

Added value of Personal Weather Stations for Precipitation Estimates in the Lazio Region, Italy

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In the Lazio region, there is a dense network of 230 trustworthy rain gauges with a high temporal resolution. In addition, data from more than 300 Netatmo Personal Weather Stations (PWS) are available. However, since these PWS do not meet professional standards in terms of installation and maintenance, they must first be quality controlled (QC). For this purpose, we will apply the latest QC filters and bias corrections developed in the Opensense COST Action. After the QC, the quality of the PWS data will be evaluated by comparing them with co-located professional rain gauges. To assess the added value of PWS in capturing the spatial variability of rainfall (extremes) and on precipitation interpolation, the PWS will be included in the interpolation process. For this, a copula-based approach will be compared with conventional interpolation methods to highlight the added value of PWS in the interpolation.

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