

**When using an umbrella to measure rain, is it better to listen to the rain, or count the drops?**

Hut, Rolf; Stoeten, Victor; ten Veldhuis, Marie-claire

**Publication date**

2019

**Document Version**

Final published version

**Citation (APA)**

Hut, R., Stoeten, V., & ten Veldhuis, M. (2019). *When using an umbrella to measure rain, is it better to listen to the rain, or count the drops?*. Poster session presented at EGU General Assembly 2019, Vienna, Austria.

**Important note**

To cite this publication, please use the final published version (if applicable). Please check the document version above.

**Copyright**

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

**Takedown policy**

Please contact us and provide details if you believe this document breaches copyrights. We will remove access to the work immediately and investigate your claim.



## **When using an umbrella to measure rain, is it better to listen to the rain, or count the drops?**

Rolf Hut, Victor Stoeten, and Marie-Claire ten Veldhuis

Delft University of Technology, Faculty of Civil Engineering and Geoscience, Delft, Netherlands (r.w.hut@tudelft.nl)

With hundreds of umbrellas opening up in any given urban rainstorm and just a few rain gauges per city, using umbrellas as mobile rain gauges seems a promising method to increase rainfall information in urban areas. Following up on our prototyping work of a MacGyver sessions ago where we showed that umbrellas can indeed be used as rain gauges, we try to improve our sensor by asking and answering the question: "When using an umbrella to measure rain, is it better to listen to the sound (volume) of the rain, or should we count the individual drops that hit the umbrella?"