Implement data-driven cloud cover equation f in ICON-A

$$f = I_1(RH, T) + I_2(\partial_z RH) + I_3(q_c, q_i)$$

Pre-select

Typical ICON-A tuning parameters P_{ICON}

Metrics M to be optimized towards observations by the tuning process

'ICON-A-ML' model

Online tuning

Nelder-Mead optimizes tunable parameters P_f of f and P_{ICON} such that ICON-A-ML$(P_f \cup P_{ICON})$ yields accurate metrics M in T-long simulations

Begin with T = two days, set to a week/month/year in subsequent iterations

Final ICON-A-ML model, tested in 20-year simulations

T