

A toolbox for real time data acquisition and quality control of personal weather station rainfall data

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The high network density of personal weather stations (PWSs), often exceeding that of official weather stations from national meteorological agencies, offers a large potential to improve precipitation estimates. Another advantage is that PWSs have a high temporal resolution (~5-min), are available in (near) real-time and can potentially be used for now-casting, flood forecasting or early warning system. For such purposes the latency and quality of the data are important aspects to consider.

We explored the real-time potential of rainfall data from PWSs from the private company Netatmo, which can be accessed via an application programming interface (API). We analysed the real-time accessibility and latency of the data and developed concepts of how existing quality control algorithms can be applied in the context of real-time applications. First results of these analyses and a road map for implementing this as a software package are presented.

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Authors: ROMBEEK, Nathalie (Department of Water Management, Delft University of Technology, the Netherlands); SEIDEL, Jochen (Institute for Modelling Hydraulic and Environmental Systems, University of Stuttgart, Germany); SCHUTZ, Georges (RTC4Water s.à.r.l., Roeser, Luxembourg)

Presenters: ROMBEEK, Nathalie (Department of Water Management, Delft University of Technology, the Netherlands); SEIDEL, Jochen (Institute for Modelling Hydraulic and Environmental Systems, University of Stuttgart, Germany); SCHUTZ, Georges (RTC4Water s.à.r.l., Roeser, Luxembourg)

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