Line 331: “neglecting shallow waters can account for 5-10%” of what. Of total OHC? Of only the 0 - 300 m OHC? Clarification needed here. In the following lines (332, 333), the authors specify 0 - 2000 m underestimated by 10% due to latitudinal constraints. We need similar specificity with respect shallow bathymetric limits. Good section, just needs a bit of clarification.

Line 342: replace “All-time” with ‘All time’?

Line 351: CAR2009 in the legend but CARS2009 in the figure (and in the URL). An error in the legend?

Line 551, Figure 3: Important figure but still hard to read. Does not scale / zoom. Authors can fix this during proofreading.

Line 562 and following: Section 3 Land uses 1.5 line spacing, different to other sections. Authors can correct these differences after typesetting and during proofreading.

Line 564: Something like this opening sentence should also have preceded the atmospheric section (Section 2). If true of land, certainly true of atmosphere.

Line 565: land-based rather than land based?

Line 584: “small, but persistent” remove the comma?

Line 621: proofreaders will question capitalization of LANE 1923 citation but it at least seems consistent with reference list. Artifact carried forward from bibliographic software?

Lines 653 - 658: These sentences seem redundant with previous section? If authors add a section on borehole climatology, which I agree adds substantial value, then they do not need to re-introduce the topic here?

Line 805: comparably rather than comparable?

Line 834: Figure 7 copied from elsewhere? We need a complete high-resolution (scalable) version here. Make the upgrade during proofreading?

Line 847: Something awkward here? Remove the comma?

Line 919 and Figure 9: If authors present atmospheric CO2 reductions as a rate, they need a time unit. The text narrative seems clear. Perhaps the term ‘rate’ causes the confusion? -57 ppm represents a cumulative CO2 accumulation/removal, not a rate.

One can check this number and the underlying assumptions. The authors, working from energy imbalance, estimate 57 ppm reduction (410 ppm back to 353 ppm)

needed to achieve 0.87 W/m2 increase in outgoing energy. E.g. so that outgoing increases to match incoming. Eyeball from Moana Loa CO2 curve, planet last had global average of 355 ppm CO2 in 1990. From Global Carbon Budget, atmospheric growth of CO2 from 1990 through 2018 sums to 117 GtC, or 55 ppm. Given uncertainties all around (including in my eyeball estimates), restoration (removal) requirements calculated from energy imbalance, -57 ppm, match very closely what carbon budget shows as incremental CO2 inputs, 55 ppm, over roughly the past 30 years. Two very different global budget approaches, one from radiative (energy/heat) viewpoint and second from carbon emissions estimates, arrive at the same answer? To first order, acknowledging various necessary assumptions and uncertainties, we quantify with confidence human impact on climate? Small effort on my part to make this comparison, in part because at this point I hold good knowledge of both products. Worth including something like this as a non-radiative non-energy confirmation?
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Line 972: For cryosphere, we don't need to measure gravity itself but rather use gravimetric measurements to constrain ice mass change and water redistribution?

Line 1008: at the forward or leading edge, not at the (peripheral) edge?

Please take great care to reference primary peer-reviewed source literature when possible. I react mostly to WMO 2020, their 2019 annual statement on climate. I understand benefits: annual, recent, carries WMO imprimatur, etc. But those WMO reports remain highly derivative, second-hand at best. They compile entirely from outside sources, mostly from NOAA. Internal staff compile and write them, with only weak internal review, from almost exclusively a meteorological viewpoint. Unlike IPCC reports, WMO annual reports get virtually no community review. If you need an annual product, consider the AMS annual statement on climate which incorporates a broader range of inputs and gets strong review. (https://www.ametsoc.org/index.cfm/ams/publications/bulletin-of-the-american-meteorological-society-bams/state-of-the-climate/) Often WMO hurries their annual report, even issuing provisional versions before they have a full year of data, to promote themselves within UN system. AMS follows a more strict and more regular assembly and review schedule. Not a big issue and you have referenced the WMO report correctly; AMS report would add more credibility to your product. I think it has all or most of the same information. My caution but your choice.