I have carefully reread the new manuscript and the authors' response to reviewers. My original comments about the scientific value of this work stand, and I am pleased to see that the authors have greatly improved and expanded the introduction and discussion to better contextualize this work and address salient questions. I have a few minor comments but I don't think another round of review is necessary; this is a valuable work worthy of publication.

Line numbers refer to the tracked changes version.

L92: "before concluding" – you could tease in short here what the most important conclusions of this study are.

 L134: is this a way of notating the uncertainty in that measurement? Maybe add + to the superscript and – to the subscript to make that more clear.

L145, fig 2: I still think a dashed vertical line in the left subpanels aligned with the flood peak would help to visualize the time lag of the sediment peak.
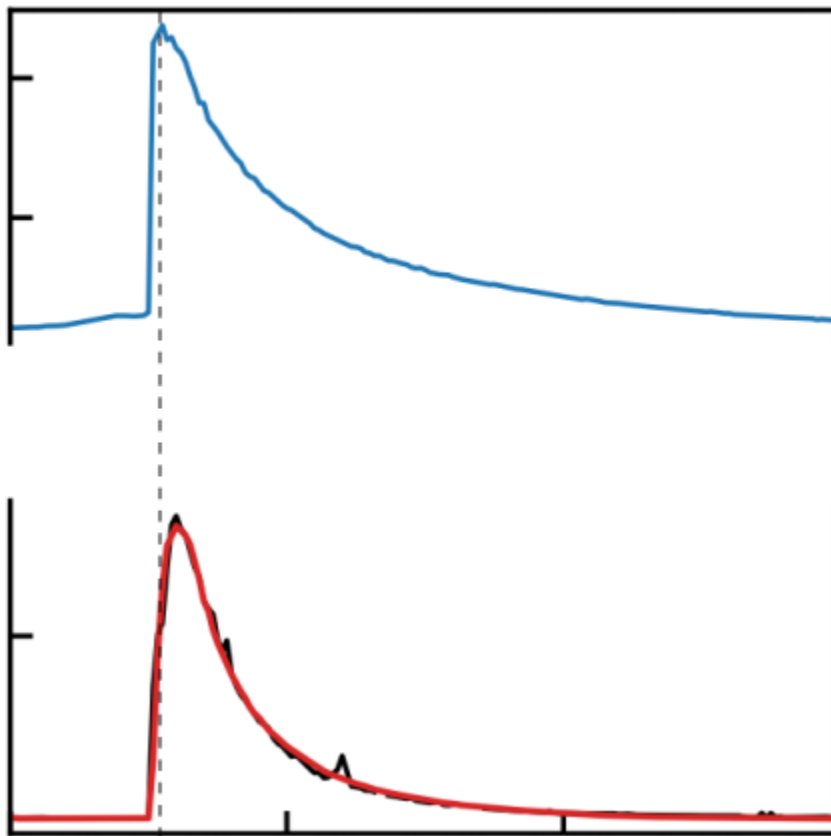
L153: "ignoring the washload" – can this be justified in some way? How much does the washload concentration change much during the flood? My concern is that turbidity is often extra sensitive to the finest sediment.

Fig 3: I know it's the same as fig 2 but nevertheless the figure should have a legend.

Fig 2, Fig 3: Add null model (c=f(h)) as you did with fig 5?

L173-174, Fig 4: consider adding as a subpanel a cartoon of how the hysteresis index works. For me equation 1 was not obvious, but a visual example of the integral makes it immediately obvious why it works.

L257-276 very clear explanation!

L279: suggest omitting "bed" from "bed area" as this makes me think you're talking about concentration in the bed rather than in the flow

L308, L311: I think "calibration" would be a better word than "adjustment"

L446: "there, the flow is approximately uniform" – what is this based on?

L505: focusing

L530: why would the simple rating curve systematically overestimate? This seems like a problem with the fit; I would think some floods would be overestimated and some underestimated, with higher RMSE than your method, but not necessarily a systematic difference.