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Abstract

A short introduction to data assimilation (Course 1/2)

With this contribution I propose a short introduction to data assimilation (DA), with a strong emphasis on the methods used in geosciences (my expertise). The first part will be dedicated to a global and intuitive perspective: which problems are solved using DA, and how. In the second part, I will expose the maths. The main methods reviewed are: the particle filter, the Kalman filter, the EnKF, and 4DVar, which are mostly used in geophysics. The third and last part will present examples and typical future challenges in geophysical DA.