

Eawag Seminar Invitation

Anthropogenic intensification of short-duration rainfall extremes: Implications for flash floods in urban areas

Speakers **Prof Hayley Fowler, Centre for Earth Systems Engineering Research, Newcastle University, UK**

When **October 7, 16.00 – 17.00, CEST**

Where **Online via Zoom, contact seminars@eawag.ch for access details.**

Abstract Short-duration (1 to 3 hour) rainfall extremes can cause serious damage to infrastructure and ecosystems and can result in loss of life through rapidly developing (flash) flooding. Short-duration rainfall extremes are intensifying with warming at a rate consistent with atmospheric moisture increase (~7%/K) that also drives intensification of longer-duration extremes (1day+).

Evidence from some regions indicates stronger increases to short-duration extreme rainfall intensities related to convective cloud feedbacks but their relevance to climate change is uncertain. This intensification has likely increased the incidence of flash flooding at local scales, particularly in urban areas, and this can further compound with an increased storm spatial footprint to significantly increase total event rainfall. These findings call for urgent climate-change adaptation measures to manage increasing flood risks, including rethinking the way climate change is incorporated into flood estimation guidance.