Hydrol. Earth Syst. Sci. Discuss., 12, C1351–C1356, 2015
www.hydrol-earth-syst-sci-discuss.net/12/C1351/2015/

Hydrology and Earth System Sciences
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Discussions

Interactive comment on "Flood triggering in Switzerland: the role of daily to monthly preceding precipitation" *by* P. Froidevaux et al.

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Received and published: 6 May 2015

Note: for brevity, I shorten "page 3246, line 4" to "46-4".

General comments

HESS manuscript evaluation criteria

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Discussion Paper

Principal criteria:	excellent	good	fair	poor
Scientific Significance: Does the manuscript represent a substantial contribution to scientific progress within the scope of Hydrology and Earth System Sciences (substantial new concepts, ideas, methods, or data)?	x	x		
Scientific Quality: Are the scientific approach and applied methods valid? Are the results discussed in an appropriate and balanced way (consideration of related work, including appropriate references)?		x		
Presentation Quality: Are the scientific results and conclusions presented in a clear, concise, and well-structured way (number and quality of figures/tables, appropriate use of English language)?	x			

HESS review aspects

1. Does the paper address relevant scientific questions within the scope of HESS?

Yes. The importance of antecedent moisture for flood triggering remains an important question.

2. Does the paper present novel concepts, ideas, tools, or data?

Yes. The innovative part is in the use of a large dataset to extract statisitically significant information on flood generation.

3. Are substantial conclusions reached?

Yes.

4. Are the scientific methods and assumptions valid and clearly outlined?

Yes.

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5. Are the results sufficient to support the interpretations and conclusions?

Yes.

6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)?

Yes.

7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution?

Yes.

8. Does the title clearly reflect the contents of the paper?

Yes, it's a fitting title.

9. Does the abstract provide a concise and complete summary?

Yes, although it is rather long for an abstract.

10. Is the overall presentation well structured and clear?

Yes. Maybe you could move the part "Ideally, a flood-by-flood analysis ... Swiss rivers" (47-9–17) to the Methods-section?

11. Is the language fluent and precise?

Yes. I found it very well-written.

12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used?

Yes. The abbreviations (e.g. HQ20, D2-3) were well explained, but I sometimes got a little confused when there were too many in one sentence. For example, you could use some more words to make sentences such as "...the $P > 99$ of D4-14 is as frequently observed as $P < 50$." (61-25) a little more readable.

HESSD

12, C1351–C1356, 2015

Should the $p/(1p)$ on 56-13 and 56-15 be $p/(1-p)$?

13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated?

No.

14. Are the number and quality of references appropriate?

Yes.

15. Is the amount and quality of supplementary material appropriate?

Yes.

Specific comments

52-10: "The area must be ... covered >90% by the precipitation dataset." Do you mean in space or time?

53-16: Are Nival catchments snow-dominated?

53-18: What is the origin of the name Meridional?

57-23, 58-14, 60-4, table 2: I found the word "intense" a little confusing because I associate that word with a high precipitation intensity, and not high sums.

63-22: Because of the words "seems counterintuitive" I was expecting that you would explain why it was in fact logical.

69-4: "would require to use land surafec models". Another possibility could of course be using data, such as in situ soil moisture or groundwater observations or remotely sensed soil moisture.

70-25: You give recommendations for researchers. Can you also formulate receom-mendations for practical application?

HESSD

12, C1351–C1356, 2015

Fig. 6: The grey areas in panels b and d are outside the cloud of lines. Is that possible? Or did you accidentally use the grey areas belonging to the a and b panels?

Technical corrections

46-5: amount → number

46-26: exit → outlet

48-7 non extraordinary → non-extraordinary

48-8 lead → led

51-2: in regard → with regard

51-2: amount → number

53-4, 53-5, 53-6 and many other locations: I think it's better to rename Lakes Exits to Lake Outlets (in any case, I think the s behind Lakes should be removed).

54-13: underground → subsurface?

55-1 a ± 45 days range for each day of the calendar year → a 3-month moving window

47-8: conducive → conductive?

62-6: Marco → Macro

23-11: nb. 111 → no. 111

66-8, 22-13, 66-14, 66-24, 66-27, 67-6, 67-8, 67-10: HQ20 s, HQ5 s → HQ20s, HQ5s

69-9: time and space distribution → temporal and spatial distribution

70-17: 2 day → 2-day

71-5: don't start a new paragraph after one sentence.

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12, C1351–C1356, 2015

Fig. 3: y-labels are missing.

Fg. 3, caption: Absolute values of... → Precipitation sums belonging to... Maybe also add something like “Variation between catchments is visualized in boxlpots”.

All figures: I don’t know how large the figures will be in the final HESS-paper, but make sure the font sizes of the labels and axes are large enough

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Good luck!
Claudia Brauer

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 3245, 2015.