**Topical Editor Decision: Publish subject to minor revisions (review by editor)** (15 May 2020)

by **David Carlson** 

Comments to the Author:

Very good response and changes / upgrades.

Small remaining issues (including a few typographical changes that proofreading will probably NOT pick up).

1) Wherever you use the DOI to point to these data, please use this form instead: https://www.doi.org/10.25921/2swk-9w56. Most journals now adopt this slightly-revised format because - for most users - the new format allows one-click access whereas the prior format required cut and paste or search through DataCite.

Response: thanks, we have changed "doi:" to <a href="https://www.doi.org/">https://www.doi.org/</a> throughout text and references

2) Thank you for mention of FAIR principles (e.g. line 63). But, FAIR deals primarily with access, while this paper - to its credit (!) - deals almost entirely with quality. Perhaps, to follow the mention of FAIR, add some short reference to your own substantial work on quality? E.g. FAIR principles supplemented by substantial quality control efforts by this/our group. We do not want to allow an impression that meeting FAIR principles somehow substitutes for or replaces expert efforts on any data, but especially not on ocean CO2 data.

Response: We appreciate the editor's recognition of the substantial quality controls and checks that were performed on the data. We've added the following sentence "In addition, the data underwent substantial quality control by our group and through the SOCAT quality control and check procedures."

Line 74 - calculate air-sea CO2 fluxes, rather than calculated (correct in the second use in that sentence)?

**Response: Corrected** 

Line. 113 - instruments 'have performed'. Do the authors mean performed under these conditions for these data, or have performed to specs in other oceanographic applications? Response we have changed the sentence to :" and for the cruises described here, they have performed to high accuracy specifications at described in Wanninkhof (2013)."

Line 418 - "For Flux calculations" should be 'For flux calculations'?

**Response: Corrected** 

In addition we corrected a few typos and punctuation errors throughout.