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Experiences of citizen-based reporting of rainfall events using lab-generated videos

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Hydrologic studies rely on the availability of good-quality precipitation estimates. However, in remote areas of the world and particularly in developing countries, ground-based measurement networks are either sparse or nonexistent. This creates difficulties in the estimation of precipitation, which limits the development of hydrologic forecasting and early warning systems for these regions.

The EC-FP7 WeSenseIt project aims at exploring the involvement of citizens in the observation of the water cycle with innovative sensor technologies, including mobile telephony. In particular, the project explores the use of a smartphone applications to facilitate the reporting water-related situations. Apart from the challenge of using such information for scientific purposes, the citizen engagement is one of the most important issues to address. To this end effortless methods for reporting need to be developed in order to involve as many people as possible in these experiments.

A potential solution to overcome these drawbacks, consisting on lab-controlled rainfall videos have been produced to help mapping the extent and distribution of rainfall fields with minimum effort [1]. In addition, the quality of the collected rainfall information has also been studied [2] by means of different experiments with students.

The present research shows the latest results of the application of this method and evaluates the experiences in some cases.

[1] Alfonso, L., J. Chacón, and G. Peña-Castellanos (2015), Allowing Citizens to Effortlessly Become Rainfall Sensors, in 36th IAHR World Congress edited, The Hague, the Netherlands

[2] Cortes-Arevalo, J., J. Chacón, L. Alfonso, and T. Bogaard (2015), Evaluating data quality collected by using a video rating scale to estimate and report rainfall intensity, in 36th IAHR World Congress edited, The Hague, the Netherlands