

Interactive comment on “Effects of drought – altered seasonality and low rainfall – in net ecosystem carbon exchange of three contrasting Mediterranean ecosystems” by J. S. Pereira et al.

Anonymous Referee #3

Received and published: 21 July 2007

Realizing that already three reviewers comments have been made, I decided to read those and give some additional comments. Overall I agree with the comments so far, that this study bears very exciting ecohydrological results, but that the analysis should be refined and deepened and better organized. The authors should look at their abstract, which is find quite nice, and look which figures they really need for the statements they make.

To my mind the first figures (the bars of NEE, RECO, GPP) side-by-side the different sites are not very insightful and could be combined or put in a table. Instead I would like to see extended analysis of the rainuse efficiency issue, which appear one central

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finding. Since the authors partly have both sap-flow and eddy flux data, they should analyse also if and how partitioning changed. This combined analysis is rarely done and would add originality to the manuscript. I also agree it is a bit awkward that no soil moisture data is shown. Why? If there isn't any, I would expect at least plots of cumulative soil water balance or an approach as in Granier et al. (2007) at least.

I encourage the authors to invest into these improvements; then it will be a high impact publication.

Reference: Granier, A., M. Reichstein, N. Bréda, E. Falge, P. Ciais, T. Grünwald, M. Aubinet, P. Berbigier, C. Bernhofer, N. Buchmann, B. Heinesch, H. Ilvesniemi, I. Janssens, P. Keronen, A. Knohl, B. Köstner, B. Longdoz, D. Loustau, C. Nys, E. Moors, M. Peiffer, K. Pilegaard, J. Pumpanen, S. Rambal, C. Rebmann, G. Seufert, J. Tenhunen, T. Vesala, and Q. Wang. 2007. Evidence for soil water control on carbon and water dynamics in European forests during the extremely dry year: 2003. *Agricultural and Forest Meteorology* 143:123-145.

Interactive comment on *Biogeosciences Discuss.*, 4, 1703, 2007.

BGD

4, S933–S934, 2007

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