

Being trained on reanalysis data derived from traditional NWP models, AI models inherit much of their strengths and weaknesses from these datasets. This includes longstanding model problems in representing near-surface wind and temperature profiles under stable stratification, i.e. when the surface is colder than the overlying atmosphere.

D3CD will address this issue both in traditional NWP models and AI-based models. We will use observations to train a neural network that diagnoses improved 2m temperatures and low-level wind profiles from standard model outputs.