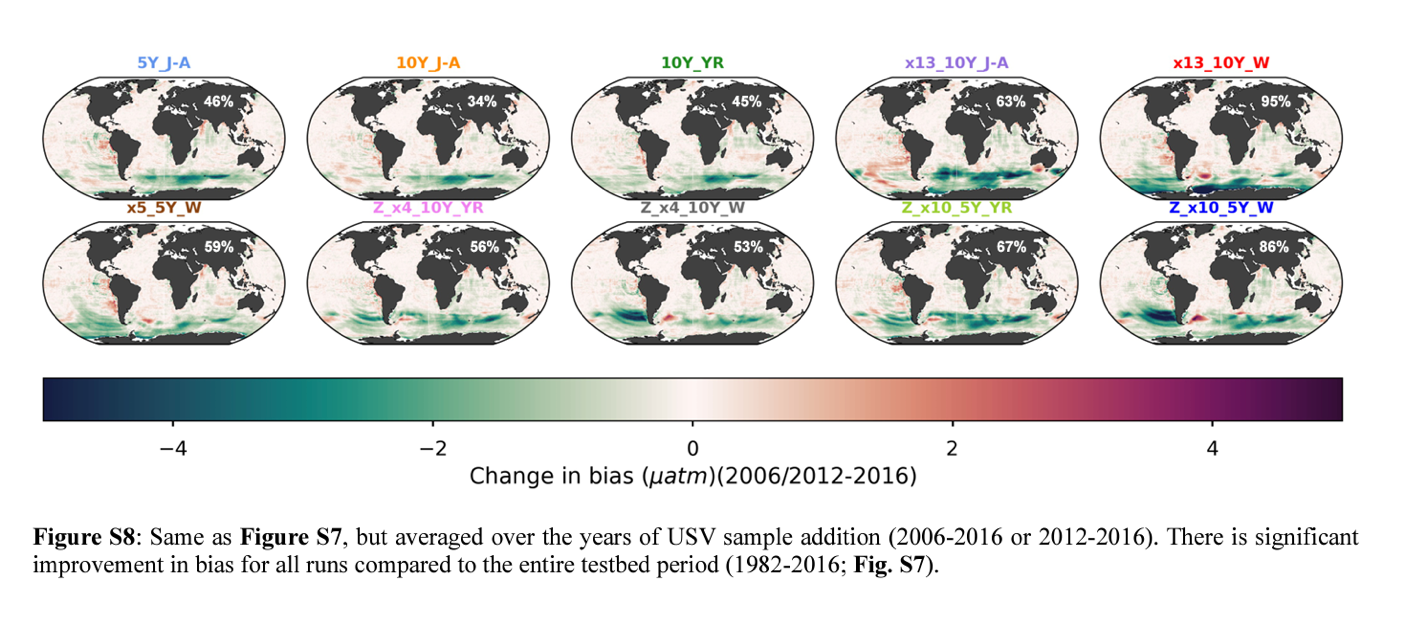
Dear Editor,

I’ve carefully read the proofs for manuscript BG-2023-160 (Assessing improvement in global ocean pCO2 machine learning reconstructions with Southern Ocean autonomous sampling). I noticed a few minor errors in the manuscript, where we refer to the wrong percent value. We have not made any new analysis at this stage that would have made the values to change, but the issue is that we are referring to the wrong value in some places in the text, and/or some values appears to be typos. I have made specific comments in the PDF where these issues occur, and I explain the issues in detail below.

In the abstract we state that “A modest number of additional observations in Southern Hemisphere winter and across meridional gradients in the Southern Ocean leads to an improvement in reconstruction bias and root-mean squared error (RMSE) or as much as 95% and 16%, respectively, as compared to SOCAT sampling alone”. The bias percent value (95%) match that shown in Supplementary Figure S8 for run x13\_10Y\_W. As shown in Figure S8, there is 95% improvement for run x13\_10Y\_W, so it is correct that there is an improvement in bias of 95% with additional Southern Ocean sampling. However, for this specific sentence in the abstract, we were referring to runs that sample BOTH during Southern Hemisphere winter months and across meridional gradients (the four zigzag runs, starting with the letter “z”). As shown in Figure S8, the highest percent value for the **zigzag runs** is 86%. So, **we would like to replace 95% with 86%** in the sentence in the abstract mentioned above.



This value of 86% improvement in bias, should also be stated on page 8 (section 3.2.1 Bias). We write in the manuscript: “Compared to the SOCAT baseline, run x13\_10Y\_W results in a mean bias improvement of 95%, while the remaining one-latitude runs and the zigzag runs show mean improvements up to 63% and **85%,** respectively (Fig. S8).” However, as shown in Fig S8, this value is **86%, not 85%.** This appears to be a typo.

Similarly, there is a typo also on page 9 (section 3.2.2 RMSE). We write in the manuscript: “For the duration of USV additions, the one-latitude runs show improvements in global mean RMSE of 1%-3%...” However, as shown in Fig. S13, the lowest RMSE value for the one-latitude runs is **0.5%, not 1%** (see run 10Y\_JA). When rounding up the value is 1%, but we would like the value in the text to match that shown in Figure S13.

