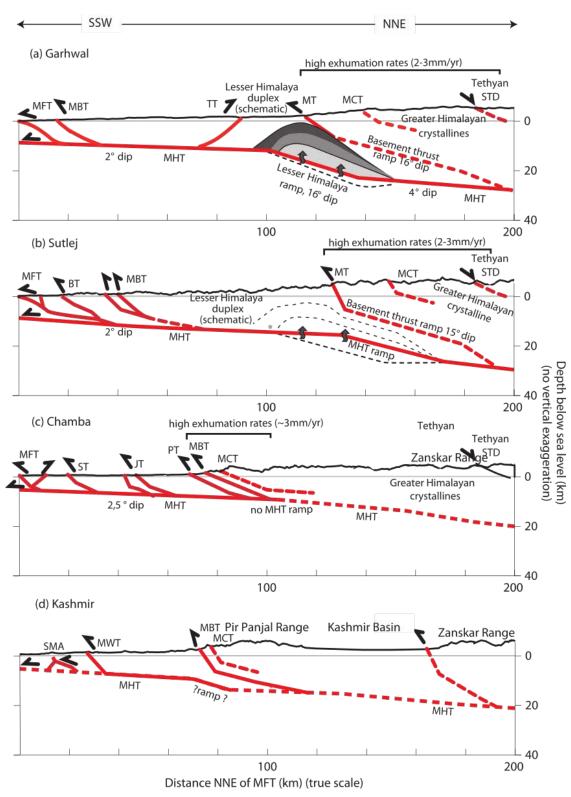
## Supplementary data

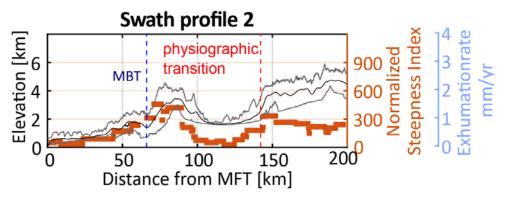
1

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- 2 Fault activity, tectonic segmentation, and deformation
- 3 pattern of the western Himalaya on Ma timescales inferred
- 4 from landscape morphology
- 6 Markus Nennewitz<sup>1</sup>, Rasmus C. Thiede<sup>1,2</sup>, Bodo Bookhagen<sup>1</sup>
- 7 (1) University of Potsdam, Institute for Earth and Environmental Science, Karl-Liebknecht-
- 8 Str. 24- 25, 14476 Potsdam, Germany
- 9 (2) now at Christian Albrecht Universität Kiel, Institute for Geosciences, Ludewig-Meyn-
- 10 Straße 10, 24118 Kiel, Germany
- 12 The following figures present further results and outcomes of the study. The first supplementary
- 13 figure schematically shows the structural setting at the Himalayan front in the Sutlej-Garhwal,
- 14 Chamba and Kashmir region.
- 15 Supplementary figures 2-8 show orogen-perpendicular swath profiles used in our study except
- profile 1, 5, and 8 presented in Figure 3 (cf. Figure 1A for location). The remaining 7 profiles
- 17 show elevation data, catchment-averaged river-steepness indices and exhumation rates in the
- 18 swath area.
- 19 Supplementary figures 9 and 10 show the along strike changes in k<sub>sn</sub> in the hanging wall of the
- 20 major structures, MFT, MBT and the physiographic transition. Profile values in figure 9 are
- 21 averaged catchment values, within a range of 10-km offset of the structures. Profile values in
- figure 10 are similarly obtained within 30-km offset of the respective structure.



Supplementary figure S1: Schematic structural profiles of the Himalayan front in the Sutlej, Garhwal, Chamba and Kashmir region. BT: Bilaspur Thrust ;TT: Tons Thrust ;SMA: Suruin-Mastgarh anticline; STD: Southern Tibetan Detachement System; ST: Soan thrust; JT: Jwalamukhi thrust; PT: Palampur thrust;

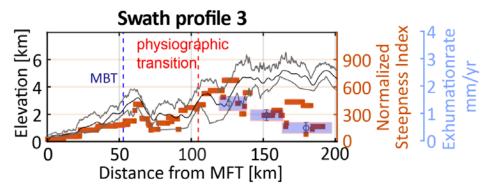


Supplementary figure S2: Swath profile 2 (cf. Fig. 1A for location).

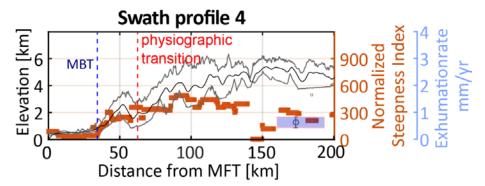
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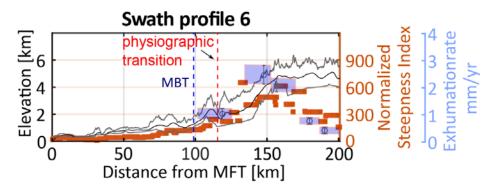
3334



Supplementary figure S3: Swath profile 3 (cf. Fig. 1A for location).



