Contribution ID: **15** Type: **Talk**

Parametrising cold-pool effects in the Met Office Unified Model

Wednesday, 18 May 2022 12:15 (15 minutes)

Cold pools formed by convective downdraughts can feed back onto the organisation and diurnal cycle of convection. This presentation describes a parametrisation of cold pools, C-POOL, recently developed within the Met Office Unified Model (UM). The parametrisation includes forcing by downdraughts, dissipation, and various pathways for influencing parametrised convection in the UM. It also allows the possibility of cold-pool propagation through the model domain. Results from global-model tests show that it can improve the timing in the diurnal peak of precipitation over land in the tropics. The parametrisation has also been adapted to represent sea breezes, which are of a similar nature to cold pools. In this case, the forcing is derived from coastal properties. The C-POOL infrastructure may be used to prototype the representation of other lateral flows which are separate to the mean grid-scale atmospheric wind field.

Primary authors: Dr STIRLING, Alison; ROONEY, Gabriel (Met Office UK); Dr WHITALL, Michael; Dr STRATTON, Rachel

Presenter: ROONEY, Gabriel (Met Office UK)

Session Classification: Deep convection and more