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Bias correction methods

Tuesday, 25 February 2020 14:15 (1 hour)

In this lecture, the variational bias correction scheme (VarBC) as used at ECMWF is explained. VarBC replaced the tedious job of estimating observation bias off-line for each satellite instrument or in-situ network by an automatic self-adaptive system. This is achieved by making the bias estimation an integral part of the ECMWF variational data assimilation system, where now both the initial model state and observation bias estimates are updated simultaneously.

By the end of the session you should be able to realize that:

• many observations are biased, and that the characteristics of bias varies widely between types of instruments
• separation between model bias and observation bias is often difficult
• the success of an adaptive system implicitly relies on a redundancy in the underlying observing system.

Presenter: BORMANN, Niels (ECMWF)