

Interactive comment on “Nitrogen retention in natural Mediterranean wetlands affected by agricultural runoff” by V. García García et al.

Anonymous Referee #1

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Item 14. The authors have now included the median values of retention efficiency, along with the original mean values that were calculated by setting negative retention values to zero. If the mean value is to be retained and used in discussing retention efficiency, then it should be calculated using the raw data (negative and positive values), and negative values should not be set to zero when calculating the mean. Otherwise, the mean value should not be reported, as setting negative values to zero will significantly bias the mean value and many of the conclusions that follow from that will be equally biased.

Item 26. The authors have included the data points used to derive the surface of the 3D plot, however, they have not given any indication as to whether a curvilinear surface

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has been fitted to avoid retention efficiencies greater than 100%. With the current MLR regression equation and 3D surface shown in Fig 6, it is possible to retain >100% of NO₃-N. For example when the Hydrologic Retention is 1, and NO₃-N concentrations are below 45 mg/L retention efficiency is >100%. When hydrologic retention is 0.5 and NO₃-N is below 16 mg/L NO₃-N retention efficiency is >100%. There are a range of combinations of hydrologic retention and NO₃-N concentrations where this will be a problem. It is possible for retention efficiency to be less than 0% as wetlands will sometimes act as nutrient sources rather than sinks, but it should be a physical impossibility to retain more (>100%) NO₃-N than is input into the system.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 5341, 2009.

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