Comment on essd-2022-3
Anonymous Referee #2

Referee comment on "Isotopic measurements in water vapor, precipitation, and seawater during EURAC4A" by Adriana Bailey et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2022-3-RC2, 2022

The manuscript presents the data collected during the EURAC4A-isotope measurements, a sub-part of the EURA4C field campaign dedicated to isotopic measurements.

I find this manuscript very well written, with clear depictions of the various isotopic measurements. I do not have strong concerns about this manuscript, and believe that this manuscript could be published after the really minor comments below have been taken into consideration.

Remark : the unit “nmi” is used for distance, but is non-SI. A SI unit should be used.

Line 85-90 : I do not understand how isotope ratios can help differentiate boundary layer air and free tropospheric air. It seems to be a shortcut, but this shortcut is not straightforward. Please explain.
Lines 660-665: Does this part refers to Figures 9 and 10? The titles of these 2 figures (9 and 10) only states “campaign-mean (...”). The 3 vessels (Atalante, Meteor and Brown) didn’t have the same legs, so I wonder how campaign-means can be reasonably used to look at the consistency between the measurements: there are differences in the length of the measurement period, and there are differences in the areas that have been sampled. Can you comment?

Note: Figure 10 is not referenced in the text.

Figure 13: the unit of dD is missing.