

First, we want to thank Dr Gesch for the insightful suggestions and recommendations. Below please find some detailed response to the raised comments

**Note: Below is our response (italics) to each comment (regular font)**

What was the magnitude (i.e., percent) of excluded measurements? Were any of the 3,101 gages excluded completely, and if so, how many?

**Response:** *we thank Dr Gesch for this comment. Following the referenced work, for the work we also detected and excluded sites featuring artificial controls at the gauging station that could impede the natural adjustment of the channel's shape. Additionally, we eliminated all field measurements conducted at a different location or potentially different location, along with those taken in icy conditions, as these factors could impact the accuracy of channel geometry measurements. Our selection process retained only sites with comprehensive time series data, and as per Slater's et al. 2015 work, only kept gages with 99.7% completeness in streamflow records and 40 channel cross-section measurements. We will clarify this in the revised manuscript.*

How many gages are excluded due to this criteria?

**Response:** *We will clarify this in the revised work*

Because STREAMS\_KM\_SQ\_KM comes from 100k NHD, are there any concerns about "artificial" variability of stream density of cartographically-derived streams?

**Response:** *Indeed this is a critical point. Actual stream density could be different than that from cartography. Nonetheless, to avoid having biases and further fluctuations of values, we decided to consider this official source as it is available consistently for all gages. Researchers could also consider using different methods to define the drainage network, but we would suggest, in that case, to re-train the model and verify once again the importance of this parameter in the re-trained model. We will add a comment on this in the revised manuscript.*

What about channelized streams in urban areas (where the channel cannot change in response to extreme events)? Would the method used in this study recognize these cases?

**Response:** *This is a critical point. We excluded sites featuring artificial controls at the gauging station that could impede the natural adjustment of the channel's shape. We would not recommend this approach for engineered river reached where flood protection measures or artificial channelization is present. We will highlight this in the manuscript.*

Technical comments:

*We will address all the missing references and highlighted needed technical clarifications.*