

Verification of Statistical Avalanche Forecasting Based on Numerical Weather Prediction Inputs

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Electronic meteorological stations are increasingly being used to supplement manual weather measurements in avalanche mitigation programs. The British Columbia Ministry of Transportation Avalanche and Weather program has spent over 18 years developing a province wide sensor network and database system to capture and manage these data. Presently, the challenge is to use the real-time and historical data to better support the decisions of avalanche technicians.

Avalanche prediction software based on a nearest neighbour algorithm has been developed and applied at several avalanche areas in BC. Predictions of avalanche activity in the 12 hours following the forecast time update hourly in step with electronic sensor outputs.

In order to extend the avalanche prediction further into the future, weather sensor inputs can be replaced with output from numerical weather forecast models. Preliminary results for avalanche predictions based on UBC (winter 07-08) and Environment Canada (winter 06-07) weather forecasts are presented and compared with predictions from sensor data.

These are the first steps toward an integrated weather and avalanche information service that can be used to support experienced avalanche technicians and speed the training of new personnel.