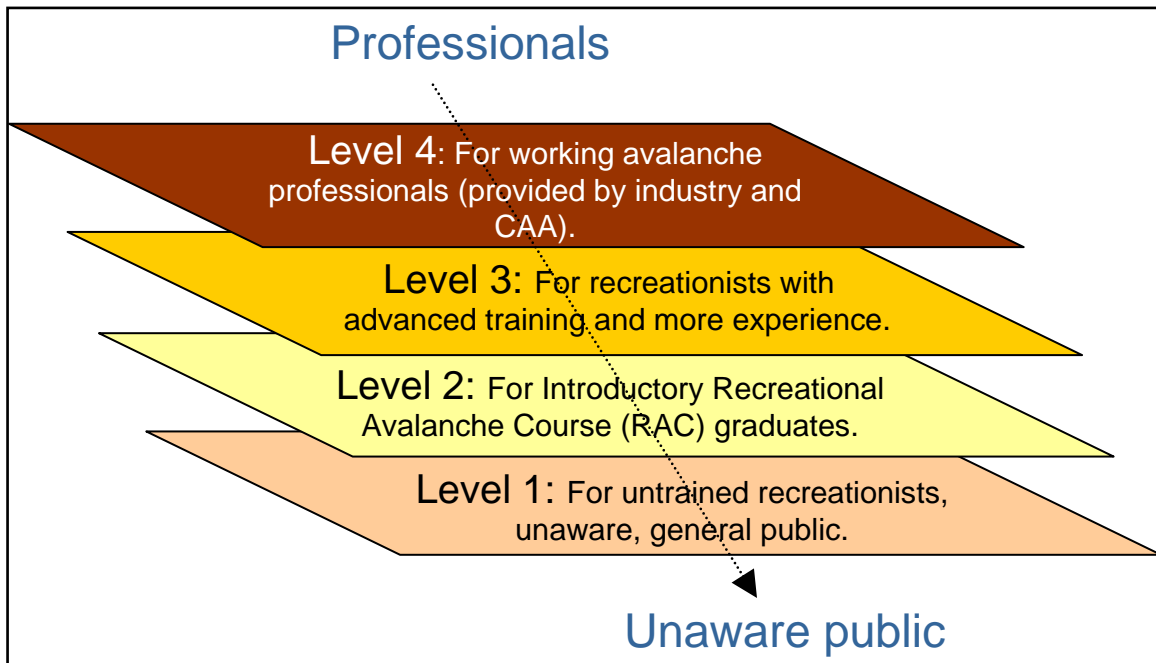
Canadian Avalanche Centre  
Level 3 Avalanche Information Products  
User Survey Background

**Goal**

To introduce the concept of a potential Level 3 product and ascertain user group interest via a simple survey.

**The Avalanche Information Product Model**

This conceptual model of avalanche information products has been developed by the Canadian Avalanche Centre as a 4 level system, increasing in technical complexity (and requisite user expertise) with layer number.



*Level 4:* The InfoEx avalanche industry information exchange. Created by industry and the Canadian Avalanche Association. For working avalanche professionals. Level 4 is a professional product which is not produced by the CAC but which is used a primary input into the products we do create.

*Level 3:* For advanced recreationists. The CAC produces no public products at this level at this time.

By providing Level 2 and 1 Avalanche Information Products, the Canadian Avalanche Centre provides a variety of information intended to allow recreational backcountry users to make better informed travel decisions, manage personal risk, and make sound decisions in the backcountry according to their level of training, expertise, and experience.

*Level 2:* Public Avalanche Forecasts and Public Avalanche Information Reports. For Introductory Recreational Avalanche Course (RAC) graduates. These provide a forecast of avalanche danger, backcountry conditions, and outlook for each of six forecast regions. Forecasts are produced from review and analysis of various data sources including InfoEx, ACMG InformalEx, BLBC Exchange, industry and government operations and weather stations, anecdotal public reports, etc. A basic analysis and discussion extrapolated from many point observations throughout entire forecast regions.

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## South Coast

**Date Issued:** 1/28/2005 12:00:00 AM  
**Valid Until:** 1/31/2005 12:00:00 AM

**Forecast of Avalanche Danger:**

	Friday	Saturday	Sunday
<b>Alpine</b>	Moderate	Moderate	Considerable
<b>Treeline</b>	Moderate	Moderate	Moderate
<b>Below Treeline</b>	Low	Low	Moderate

**Travel Advisory:** Alpine areas continue to demand caution, and this is still not the time to get into big open terrain with exposure to large avalanche slopes. Additional snow and wind later in the weekend may cause already formed soft slabs in the alpine to become more reactive to human triggers. Cornice falls and triggering the old facet layer deeper in the snowpack remain a possibility – yet another reason to be leery of large alpine terrain. Weak isothermal snow found at treeline still deserves respect due to continuing warm temperatures.





**Avalanche Activity:** Several small skier and explosive controlled avalanches were reported Thursday occurring in the to 15-20 cm of the snowpack in alpine areas.

**Snow Pack:** Five to 20 cm of new snow overlies a crust formed on January 25. The strength of this crust varies from strong and supportive to breakable depending on elevation and exposure to sun during the last week. Winds in the alpine have formed softslabs on lee facing terrain, which is likely north through east facing slopes due to southerly winds. Weak faceted crystals formed during the cold period before the storm are still easily recognizable at treeline and above, and are buried about 1 m deep. The potential to trigger these layers deeper in the snowpack remains as long as they're recognizable and continue to show up in stability tests.

