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18 years of quality-controlled snow and meteorological data from a mid-altitude mountain site (Col de Porte, France) for driving and evaluating the snowpack component of land-surface models

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We present and provide a quality-controlled snow and meteorological dataset spanning the period 1 August 1993 - 31 July 2011, acquired at the research station Col de Porte (1325 m altitude, Chartreuse range, France). Emphasis is placed on meteorological data relevant to the observation and modelling of the seasonal snowpack. In-situ driving data, at the hourly time resolution, consist in measurements of air temperature, relative humidity, wind speed, incoming short-wave and long-wave radiation, precipitation rate partitioned between snow- and rainfall. Evaluation data are provided at the daily (snow depth, snow water equivalent and albedo) and hourly (snow depth, albedo, runoff, surface temperature, soil temperature) time resolution. Internal snowpack information are provided from weekly manual snowpit observations (mostly consisting in snow type, penetration resistance, temperature and density profiles) and from a hourly record of temperature and height of vertically free "settling" disks. This dataset has been partially used in the past to assist in developing snowpack models and is presented here comprehensively for the purpose of multi-year model performance assessment. The whole dataset is available freely from a public ftp server and on CD. Full information regarding data access is provided at
http://www.cnrm-game.fr/spip.php?article459