

*We thank the reviewer's for their comments. Our responses are shown in italics and line references are for the revised manuscript. In the revised manuscript, changes aligning with the reviewers comments are highlighted in red.*

The only concern I have at this point is the lack of calibration details. This information should be included in supplemental so that readers can determine what confidence to place in these results. Over what range of water mixing ratios was the cross-sensitivity (water mixing ratio dependence) characterized? Was the response linear or non-linear? What isotopic compositions of dD and d18O were used for the calibration? When measurement precision is reported, what water level does that correspond to? Some of these details are given for the field Picarro calibration, but not the LGR.

*We have added a section in the supplementary material which provides more detail on how we corrected for the water vapour cross-sensitivity.*

*Measurement precision was not reported in the manuscript as the reviewer suggests. We report an estimate of the accuracy of the measurements for both instruments (lines 175-178). We believe this is more important as the precision is significantly better than the accuracy. Also, since we are using the two analysers to report isotopic compositions from different water pools, the accuracy is the more important specification. We report an accuracy for all water levels as stated on line 174.*

*We are not sure which details the reviewer is referring to in stating that we have reported for the Picarro but not the LGR. All calibration details and approaches were the same for both analysers as it stated in the text (lines 161-162: 'we simultaneously determined calibration coefficients for both analysers'). An estimate of measurement uncertainty was also provided for both analysers (lines 175-178).*

Additional methods details missing are the air flow rates through the analyzers.

*Details added (lines 195-196 and 218).*

line 241: citation is needed showing similar results for Keeling plot and mass balance methods.

*References added.*

line 520: D-excess variability was 'correlated with' ... (correlation does not prove causation)

*We are not sure what the reviewer is referring to here as the quoted phrase is not on line 520. Our guess is the reviewer is referring to the closely matching Radon and d-excess diurnal cycles. If this is what the reviewer is referring to, we agree that correlation does not prove causation, which is why we provide a discussion of the processes driving the diurnal cycle and how those processes would relate to the d-excess diurnal variability.*