AMENDMENTS
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Author Correction: Nitrogen and phosphorus constrain the CO_2 fertilization of global plant biomass

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Correction to: *Nature Climate Change* https://doi.org/10.1038/s41558-019-0545-2, published online 12 August 2019.

In the version of this Letter originally published, incorrect units were used on the *y* axis label of Fig. 3a. The model-derived *ß* values, quantifying the sensitivity of land carbon (C) storage to atmospheric CO_2, were erroneously displayed in units of PgC (for a CO_2 increase of 100 ppm). Instead, the numbers shown for the models and the multi-model mean should have been expressed as percentage values (for a CO_2 increase of 100 ppm). We now display both models and observations consistently in units of % 100 ppm^{-1}. This also affects our discussion regarding the agreement between the modelled and observed biomass sensitivity to CO_2. Accordingly, the following changes have been made:

(1) "The global-scale response to eCO_2 we derive from experiments is similar to past changes in greenness[9] and biomass[10] with rising CO_2, suggesting that CO_2 will continue to stimulate plant biomass in the future despite the constraining effect of soil nutrients. Our research reconciles conflicting evidence on CO_2 fertilization across scales and provides an empirical estimate of the biomass sensitivity to eCO_2 that may help to constrain climate projections." now reads: "The future effect of eCO_2 we derive from experiments is geographically consistent with past changes in greenness[9], but is considerably lower than the past effect derived from models[10]. If borne out, our results suggest that the stimulatory effect of CO_2 on carbon storage could slow considerably this century. Our research provides an empirical estimate of the biomass sensitivity to eCO_2 that may help to constrain climate projections."

(2) "Our estimated rate of increase in total biomass is 25 ± 4 PgC 100 ppm^{-1}, a value within the range of DGVMs and slightly larger than the multimodel ensemble mean β (Fig. 3a). This similarity is remarkable given the independency of both approaches and reported large inconsistencies in DGVMs in partitioning total to above-ground biomass[24]." now reads: "Our estimated rate of increase in total biomass is 25 ± 4 PgC 100 ppm^{-1} (5 ± 1% 100 ppm^{-1}), which is substantially below that of most DGVMs (Fig. 3a)."

(3) "We observed a strong similarity between the global-level responses to eCO_2 found in FACE and past changes in biomass and greening attributed to CO_2. The implications of this finding are threefold. First, this convergence supports our projections, indicating that empirical relationships with soil nutrients can be powerful for explaining large-scale patterns of eCO_2 responses, despite ecosystem-level uncertainties. Second, the effect attributed to rising CO_2 in past decades by DGVMs is similar in magnitude to our predicted effect of increasing CO_2 expected in the future (Fig. 3a), suggesting that the past CO_2 fertilization effect may continue at a similar magnitude for some time, despite nutrient limitations. Third, all else being equal, the same ecosystems that are currently responsible for most of the greening[9] and C uptake[11,14] are likely to remain important for future increases in biomass under eCO_2 (see Fig. 3b,c)." now reads: "The comparison between the global-level responses to eCO_2 found in FACE and past changes in biomass and greening attributed to CO_2 has important implications. First, the convergence with satellite-based observations of greening supports our projections, indicating that empirical relationships with soil nutrients can be powerful for explaining large-scale patterns of eCO_2 responses, despite ecosystem-level uncertainties. Thus, all else equal, the same ecosystems that are currently responsible for most of the greening[9] and C uptake[11,14] may remain important for future increases in biomass under eCO_2 (see Fig. 3b,c). Second, the effect attributed to rising CO_2 in past decades by DGVMs is larger in magnitude than our predicted effect of increasing CO_2 expected in the future (Fig. 3a). Different hypotheses could help explain this disagreement, including turnover rates of biomass in relatively short-term scale in experiments versus century-scale model simulations. This disagreement could be also explained based on the declining sensitivity of photosynthesis and growth towards higher CO_2 levels[28], or due to an increasingly constraining role of soil nutrients under elevated CO_2 concentrations in FACE than under lower CO_2 concentrations in models[29]. More targeted model simulations mimicking experiments are needed to understand the causes of this discrepancy[30]."

(4) The penultimate paragraph has been deleted: "This research accounts for the extent of nutrient limitations on the eCO_2 fertilization effect and shows that, despite local limitations, a global and positive effect, consistent with independent evidence of past CO_2 fertilization, can be inferred. This result challenges the strong and pervasive limitations on the projected eCO_2 fertilization suggested by some nutrient-enabled models[29]. For example, in the TRENDY ensemble of models in Fig. 3a, only OCN and CLM4CN take N limitations into account, and none of them to our knowledge include P limitations. While model simulations of the CO_2 effect on biomass by OCN closely match our data-driven results, CLM4CN underestimates the CO_2 fertilization effect by half and thus overestimates nutrient limitations. This may be related to the limited capacity of plant N uptake to mediate an excessively open N cycle in CLM4CN[30]."

(5) The following changes have been made to the reference lists in the Letter and the Supplementary Information: a new ref. 28 has been added (De Kauwke, M. G., Keenan, T. F., Medlyn, B. E., Prentice, C. & Terrer, C. Satellite based estimates underestimate the effect of CO_2

fertilization on net primary productivity. *Nat. Clim. Change* **6**, 892–893; 2016), which is cited in the sentence beginning "This disagreement could be also explained..." in the Letter and in the sentence beginning "The sensitivity of photosynthesis and productivity..." in the Supplementary Information; and ref. 30 has been deleted (Riley, W. J., Zhu, Q. & Tang, J. Y. Weaker land–climate feedbacks from nutrient uptake during photosynthesis-inactive periods. *Nat. Clim. Change* **202**, 1002–1006; 2018). The references have been renumbered accordingly in the Letter and Supplementary Information.

The online versions of this Letter have been amended and the Supplementary Information file replaced.

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