

Modeling of Sand Boil near the Danube River

Authors : Edina Koch, Károly Gombás, Márton Maller

Abstract : The Little Plain is located along the Danube river, and this area is a “hotbed” of sand boil formation. This is due to the combination of a 100-250 m thick gravel layer beneath the Little Plain with a relatively thin blanket of poor soil spreading the gravel with variable thickness. Sand boils have a tradition and history in this area. It was possible to know which sand boil started and stopped working at what water level, and some of them even have names. The authors present a 2D finite element model of groundwater flow through a selected cross-section of the Danube river, which observed activation of piping phenomena during the 2013 flood event. Soil parametrization is based on a complex site investigation program conducted along the Danube River in the Little Plain.

Keywords : site characterization, groundwater flow, numerical modeling, sand boil

Conference Title : ICGDDSB 2022 : International Conference on Geofluid Dynamics in Deep Sedimentary Basins

Conference Location : Venice, Italy

Conference Dates : November 10-11, 2022