Hydrol. Earth Syst. Sci. Discuss., 10, C6532–C6534, 2013
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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Comparison of parameters influencing the behavior of concentration of nitrates and phosphates during different extreme rainfall-runoff events in small watersheds" *by* J. Moravcová et al.

Anonymous Referee #1

Received and published: 9 December 2013

I read with interest the paper of Moravcová et al. that examines influences of environmental and hydrological parameters in the response of different substances on water. However, the language and structure used in the paper can sometimes be confusing for the reader. Many of the sentences are too long. In the Introduction section, some explanations about hysteretic loops are too long and somewhat redundant. Some concepts are not well explained in this section. The objectives of the paper are not well defined. In the methods, differences between study areas should be highlighted and information that is not necessary to understand the paper removed. Despite the

methodology used seems to be interesting the authors should explain better the data analysis subsection. In the results section explanations are found to be sometimes contradictory and conclusions are not sufficiently justified.

Introduction The authors note that multi peak hydrographs are the reason for hysteresis. But hysteresis loops also happen in single peaked hydrographs and the reasons for this relationships between concentration and discharge are very different as the authors explain a bit later. Moreover, they firstly talk about hyteresis and later explain them. P 12108, line 8. A single valued relationship is not a hysteresis. From line 10 onwards. The authors are describing different factors related to hysteresis and suddenly jump to controls on hysteresis to finish with hysteresis descriptors again. It seems that hysteresis between any kind of substance and discharge are all considered together when explaining the reasons for each type of hysteresis (clockwise, counterclockwise...). In the last paragraph, the objectives should be more specific. At least, it should be clearly stated which kind of factors are being considered to affect concentration changes in which indicators of water quality.

Materials and methods When explaining water quality monitoring it would be interesting to read where the selected profiles are located. The data analysis subsection is difficult to follow.

Results The first paragraph in the results section should be moved to materials and methods. Some concepts, as "the origin of events", which criteria was used to separate short and long lasting events, must be clarified. In the results section explanations of the first part are not referred to a specific figure or table what makes difficult to follow the justification.

Some examples of doubts or mistakes: 1.-Page 12111, line 17. What does "sond" mean? It should be probe 2.-P12111, line 21. What do the authors mean by discreet monitoring? 3.-P12114, line 14-20. CLW and ACLW must be previously defined. 4.-P12117, line 7-8. What do the authors mean by "high volatility of discharges? 5.-

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P12118, line 2-3. “who assign these objects to 30 % of the impact”. Which objects?
6.-Figure 1, 2 and 3 are difficult to interpret as they are not clear

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 12105, 2013.