Supplementary figure S4: Swath profile 4 (cf. Fig. 1A for location).

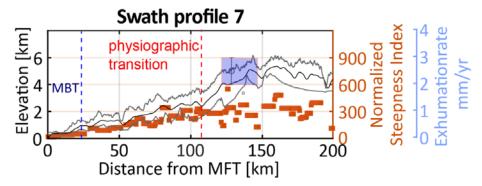


Supplementary figure S65: Swath profile 6 (cf. Fig. 1A for location).

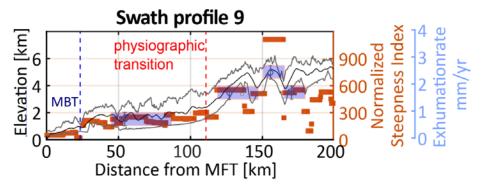
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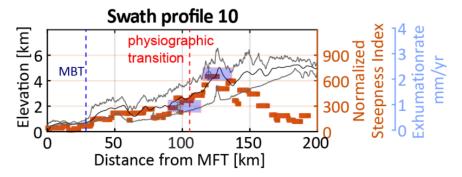
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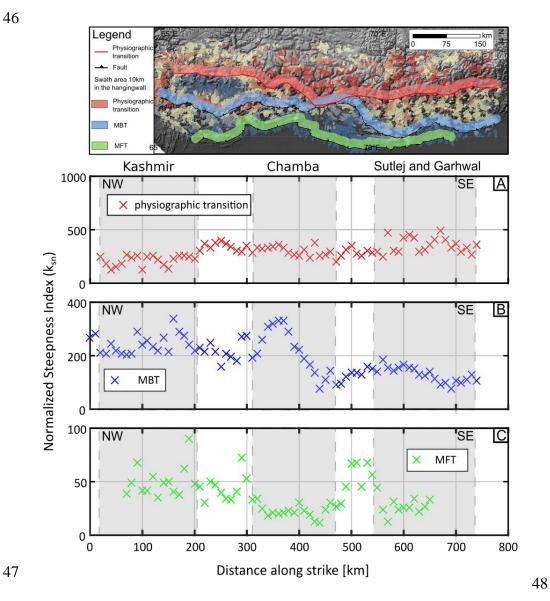
Supplementary figure S7: Swath profile 7 (cf. Fig. 1A for location).



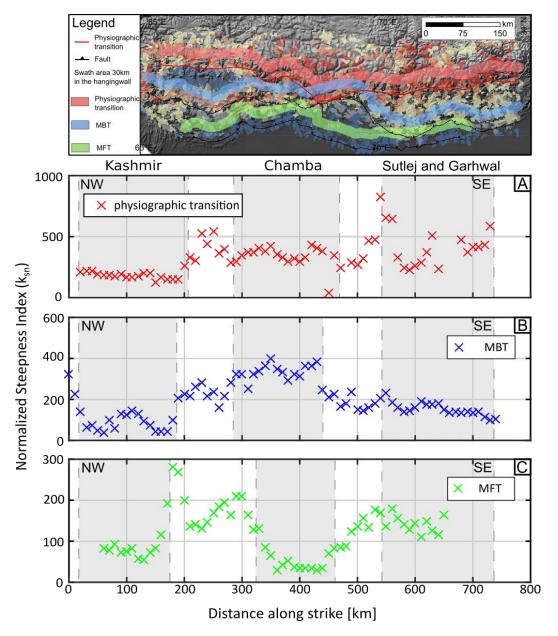
Supplementary figure S9: Swath profile 9 (cf. Fig. 1A for location).



Supplementary figure S6: Swath profile 10 (cf. Fig. 1A for location).

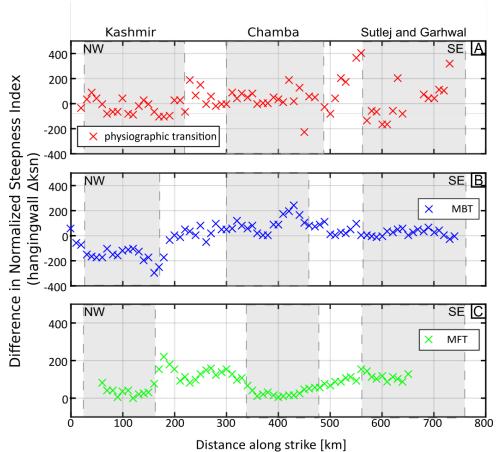


Supplementary figure S7: Along strike profiles in the 10 km in the hanging wall of the MFT, the MBT and the physiographic transition.



Supplementary figure S8 Along strike profiles in the 30 km in the hanging wall of the MFT, the MBT and the physiographic transition.

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Supplementary figure S9: Along strike profiles of the difference in  $k_{sn}$  indices between catchments 30 km and 10 km in the hanging wall of the MFT, the MBT and the physiographic transition.