Defining representative areas for snow water equivalent field measurements.

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Hydrological processes in high mountain basins largely determine water availability in mid -latitude valleys. Therefore, it is important the correct quantification of the snow volume early in the melt season. The identification of representative areas (RAs) for field measurement of snow water equivalent (SWE) is important in order to determine future locations for snow monitoring stations and snow course surveys within experimental high mountain watersheds, providing necessary information in poorly monitored regions located in dry Andes of central Chile. The RAs proposed in this study are defined using two approaches based on (1) modelling SWE by retrospective reconstruction of the mass - energy balance over the snowpack and (2) the relationship between modelling SWE and different meteorological forcings. It will be possible to design snow - monitoring networks for capturing the average and variability of spatial SWE condition, improving the performance of melting and accumulation snow models focused on volume forecasting.