

# SADAP

## Snow Avalanche Data and Prediction Module

### FEATURES:

- Comprehensive view of avalanche situation
- Enables increased safety in mountains
- Data integrated in CLDB

Snow avalanche forecasting is estimating of current and future snow cover stability. SADAP module consists of integrated database and application that helps forecaster during the decision-making process.

### Database

In order to use computers in avalanche forecasting, it is necessary to have all meteorological, snow and avalanche data stored in unified structure. We offer integration of all relevant data in Climatological Database CLDB (Oracle database). CLDB is full featured database for climate, meteorological and relevant environmental data with great amount of both standard and customized communication options, inputs and outputs.

Historical records existing in electronic format are imported easily into the database. For incoming current or historical manual observations entering, dedicated web-forms come with SADAP.

The database includes Importing Module that enables automatic import of standard WMO meteorological messages. Both automatically imported and manually entered data (via web-forms) are subsequently the subject of Quality Control process.

### Reporting Tools

While the database is able to connect with MicroStep-MIS Weather Studio or other Geographical Information System, the results may be visualized on actual daily avalanche activity map. Together with other map layers derived from Digital Elevation Model, map layer of avalanche paths and snow cover depth map, a comprehensive view of avalanche situation is achieved.

Special web-reports can be designed, e. g. tabular summary of current weather and snow conditions or special snow profile reports (using ICSI<sup>1</sup> classification). These form the base for evaluation of snow stability in given region and are the core information for avalanche forecaster.



<sup>1</sup> International Commission on Snow and Ice

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### Avalanche Prediction Module

The tool for avalanche prediction based on the nearest neighbour method requires sufficient historical records, (10 years and more). It is enabling creation of avalanche forecasts in the area, where meteorological station is located.

Avalanche indices and hazard level according to International Avalanche Danger Scale are estimated using regression methods from the available data. If numerical forecast of input meteorological elements are entered, the module gives a forecast of avalanche indices.

This objective forecasting method supports the work of avalanche experts and helps increase safety in mountains during the winter season.

