



Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:

Bishop, C

Title:

The GIGG-EnKF: ensemble Kalman filtering for highly skewed non-negative uncertainty distributions (vol 142, pg 1395, 2016)

Date:

2017-01

Citation:

Bishop, C. (2017). The GIGG-EnKF: ensemble Kalman filtering for highly skewed non-negative uncertainty distributions (vol 142, pg 1395, 2016). *QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY*, 143 (703), pp.1184-1184. <https://doi.org/10.1002/qj.3007>.

Persistent Link:

<https://hdl.handle.net/11343/292298>

In the paper ‘The GIGG-EnKF: ensemble Kalman filtering for highly skewed non-negative uncertainty distributions’ by Craig Bishop, published in April A, 2016 (*Q. J. R. Meteorol. Soc.*, **142**, pp. 1395–1412) an error was made in the diagnostics code used to create Figure 8. This Corrigendum gives the correct Figure 8 and associated corrections. The corrections do not affect the major conclusions of the paper. The correct Figure 8 is given below.

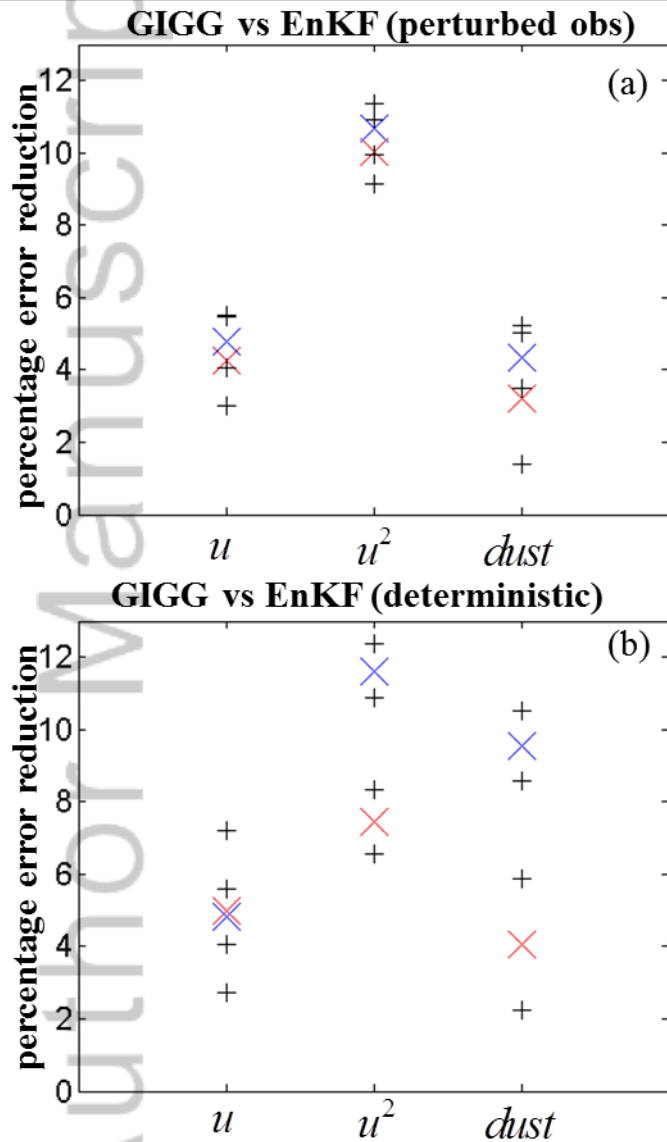


Figure 8: Percentage reduction in average square error of analysis and forecast ensemble mean over the 3584 independent trials. Panels (a) and (b) show the reduction due to using GIGG instead of the perturbed observations ETKF and the deterministic ETKF, respectively. The red and blue crosses give the mean percentage error reduction for the analysis and forecast, respectively. The upper and lower “+” signs give the upper and lower 99% confidence intervals for each result.

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as doi: [10.1002/qj.3007](https://doi.org/10.1002/qj.3007)

Other associated corrections are as follows:

In the results section on p 1408:

Replace “3.7% improvement for the dust variable (Figure 8(b)) to 10.2% improvement for the u^2 variable (Figure 8(a))” by “3.2% improvement for the dust variable to 10.0% improvement for the u^2 variable (Figure 8(a))”

Replace the paragraph “The percentage forecast error reduction due to using GIGG was ... from EnKFs.” by “The percentage forecast error reduction due to using GIGG was greater for the nonlinear forecasts than for the analyses for the u^2 and dust variables. This effect is more marked in the comparison against the deterministic EnKF (Figure 8b).”

In the conclusions section on the bottom of p. 1409:

Replace “The percentage error reduction of the forecast ensemble mean error due to the GIGG filter after these nonlinear forecast mappings was found to be more than an order of magnitude larger than the corresponding reduction associated with the analysis ensemble. Notably, the normalized squared forecast error of the mean of the ensemble forecast made from the GIGG analysis ensemble was less than a 3rd of the corresponding normalized squared forecast error from the EnKFs.” by “The percentage error reduction of the forecast ensemble mean error due to the GIGG filter after these nonlinear forecast mappings was found to be larger than the corresponding reduction associated with the analysis ensemble.”

Author Manuscript