Natural Hazards
and Earth System
Sciences

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EGU

Supplement of

Brief communication: The potential use of low-cost acoustic sensors to detect rainfall for short-term urban flood warnings

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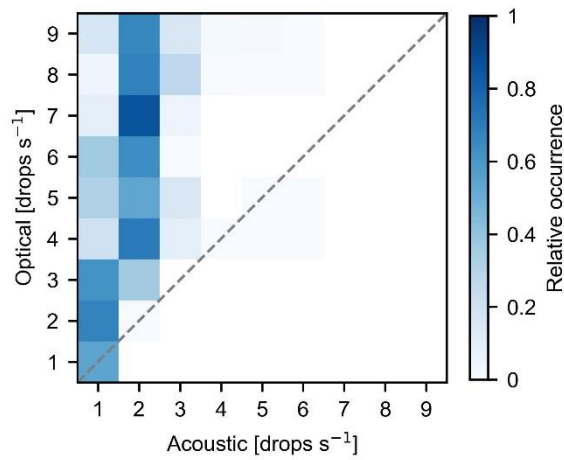
Figure S1. Laboratory dripping experiment results for the less sensitive (cave-designed) acoustic sensors. In relation to the optical sensor's records, the occurrence of the acoustic sensors' records is reported.
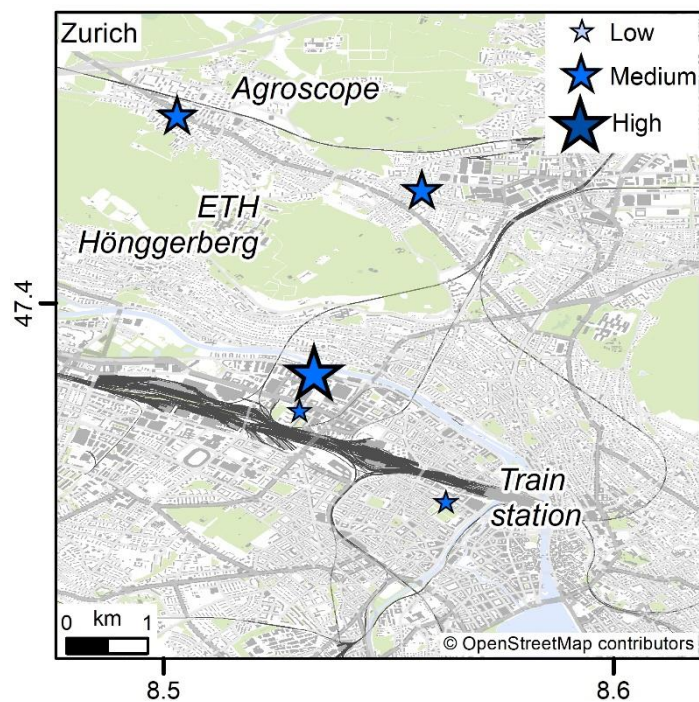

Figure S2. Map of Zurich showing the correlation between acoustic sensors and meteoblue AG stations at different sites. The size of the star indicates the Pearson correlation (low correlation: 0.59-0.65, medium: 0.65-0.75, high: >0.75).
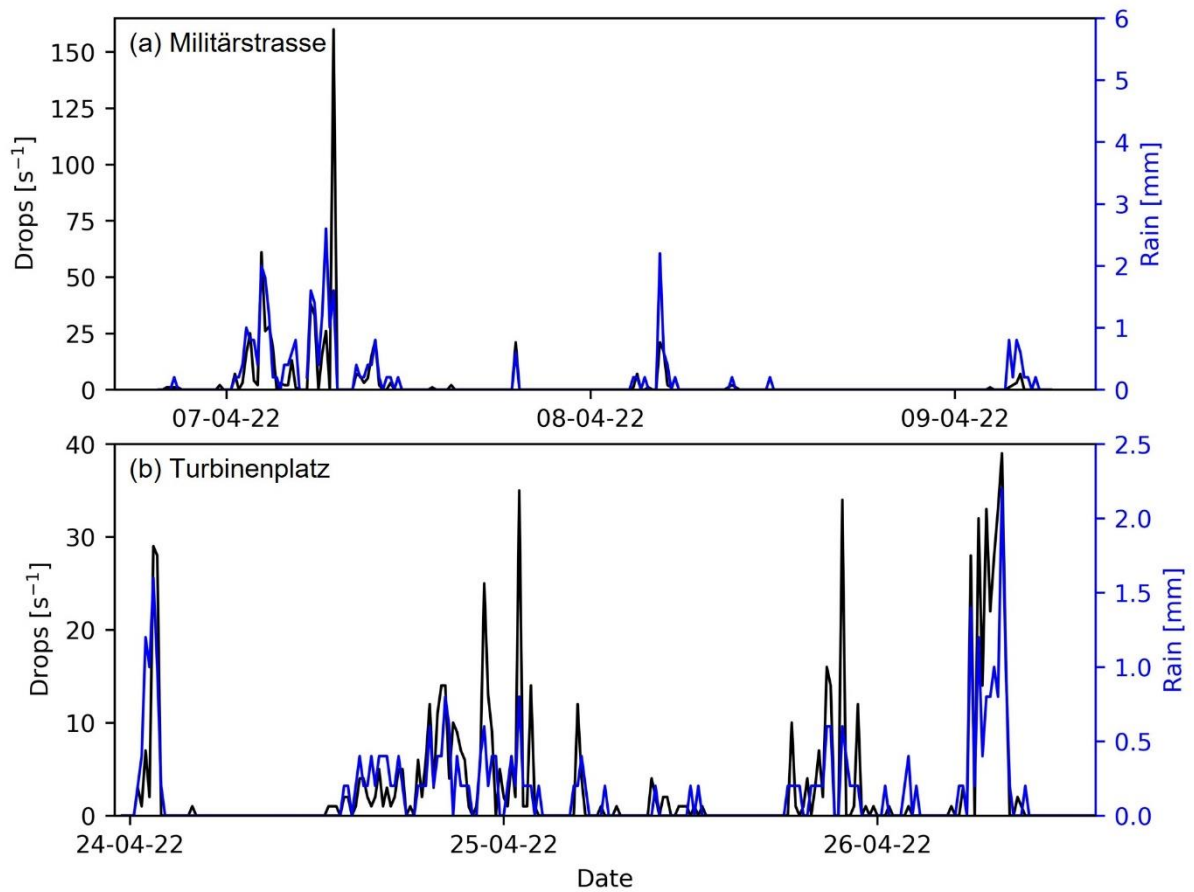
Figure S3. Time series of acoustic sensors (black lines) and meteoblue AG stations (blue lines) at two different sites (Militärstrasse and Turbinenplatz) during several rain events. Both plots display that acoustic sensors capture the temporal dynamics of rainfall well, including the onset and end of rainfall events. Both plots show that in some cases there are discrepancies in the peaks (acoustic sensors tend to record larger peaks).

Table S1. Distance between the deployed acoustic sensors and the nearby meteoblue AG rain gauge.

Site name	Distance [m]
Militärstrasse	35
Reckenholzstrasse	235
Gleisbogen	210
Binzmühlestrasse	105
Turbinenplatz	275
Furttalstrasse	20