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Innovative Approaches for Modeling and Monitoring of Gully Erosion

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Message from the Guest Editors

Gully erosion is a process of removal of topsoil along concentrated overland flow channels by surface water runoff; it causes land degradation in many regions and under different environmental conditions. In recent years, new technologies have emerged allowing to obtain high-precision measures of gully features and soil losses. Moreover, advanced computer tools were developed and applied to modeling of gully occurrence at different scales. In this Special Issue, we would like to invite gully erosion studies that are carried out at a range of hillslope to watershed scales and employ innovative and cutting-edge approaches to measure, monitor, and model gully initiation, channel development, and sediment production. This issue will cover research using recent advancements in capturing and processing of tri-dimensional point clouds which allow precise reconstruction of gully erosion landforms and monitoring of gully expansion. Furthermore, studies employing novel techniques or improvements of existing computer modeling approaches for assessment of gully occurrence, headcut location, and soil losses are particularly welcome.