Example: Avalanche strikes IMIS snow station

At 10:30 am on 15.11.2017 an avalanche struck the IMIS snow station Grüeniberg and deposited 80 cm of snow there.

The ultrasound sensor correctly recorded the event by indicating an abrupt increase in snow depth (A).

The snowpack simulation program SNOWPACK responded as follows to this sharp upturn in snow depth:

- The rise in the measured level was too abrupt for snowfall, and anyway the conditions were not right because the air was too dry for it to snow. For this reason the model initially interpreted the greater snow depth as a measuring error and did not respond. In the absence of this safety net, every short-term measuring error (ultrasound sensors are regularly affected by such errors) would immediately be interpreted as heavy snowfall.
- If the snow depth remains high for a long period, however, the model nonetheless attributes the depth increase to fresh snow (B).
- In the model, the calculated fresh snow settles more quickly than the actual snow deposited by the avalanche. Over time, the snow depth calculated by the model thus falls farther and farther below the measured snow depth. In order to make good the difference, the model assumed the presence of further fresh snow (C).