



Differential snow accumulation and melt at southern hemisphere deciduous forested sites

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Little is known about the differential snow dynamics resulting from forest cover in southern hemisphere alpine regions. Tree species variability and differences in local climate preclude extrapolation of northern hemisphere results and introduce uncertainty on the future impacts of climate change on snow-cover duration, maximum accumulation and melt rates. This research presents preliminary results from field observations obtained at an experimental watershed in the Nevados de Chillan region, in south-central Chile. The relatively low elevation of the Andes Cordillera and higher latitude of the site allows the existence of mixed *Nothofagus* forests, sometimes combined with bamboo-type undergrowth. Rain-on-snow events can be observed during winter and in the early stages of the austral spring. We installed four instrument clusters at the Valle Hermoso experimental catchments, where snow depth, air temperature and relative humidity were measured both under canopy and in forest clearings. The clusters were positioned in order to cover a range of elevations and sun exposure. Preliminary results from two winter seasons suggest that forest cover can impact accumulation rates as much as elevation does, and that melt rates are fairly sensitive to forest cover even in low LAI conditions.