



## **Defining pathways for citizen observatories using flood modelling: sensitivity analysis in Sontea-Fortuna case study**

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Data collection through citizen observatories has recently been explored in water resources to complement traditional sensing approaches and remote sensing. This is especially relevant in complex, dynamic systems, in which large amounts of data are necessary for understanding the involved physical processes. Such high complexity may also require a more robust data collection scheme. So far, citizens have collected flood-related data in many ways (e.g. willingly by classifying land cover through a webpage or unknowingly by tweeting). In hydrodynamic studies, most methods do not consider which should be the paths that citizens should take during their data collection. Therefore, in this study, we defined a methodology to generate and select optimal pathways (boat routes) in a complex deltaic system with dozens of canals - the Sontea-Fortuna area. The region is part of the Danube Delta, a wetland of great international importance, in which stagnant water has been threatening the local biodiversity. For definition and selection of such pathways, as part of the methodology, 1D flood modelling was performed and its results were used to identify points of interest (stagnancy) and to evaluate if canals were navigable in terms of minimum water level. The generated possible pathways were given scores based on a set of criteria allowing for their prioritisation and choice. Additionally, the sensitivity of some parameters was evaluated, such as boat velocity and maximum time available for route completion.