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Mobile Flood Data Walk as a didactic approach for flood data collection: case study in Stalos, Crete, Greece

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This work introduces an innovative participatory approach for extreme events' data collection training, which targets young scientists and specifically Engineering students. In the context of this action, students are trained in an exploratory method of data gathering by their active participation and their direct contact with the inhabitants of the flood-prone area. It aims at a comprehensive data collection process, significant before setting any hydrologic or hydraulic computation modelling scheme or performing a flood simulation analysis. The collected data form the key input in sophisticated models that assess and manage flood risk, simulate, forecast risk zones and/or create flood maps. The participatory data collection process, called Mobile Flood Data Walk, has already been implemented in previous case studies. However, herein, the Flood Data Walk is applied for the first time in a Cretan study site as a didactic approach for students. Specifically, the in-situ interactive data collection event was held in Stalos watershed, in Crete, Greece, which is often exposed to flooding, on June 19, 2019. Fourteen undergraduate students participated by sharing knowledge, walking and talking and/or creating maps. They were not given specific guidelines. They had a digital Google map of the study area on their mobile phone. The groups of students or individual students followed undetermined routes in every direction. As they were moving on foot, participants were asked to explore and uncover information, photos, maps or flooding clues within the place. They were asked to observe and search for visual cues of flooding, consider or/and brainstorm together questions about the data found in the landscape and the data collected within the current walk, that cannot be collected by sensors and devices. During the walk students were also highly encouraged to interact and listen to the aspects of the local people who have actually experienced flooding in the study area and, therefore, own significant empirical knowledge on floods. Afterwards, students were gathered and narrated their observations and comments. They brainstormed the possibilities for creative responses and they, finally, filled in an online interactive questionnaire on Kahoot! platform, a game-based learning tool. They left their feedback from their walking experience and as a result a rich list of information, pictures, thoughts and reports on landscape was collected. It is a fact that the concept of moving through the place develops experiential learning which is critical on knowledge building. Moreover, engaging people who live with flooding with those who are working to develop flood management tools and methods offers potential for gathering meaningful insights and data, which can be very constructive for candidates' engineers-decision makers in the field of extreme flood events' management.

Keywords: Flood data collection; Students' training methods; Flood Data Walk

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