ERRORS MAY BE GAUSSIAN (CONSIDERED HERE)
OR NON-GAUSSIAN (NOT CONSIDERED HERE).

RANDOM ERRORS MAY BE
CORRELATED OR
UNCORRELATED.

DO-NOT CONSIDER BIASES HERE (OR ANY SYSTEMATIC ERRORS)

REPRESENTIVITY ERRORS (AS I UNDERSTAND THEM)
ARE TO DO WITH PROCESSES UNACCOUNTED FOR IN
INPUT TO OR FORMULATION OF OBS OPERATOR, THAT
SHOULD BE INCLUDED TO MODEL THE OBSERVATION
ACCURATELY. (* BELOW).

AMPLITUDE AND POSITION ERRORS MAY BE SYSTEMATIC AND/OR RANDOM.
IN ANY GIVEN ASSIMILATION, POSITION ERRORS MAY LOOK-LIKE SYSTEMATIC ERRORS
IN A CONVENTIONAL DA SYSTEM
BUT THE FLOATING SCHEME
ALLOWS THEM TO BE TREATED
AS A RANDOM ERROR (UP/DOWN)

ERROR CLASSIFICATION.

OBSERVATIONAL

SYSTEMATIC

- bias due to incorrect use of instrument

RANDOM

- Noise in measurement process.

OBS OPERATOR

SYSTEMATIC

- Imperfections in formulation of operator
- ~~Unknown~~
- * Unrepresented processes in ~~model~~ input state that ~~should~~ ~~affect~~ would affect measurement.

RANDOM

- * Unknown stochastic processes affecting measurement
- * Sub-grid scale fluctuations unaccounted for.

A-PRIORI

SYSTEMATIC

- Biases in initial conditions in model used to generate forecast
- Model formulation imperfections
- Unknown forcing.

RANDOM

- Initial conditions
- ! Unknown Random stochastic forcing of model

- Amplitude and positional errors