

## ***Interactive comment on “Modelling nitrogen and phosphorus loads in a Mediterranean river catchment (La Tordera, NE Spain)” by F. Caille et al.***

### **Anonymous Referee #1**

Received and published: 11 September 2011

#### General

Overall, the manuscript “Modelling nitrogen and phosphorus loads in a Mediterranean river catchment” is clear and well written. The model approach, data, and sensitivity analysis have been described in appropriate detail. The authors also address the rationale for the model used in the analysis in comparison to other nutrient export models. The conclusions are well supported by the analysis and the references appear appropriate.

Specific More description of the qualitative analysis of inputs (section 3.4) earlier in the

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text would be helpful. Perhaps move the relevant text from p 7572 line 10+ to section 3.4.

It would be interesting to compare predictions of N and P source attribution to that of other models. Nutrient Exports from Watersheds (NEWS) has been applied at a global scale (e.g. Mayorga 2010, Dumont 2005, Harrison 2010). While NEWS is coarser in scale, such a comparison could be interesting. Also, are there any isotope studies in the catchment that address nutrient sources and could be used to compare to model predictions?

I am not sure Fig 8 provides much insight beyond what could be accomplished in a line or two of text.

It would be interesting to see maps of the single largest source of N and P.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 7555, 2011.