

## Characterizing cold pool interactions over land with observational data from the Netherlands

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Using the observational network of the Netherlands we study cold pools (CPs) developing from summer convection and their role in triggering new convective events over land. Detailed information about CP gust fronts in terms of temperature, wind speed, heat fluxes, moisture and pressure at high vertical resolution are obtained from time series, measured at the 213 meter Cabauw tower. We aim to create an algorithm that detects the passage of CPs from the tower time series to automatize the finding of CPs from point measurements. To confirm the findings, we use temperature time series from a spatially dense crowdsourcing weather station network (WOW-NL).

The properties of detected CPs are further studied with imagery from the Herwijnen Doppler radar, in proximity to the Cabauw tower. Clear signatures of spreading CPs are seen in reflectivity plots, probably caused by upwelling of dust and insects in the gust front. We currently explore how this can serve as a direct way of visualizing CP dynamics and collisions.

We expect to learn more about CP spreading velocity and lifetime in dependence of precipitation intensity of the generating precipitation cell and eventual triggered cell – allowing more insight into the role of CPs in organizing convection.

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