



Contribution ID: 20

Type: **not specified**

Bias correction methods for satellite data and observation monitoring

Thursday, 10 March 2022 10:20 (1h 15m)

Biases in modern satellite measurements are generally rather small but, due to the global nature of the data, they can still be very damaging to a data assimilation scheme if not corrected. A variety of sources of bias are discussed - from the instrument itself to the radiative transfer model used to simulate the data, as are the difficulties in estimating biases using a NWP model state that may itself have systematic errors. Various approaches to the correction of biases are described in this lecture, from simple static offsets to highly variable adaptive (automatic) correction schemes. The dangers of a correction that is over / under adaptive are considered as is the potential for a bias correction scheme to interact (negatively) with departure based quality control decisions. Constraining correction schemes with anchoring observations (i.e. data assimilated with no bias correction applied) is presented as a useful safety measure. Finally, the importance of constantly monitoring (automatically) the corrections generated by fully adaptive schemes is illustrated.

Presenter: BORMANN, Niels (ECMWF)