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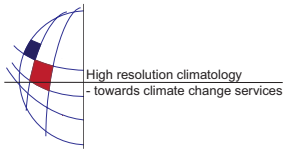

Homogeneous temperature and precipitation series for a Peruvian High Andes regions from 1965 to 2009

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As a basis of a joint Swiss-Peruvian effort focused on water resources, food security and disaster preparedness (Peruvian Climate Adaptation Project, PACC) clean and homogenized meteorological datasets have been elaborated for the Cusco and Apurimac Regions in the Central Andes. Operational and historical data series of more than 100 stations of the Peruvian Meteorological and Hydrological Service (SENAMHI) were available as a data base. Additionally, meteorological data provided by the National Climatic Data Centre (NCDC) or the Meteorological Aerodrome Records (METAR), have been considered. In contrast to many European countries, where most conventional sensors have been replaced by automated sensors during the last decades, instrumentation of climatological stations remained unchanged in Peru.
Station records and station history of the Cusco-Apurimac-region are partially fragmentary or lost, mainly because of armed conflicts, particularly in the 1980ies. Moreover, many stations do observe precipitation as only variable. As a consequence, it was only possible so far to elaborate four complete homogenized air temperature series (Curahuasi 2763m a.s.l., Granja Kcayra-Cusco 3219m, Sicuani, 3574m and La Angostura, 4150m) since 1965. For precipitation a larger number of stations was available for elaboration, which is important because of the small scaled characteristics of the mostly convective type precipitation events in these regions. Based on these homogenized series, linear and gaussian low pass filtered trends have been calculated for all series of precipitation and air temperature records.