



**Stable solutions for a dynamic landscape**

## **Snow Avalanche Assessments**

- \* *Avalanche Risk Assessment*
- \* *Avalanche Atlas Preparation*
- \* *Forestry Avalanche Terrain Assessments*
- \* *Subdivision & Municipal Assessments*
- \* *Snowpack and Climate Analysis*
- \* *Runout Modeling and Zoning*
- \* *Operational Safety Plans and Audits*
- \* *Accident Investigations & Coroners reports*
- \* *Expert Witness and Testimony*

## **Snow avalanches & forestry**

Avalanches occurring in natural paths can pose significant hazards to forest workers and to poorly placed facilities (e.g. bridges or logging camps). Timber harvesting on steep slopes in regions of high snow supply can change snow accumulation patterns and can create new avalanche start zones.

Climate and terrain studies are undertaken to estimate the avalanches risk associated with forest development, especially above highways or occupied areas. Solutions may involve modifications to forest development or harvesting plans.



(North Thompson, British Columbia.)

Snow avalanches occur naturally in many forested areas. Expert advice is offered on the location of roads and bridges to avoid damage or destruction by avalanches.



(Snow investigations, Milford Road, NZ).

Winter fieldwork can be undertaken to track snow stability. Consulting services are offered in the design and installation of remote telemetered weather stations proven to operate in harsh alpine environments. These stations automatically monitor temperature, precipitation, wind, snow depth and snow temperature profiles, all of which are important for avalanche forecasting.

## **Land Use Zoning and Mapping**

Services offered to planners, developers or residents include assessments of avalanche prone sites. Risk calculations incorporate modelled avalanche runout distance, estimates of return period and avalanche impact pressures in accordance with the proposed Canadian National Avalanche Risk Standard (CAA, 2002).



(Milford Road, Upper Hollyford Valley, NZ).

## **Geoscience Solutions Group**

[www.geosolgroup.com](http://www.geosolgroup.com)

Geoscience Solutions Group is comprised of experienced qualified professionals who provide practical solutions to a range of geological, hydrological and environmental problems faced by our clients.

Peter Weir, a founding member of the Geoscience Solution Group, has a broad base of experience in snowpack stability assessment, regional avalanche forecasting and helibombing. His professional practice includes avalanche runout mapping, zoning and risk assessment. He authored the BC Ministry of Forest's handbook on "Management on Snow-Avalanche-Prone Forest Terrain", and has edited the Weather, Snowpack and Avalanche Observations Guidelines for both the Canadian Avalanche Association and the NZ Mountain Safety Council. He designed the industry standard snow profile drafting software SnowPro for Windows®.

For solutions in avalanche management, contact Peter Weir P. Geo., a member of the Canadian and American Avalanche Associations, and past convenor of the NZ Mountain Safety Council's Snow and Avalanche Committee.

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