

## **Improving convection in LES through detailed land-surface modelling**

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LES is skilful in forecasting convection because of its explicit representation of turbulence and convection. However, this skill strongly depends on a correct partitioning of the available energy over the surface heat and moisture fluxes. Our goal is to improve the representation of the land-surface in LES, through a detailed representation of the (plant) physiological processes, and spatial properties of the surface. First, we setup a new testbed for performing LES of realistic weather, forcing LES with the dynamic tendencies obtained from the dynamic core of HARMONIE-AROME. Validation of a multi-week LES experiment shows that this setup manages to capture the wide variety of weather phenomena observed in reality. Second, we are developing a new land-surface model, including a high-resolution database of the surface properties of the Netherlands. We demonstrate the land-surface model in offline mode (forced by ERA5), running in high resolution over a central part of the Netherlands.