



509 084 drops in 114 days ! : a serious game on rainfall

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Enabling the general public to grasp some aspects of the complexity of current scientific research is always a tricky challenge. In this paper, we present an interactive computer game that was designed to introduce in few minutes some knowledge on rainfall and more specifically on the possible use of optical disdrometer data. They are devices estimating the size and velocity of drops falling through their sampling area.

The playful part of the game consists in selecting (by pressing a key) the time steps of a running time series of rainfall rate and Drop Size Distribution (DSD) to collect the maximum amount of rainfall and number of drops with a limited collection time. Scores are computed at the end. The two different quantities are used to help the player grasp the fact that the DSD varies within a rainfall event. In a second step, the player can increase his/her collection time by answering correctly a quiz, in which all questions are designed to address one basic and usually unknown aspect of rainfall time series. Addressed topics are notably : rainfall and DSD temporal variability, rainfall intermittency, scale dependency of rainfall observation and rainfall drops features (shape and fall velocity). When possible it is done through the guessing of surprising figures that will help the player remember the associated feature. Two out nine questions are randomly selected so that the motivated/dedicated player continues learning something !

The game was tested on 17 October 2017 by the visitors of the Hydrology, Meteorology and Complexity lab stand during an open day at Ecole des Ponts ParisTech celebrating it's 20 years on its campus.