EMS Annual Meeting Abstracts,
Vol. 6, EMS2009-453, 2009
9th EMS / 9th ECAM

9th EMS Annual Meeting
9th European Conference on Applications of Meteorology
High resolution meteorology
- applications and services

SwissMetNet: operational quality control on raw data of the new automatic meteorological ground-based network of Switzerland

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The Federal Office of Meteorology and Climatology, MeteoSwiss, is responsible for the maintenance of the national meteorological and climatological network of Switzerland. The project SwissMetNet (SMN) was initiated with the goal to automate, renew and unify the prevailing ground-based networks. This leads to a state-of-the-art unified and secured network of 132 automatic weather stations (AWS), measuring and transmitting all relevant meteorological parameters and housekeeping values to a central data base.
Operational quality control on raw data (meteorological parameters and housekeeping values) is done at two levels. The first level is a real-time control (plausibility tests online) and delivers instantaneous alarms. The second level performs a quality control that is operationally run on a daily basis (using measured raw data from the previous three months).
The second level control allows to detect drifting time series due to instrumental problems, which can not be detected by the first level control. Due to this control the time to detect instrumental problems can be reduced and furthermore this results in an improvement of the measurement accuracy, data quality and guarantees a high data availability.
This presentation focuses on the development and operational implementation of the second quality control on raw data.