Referee Comment #1

Suggestions for revision or reasons for rejection (will be published if the paper is accepted for final publication)

This is a really interesting study on the factors that determine whether a precipitation event leads to a streamflow response in an intermittent stream or not, and how this varies across a meso-scale catchment. The dataset is unique and the analyses are very interesting. The figures in the manuscript are all very good and useful.

The authors have responded adequately to my previous review comments. The unclarities in the methodology have been resolved. The introduction and discussion have been improved and now contain more references to intermittent stream studies. They have, however, now become very long. Unfortunately, the manuscript still contains typos, punctuation errors, and unclear sentences. Thus, although the contents of the manuscript are certainly acceptable for publication, I would recommend to return the manuscript to the authors so that they can fix this prior to publication. The attached pdf indicates where words are missing, typos and punctuation errors. It also provides some suggestions on where to improve the writing or to shorten the text. Of course, it is not necessary to implement all of these suggestions but the manuscript does require a good proof-reading.

We are thankful for the again detailed review of the manuscript with helpful comments to solve the grammatical and language flaws of the manuscript. The majority of the comments were taken into account in the revised version of the manuscript (see marked up pdf file) and were again a significant improvement for the manuscript. Specific comments (e.g. Reviewer 1, Comment 1, << R1.C1>>) are answered (Reviewer 1, Answer 1, <<R1.A1>>) below.

Other specific comments:

<< R1.C1>>

P1L19: End the abstract with some concluding remark or a statement about the implications

<<R1.A1>>

We added a concluding remark on the study in the abstract.

<< R1.C2>>

The definition of stormflow is not so clear. To me this is the response of the stream to a precipitation event (i.e., the increase above the baseflow, or the total flow above baseflow). At some points in the manuscript, it seems to be used that way but at other times it seems to indicate subsurface stormflow (i.e., interflow). Please double check that you don't use the same word for different things

<<R1.A2>>

We checked the wording and changed the manuscript accordingly

<< R1.C3>>

P2L30: Predict intermittence based on the number of zero flow days? That sounds like circular reasoning. I guess that there is something wrong in the writing here.

<<R1.A3>>

In the referenced study zero flow days at gauges are used to predict the probability of intermittent streams in the upstream catchments and the extend of the stream network. We added the information that the statistical models are used to predict/interpolate to the spatial distribution of intermittent streams and deleted the “zero-flow days” part of the sentence as it does not fit well in the frame of the climatic predictors.

<< R1.C4>>

It is not always clear how the average precipitation is calculated. Sometimes it is said that it is the average for all the sites in a catchment (e.g., P9L19) but at other times it is suggested that it is a true spatial average (P11L15). Probably the wording needs to be clearer on P11.

<<R1.A4>>

We revised the wording to clarify, that always averaged time series of the sites within a sub-catchment were used to calculate the average precipitation for a catchment.

<< R1.C5>>

P10L18: What is the duration over which the maximum rainfall intensity was calculated? 1 hour? 5 minutes?

<<R1.A5>>

The duration was of the max. precipitation intensity was 1 hour. We added this information in the revised manuscript.

<< R1.C6>>

The results for the different geologies are not always described in the same order. This is also the case for the figures (e.g. Figures 3 and 4: first slate, then marl, and finally sandstone but figure 9 shows the results first for marls, then slate, and then sandstone). I found this confusing and often had to read back to see what the geology of the previous section was. Presenting the results in the same order would increase the reader-friendliness of the manuscript.

<<R1.A6>>

We revised the structure of the text regarding the order of the geologies appearing in the different sections and figures. For figure 6 we kept the order, to keep the homogeneous block of marl catchments in the lower part of the figure.

<< R1.C7>>

P16L18: Are you accidentally reporting the fractions instead of the percentages here? These values seem to be far too low.

<<R1.A7>>

Those numbers were indeed fractions. However, we changed the text and only refer to the flow responses to keep that sentence a little shorter.

Referee Comment #2

The Authors improved the structure of the manuscript significantly and addressed most of the suggestions made in the previous revision. Minor revisions to correct grammatical errors, misspelling mistakes, punctuation errors, etc are needed. Additionally, there are a few places where clarification is needed. Please refer to the referee report for specific comments.

The data, methodology and discussion of the manuscript is relevant and of scientific merit and I am supportive of the manuscript being published after minor revisions.

We thank you for the helpful review of our manuscript which perfectly added to the comments and recommendations of the first referee. We included most of the comments in the revised manuscript (see marked up pdf file). Specific comments (e.g. Reviewer 2, Comment 1, << R2.C1>>) are answered (Reviewer 2, Answer 1, <<R2.A1>>) below.

Specific comments:

<<R2.C1>>

Please check errors likely originated from the use of the track changes document, including repeated or missing spaces, punctuation errors (repeated or missing “.” and “,”, etc).

Please check keep consistent with the use of data as plural

Please check and keep consistent with the use of past tense when talking about results from past studies.

Also please do another check for typos

<<R2.A1>>

The manuscript was fully revised to the language and grammatic criteria mentioned in your comment.

<<R2.C2>>

In the methods section it needs to be made clearer when the author is firstly talking about the original dataset, and subsequently when he is referring to the selected subset for this work

<<R2.A2>>

The sentence was modified to clarify the selection of the subset from the original dataset.

<<R2.C3>>

Authors give a second definition of intermittent stream in page 8 line 7:

Thus, the definition of “an intermittent stream” in this study is a natural or artificial channel with occasional surface runoff.

And yet another definition for intermittent streamflow in page 8 lines 14-15:

Intermittent streamflow is here defined for the observed streamflow at gauging sites showing at least a period of one hour with no flow.

<<R2.A3>>

The second definition relates to intermittent stream channel whereas the first definition is the definition of “intermittent streamflow”. We changed the sentence with the second definition accordingly to “the definition of ‘intermittent or ephemeral stream channels’ in this study includes natural and artificial channels with occasional (ephemeral) surface runoff or intermittent streamflow as defined above (Section 1)”.

The third definition is the technical definition of intermittent sites in our dataset. We changed the sentence to “To account for the definition of intermittent streamflow in section 1, observed streamflow at gauging sites showing at least a period of one hour with no flow are considered as intermittent”.

<<R2.C4>>

Keep consistent with capitalization of words throughout either Sandstone or sandstone, Marl or marl, etc. Marl / Marls in Figures

<<R2.A4>>

We revised the wording throughout and use marl instead of marls.