

Interactive comment on “Carbon dioxide fluxes over an ancient broadleaved deciduous woodland in southern England” by M. V. Thomas et al.

Anonymous Referee #1

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This paper makes a capable contribution to the large literature on CO₂ fluxes over forested landscapes. It could be a noteworthy contribution in that fluxes were measured over a ‘disturbed ancient woodland’, a vegetation type possibly poorly represented in the literature. However, we are given no information on important stand ecological characteristics such as tree age and size distributions, canopy LAI or N content, soil fertility, and so on. Hence, it is difficult to make meaningful comparisons with other datasets apart from coarse temperature/precipitation relationships (e.g., fig 9). The meteorological methods employed are standard and the annual estimates of GPP and NEP are what one would expect for a few typical years in a typical English woodland. The relatively good fit between meteorological and biometric estimates could be coincidental since the 1 ha biometric plot, in an undisturbed ancient semi-natural woodland, would appear to lie outside the footprint of the flux tower. Or, it might suggest that the degree

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of disturbance experienced by the vegetation within the flux footprint was insignificant with respect to GPP and NEP. That would be useful information and could inform conservation policy relative to these ancient woodlands. As it stands, broader analyses and insights are not possible with such a short term record and limited ecological data.

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