



Modelled and measured ablation and runoff from a glacier in the tropical Cordillera Blanca, Perú.

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The highly glazierized (600 km²) Cordillera Blanca in Perú is situated in the Outer Tropics spanning from 8 - 10 ° South. Air temperature and solar incidence show only minor seasonal variations, precipitation occurs mainly from October to April. The climate setting does not allow the development of an extended snow cover and, additionally, the steep relief prevents from major ground water storage. Thus glaciers are the only seasonal storage that provides runoff during the more or less pronounced dry season (May to September). First runoff predictions for different climate change scenarios show a decrease in dry season's availability of fresh water up to 23 % within the next decades. In order to improve predictions for a successful management of water resources in the Rio Santa valley we evaluate the glacier surface energy balance, ablation and runoff from glacier Artesonraju situated in the Northwest of the Cordillera Blanca. With joint efforts, the ITGG and IRD maintain a dense network of respective instruments since March 2004. The records used in this study span from the end of the rainy season 2003/2004 (March, 7) to the beginning of the next wet season (November, 15) and cover a full dry season and two intermediate seasons. Modelled ablation and runoff are compared with the respective measurements.