L100: "attributed to"

The term is changed to “attributed to” in Line 101 in the revised manuscript.

L177: "the net removal"

The term is changed to “the net removal” in Line 178 in the revised manuscript.

L391: skip "we"

The term “we” is removed.

L395: "range provided"

The term is changed to “range provided” in Line 395 in the revised manuscript.

L532, L534, and elsewhere in manuscript: is it appropriate to compare linear correlation coefficients in terms of % increase? I think it is not. For example, an increase of linear correlation coefficient from 0.01 to 0.02 would be a 100% increase then, although the increase is very marginal. I suggest reformulation.

The terms are reformulated in the revised manuscript as follows:

Lines 31-37: The analysis showed a noticeable improvement in groundwater estimates when GRACE data were assimilated, with a best-case improvement of correlation coefficient from 0.31 to 0.53 and RMS error from 8.4 to 5.4 cm compared to the reference (ensemble open-loop) case. For the data-sparse case, the best-case groundwater estimates increased the correlation coefficient from 0.46 to 0.61 and decreased the RMS error by 35 %. For the average improvement of groundwater estimates (for all four cases), the correlation coefficient increases from 0.6 to 0.7 and the RMS error was reduced by 15 %.

Lines 532-538: In the NCG case, it is encouraging that GRACE assimilation consistently leads to an increase in correlation coefficient (from 0.46 to 0.61 in the best-case) and reduction in RMSE (up to 35 %). In other scenarios, assimilation of GRACE observations also leads to an increase in correlation coefficient (from 0.31 to 0.53 in best-case, at station 11 in the CG case) and a decrease in RMSE (up to 35 %, at station 1 in the NCG case). For the average improvement of groundwater estimates (for all four cases), the correlation coefficient increases from 0.6 to 0.7 and the RMS error was reduced by 15 %.

Lines 594-596: In the best-case, the correlation coefficient increased from 0.31 to 0.53 and the RMS error decreased by 35% with respect to the EnOL case.

Lines 610-611: In the best-case, the correlation coefficient increased from 0.65 to 0.66, the Nash-Sutcliffe coefficient increased from 0.62 to 0.65 and the RMSE was reduced by 4%.

L649: "may not be sensitive".

The term is changed to “may not be sensitive” in Line 651 in the revised manuscript.