**Weather:** Things finally cooled on Friday with the freezing level dropping to 1800 m, and a mix of sun and clouds. Strong SW flow will send most moisture just north of the region on Saturday and Sunday, with snowfall of 2-5 cm above 1900 m. Snowfall will increase overnight Sunday through Monday with 5-15 cm above 1500 m. Winds will increase from light southwesterlies on Saturday to moderate or strong in the alpine on Sunday.

**Issued By:** aj

*Level 1: Backcountry Avalanche Advisory (BAA). An icon-based system developed by the CAC and Parks Canada. For untrained recreationists and the general public. A categorically simplified, daily notification of regional avalanche conditions.*

Avalanche Conditions	Travel advice	Guidance for Amateur Recreation
 <p>Good</p>	Normal Caution	Avalanches are infrequent but possible. Appropriate conditions for informed backcountry travel.
 <p>Serious</p>	Extra Caution	Avalanches will occur with human and other triggers. Avalanche training and experience are essential for safe backcountry travel.
 <p>Poor</p>	Not Recommended	Avalanches are occurring frequently. Inappropriate conditions for backcountry travel without extensive avalanche training and experience.
 <p>Variable</p>	Extra Caution	Conditions change from good with frozen snow to poor with melted snow. Avalanche training and experience are essential to monitor conditions for safe travel.

The functionality of the four layer system may be viewed as an analytical reduction. This proceeds from the collection of raw information and high-level analyses by avalanche industry professionals, to Level 4's technical information, to Level 1's simplified warnings. Progression through the four layers yields no change in the level of backcountry safety. The difference between levels lies in the latitude allowed the user for interpreting the information and applying it to enhance their backcountry experience.

At Level 1 there is no latitude for interpretation and analysis of the data presented: this product is intended as a tool for a simple go/no-go decision making process. By Level 4, interpretation and analysis of the information presented by others is an integral part of the process; experienced, professional users have great latitude in determining if the external data and analysis applies to their situation and thereby deciding when and where to go. For example:

- 1.) At Level 1, with a red BAA icon (poor conditions, travel not recommended), the intention is to encourage untrained and inexperienced users to simply not go into the mountains.
- 2.) At Level 2, with a Considerable danger rating (be increasingly cautious in steeper terrain), the intention is to provide advice for somewhat trained and knowledgeable users as to where it may or may not be appropriate to travel, and to encourage them to undertake trips that lie within their level of expertise.
- 3.) At Level 4, if stability is Poor and hazard is High, experienced professional users might not cancel travel plans, but they will adjust their plans to ensure that encountered terrain and snowpack conditions allow for appropriate and acceptable levels of risk.

### **Level 3 Avalanche Information (the “Technical Avalanche Summary”)**

At this time, Level 3 Avalanche Information Products are in use within the CAC forecasting office. One example is the regular forecaster meetings held to review incoming information about weather, snowpack, and avalanche activity. The potential impact of these factors on current conditions and expected future outcomes are discussed. However, the process is informal and documentation is not standardized. In the last 12 months, there have been several experiments in more formal and documented Level 3 products.

In future, it is expected that the internal Level 3 process and documentation will be formalized to some extent. In that event, it would not be difficult to make Level 3 products available to a wider audience; that is, the CAC could provide a higher level of avalanche information product than the current BAA or Public Avalanche Forecast products. In effect, this would provide a bridge between the technical complexity of Level 4, which is a professional product, and the basic Level 2 recreational product currently produced.

Level 3 products could include graphical summaries of and/or links to:

- Weather station observations,
- Field weather observations,
- Snowpack data (spot and “average/generic” profiles),
- Avalanche activity observations,
- Snow stability ratings.

In addition, there could be included:

- A technical summary/discussion of snowpack conditions and snow stability,
- Avalanche activity summaries and discussion,
- A technical mountain weather forecast,
- Longer-term weather and snowpack outlooks.

A Level 3 Avalanche Information Product could potentially:

- Offer improved spatial resolution i.e. discussion at a mountain range/snowpack climate level,
- Offer improved temporal resolution i.e. daily graphs, summaries, and discussions,
- Provide more and better information to a currently under-served segment of CAC users i.e. those with advanced training and higher levels of knowledge and experience,
- Attract a new level of user to the CAC and its products i.e. those with advanced training and higher levels of knowledge and experience, who are making higher-level decisions on longer trips and/or more complex terrain,
- Develop into an educational tool for all users i.e. even very basic, achievable Level 3 Avalanche Information Products (such as a technical snowpack and stability discussion) would be a highly useful interactive learning tool, if structured to automatically link technical terms to a comprehensive on-line glossary.

While some of the above discussion is currently not feasible due to the limitations of existing databases, resources, and funding, it is possible that modest gains and improvements may be achieved in the coming months. This would enable the CAC to offer some basic Level 3 products for the 2006/2007 avalanche season.

Level 3 products will not make backcountry travel safer. Rather they will provide users with a greater understanding of the methodology and reasoning behind Level 1 Icons and Level 2 Danger Ratings and Discussion. This will allow advanced, experienced travelers to better interpret Level 1 and 2 information thereby providing them with an opportunity to enhance their backcountry experience through greater latitude in applying the information they have to the place and time where they are making a decision on a given slope.

### **Participate in our survey**

Tell us what you think and enter a draw for a Voile Telepack Avy Shovel (\$50.00 value). Click on the following link to go to our survey: <http://www.zoomerang.com/survey.zgi?p=WEB2258J8PBMQ2>