General Comments:

I thank Fay, Gregor, and coauthors for diligently addressing my prior concerns with edits and/or clear explanations. I have provided a few minor comments for the authors to take or leave. These minor suggestions touch on places in the manuscript where I find the text to be somewhat unclear (relative to the rest of the manuscript), which could be easily addressed with slight wording changes.

Minor Suggestions:

Abstract: I think the abstract could be streamlined. Line 23 says " this resource" but a resource has not yet been introduced, so it's not immediately clear what is being referenced. In the next sentence, a dataset is referenced, yet this also has not yet been introduced. Some minor rearrangement of existing abstract text to introduce the resource and dataset before describing their utility would go a long way toward clarifying the useful products/tools being presented.

Line 38: "*This is because **long term** variation in surface ocean pCO2, ultimately driven by increases in atmospheric pCO2 levels, is the driving force governing the exchange of CO2 across the air-sea interface,..*"

On shorter timescales, interannual and seasonal variations can be the dominant driving forces.

Eqn. 1: I noticed that the Zenodo data product description uses K_0 rather than sol.

Line 57: "*The resulting flux estimates can then be more directly compared with respect to uncertainty attribution with no source of difference that is not implicit in the mapping method or flux calculation.*"

I find this sentence unclear. Are you suggested that filling gaps with a scaled climatology makes it easier to compare/attribute uncertainties between products? I think you mean that gap filling makes is easier to isolate mapping differences rather than area related differences in fluxes, but it's not 100% clear. Also, the wording "no source of difference that is not implicit…" is difficult to follow (here and on and line 308). What about – all sources of discrepancy can be attributed to the mapping method…

Line 128: This is oddly worded and it's not clear if the pCO2 or flux data are scaled. What about:
To account for differing area coverage, past studies (Friedlingstein et al. 2019, 2020; Hauck et al. 2020) have adjusted observation-based flux products by simply scaling the datasets based on the percent of the total ocean area represented.

Line 171: "*Globally, the area-filling adjustments result in a difference of less than 17% of the total flux in all products, with the mean adjustment for the six products at 8%.*"

This wording is quite different from the framing in the abstract. The main text minimizes the differences while the abstract emphasizes them. Abstract: "*We address differences in spatial coverage of the surface ocean CO2 between the mapping products which ultimately yields an increase in CO2 uptake of up to 17% for some products.*"

Line 280: I'm not sure that I agree with this sentence – or I may be missing something here. Table 2 suggests that wind speed differences (column 3) cause a 0 to 0.15 difference in global mean flux while scaling (column 4) can cause a -0.04 to -0.13 difference in global mean flux (presumably also units of PgC yr-1). I guess if you use the average from these columns this sentence makes sense – but I wouldn't say

it's clear. Relatedly, if the scaled coefficient for JRA55 is 0.26, should we see differences between fluxes calculated with this scaled value and the fixed values of 0.26 when they are identical?

Line 321: "*Secondly, the cool skin correction would be equally applied to all methods and would not contribute to the inconsistencies in flux calculation that we are trying to address here*."

The influence of temperature on pCO2 is dependent on the starting pCO2 value, so different pCO2 values in the mapped products would result in different cool skin adjustments (even if the temp/sal adjustment were constant) – though this would likely result in very small differences between products in most regions. For accuracy, maybe rephrase to say that this effect would negligibly contribute to the inconsistencies in flux calculation being addressed?

Line 326: I think Fnet is used twice and Fant is used once. Maybe remove?