Remote detection of snow avalanches in Switzerland using infrasound, doppler radars and geophones

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Remote detection of snow avalanches is an appealing instrument for monitoring snow avalanche activity during periods of bad visibility. It supports local avalanche management professionals with information on avalanche activity in a specific avalanche track, supporting them in verifying the results of artificial avalanche releases. Additionally, it provides a regional avalanche activity index for avalanche danger assessment. During summer 2009, we instrumented several sites in the Swiss Alps with infrasound microphones, Doppler radars or geophones. For each site, a local observer reported and documented all avalanche events, which enabled verification and tuning of the detection algorithms. Despite the rather dry winter 2009/10 in central Europe we recorded a number of avalanche events at different sites. We report on the technical and organizational structure of the test sites and we show details on the acquired data and its post-processing.