

ABSTRACT

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Expanded downscaling applied to climate scenarios and weather prediction

Expanded downscaling (EDS) originated from the need to reconcile the large-scale information provided by climate simulations and the small-scale requirements of hydrologic models. EDS is particularly suited to the simulation of extreme events, such as floods and droughts, and how their occurrence is affected by climate change. Calibration and validation of EDS was usually done from reanalysis data.

By replacing the reanalysis/scenario data with the ECMWF ensemble prediction system and adapting accordingly, EDS was now successfully used for probabilistic weather forecasts, providing input to an early flood warning system for small catchments.

With regard to downscaling of extreme events one should always be cautious, but the skillful flood predictions may at least serve to provide a slightly firmer ground for those.