

EGU21-10561

<https://doi.org/10.5194/egusphere-egu21-10561>

EGU General Assembly 2021

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



Modelling Sediment Transport in the disastrous Flash Flood of November 2017 in Mandra (Attica, Greece)

Vasiliki Sant, George Mitsopoulos, Aristides Bloutsos, and Anastasios Stamou
National Technical University of Athens, Civil Engineering, Greece (sant.viky@gmail.com)

Abstract

The flash flood in Mandra on the 15th of November 2017 was the third most disastrous “November” flood in Attica; it was characterized by heavy sediment and debris transport that can be easily observed in Figure 1.

We applied the Hydrologic Engineering Center's-River Analysis System (HEC-RAS) to model sediment transport using the Ackers-White sediment transport equation that is engraved in HEC-RAS to analyze sediment transport characteristics. The required input data were based on a limited number of available studies, which mainly include a survey performed by the Hellenic Centre for Marine Research in the coastal area of the Elefsis Bay where sediments were deposited after the catastrophic event. We compared the results of the model with calculations performed within a previous Thesis in 2018 using TELEMAC-2D and SISYPHE.

The present paper is based on the Diploma Thesis of the first author; it was performed within the project “National Network on Climate Change and its Impacts (CLIMPACT)” of the General Secretariat of Research and Technology.



(a)



(b)

Figure 1. The greater area of Mandra (a) before and (b) after the flood event