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Soil pipe collapses in Europe: towards a continent-wide assessment

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Piping erosion leads to land degradation and causes several environmental and societal problems, although this process is rarely considered in soil erosion studies. So far, there are no systematic studies at regional to global scales aiming to understand the patterns and controlling factors of soil piping. This is mainly due to the methodological challenges related to detecting soil pipes. With this project, we aim to address this gap by identifying piping-affected areas in Europe. For this, we are constructing a database on surface evidences of soil piping, i.e. pipe roof collapses (PCs) for the European Union and the UK. Locations and other details of PCs in this database are collected based on an in-depth literature review in combination with detailed mapping based on Google Earth imagery, ortophotos and LiDAR data (if available). While the work is still ongoing, we have already compiled information on >2000 PCs in 10 different countries. In a next phase, we will use this PC database to construct the very first data-driven piping erosion susceptibility map of Europe.

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