Supplement of

Drainage rearrangement in an intra-continental mountain belt: A case study from the southern Central Tian Shan, Kyrgyzstan

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Figure S1 best-fit concavity from chi plot.

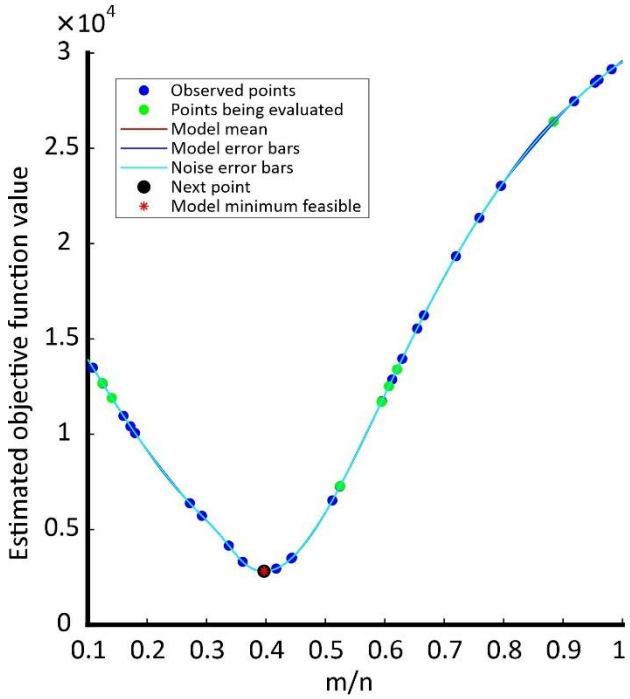

Figure S2 (a) Satellite image of the Inylchek valley from Google Earth showing tributary hanging valleys; (b) Field example of hanging tributary valleys from the Barskoon glacial valley, west of our study area. In both images, white dots with black edges show the location of glacial knickpoints.

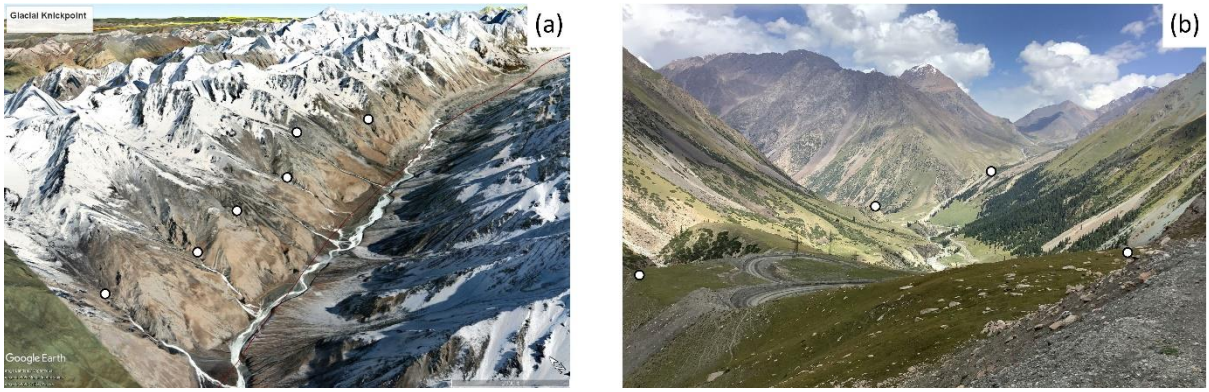

Figure S3 Knickpoints identified in the Saryjaz catchment with their inferred origins. See text for discussion. Note that "trivial knickpoint" here means the vertical-step knickpoints which could correspond to local river steepening.

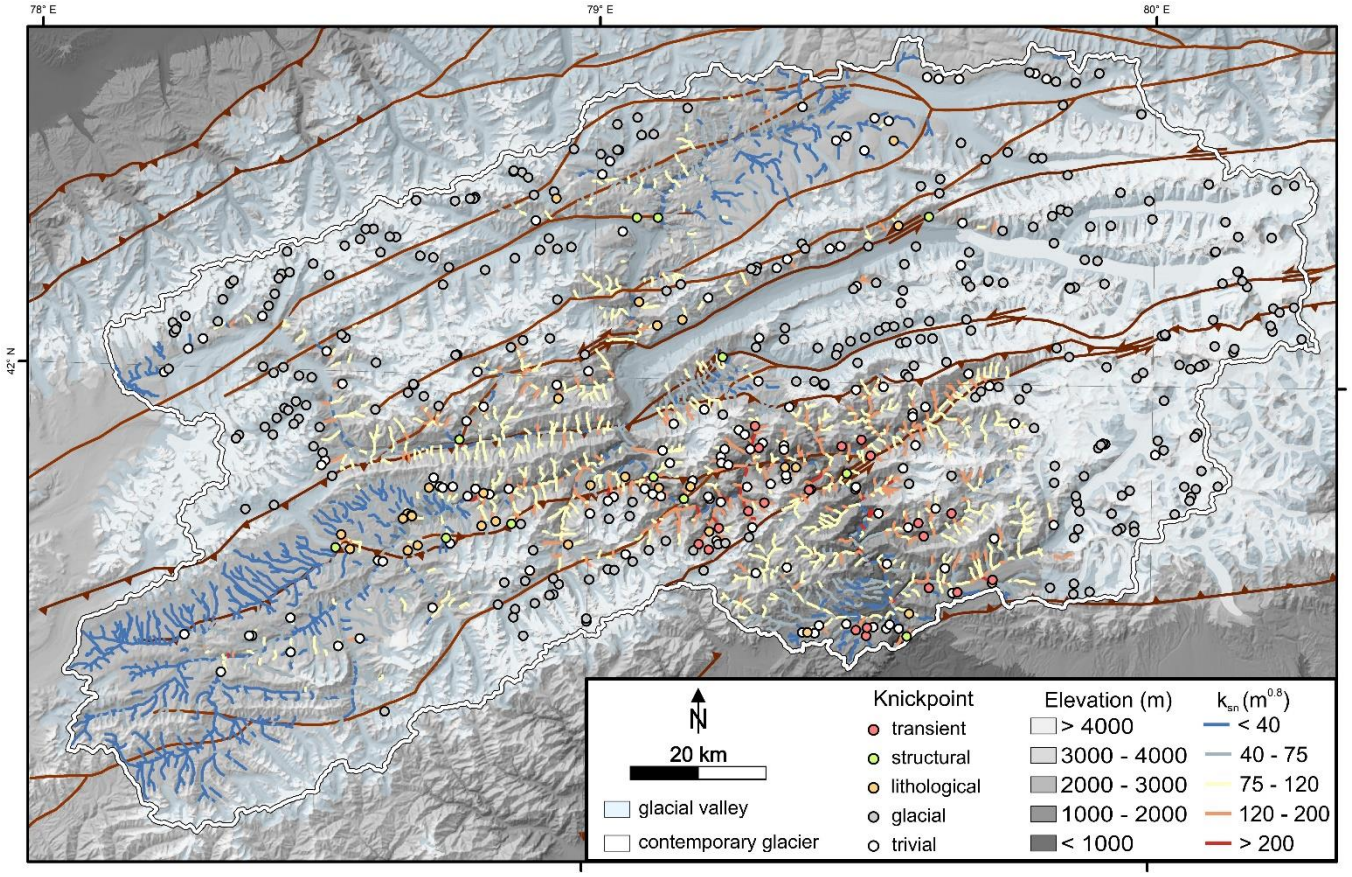

Figure S4 χ-plots of Saryjaz tributaries downstream of the "U-turn" that show major slope-break knickpoints. Red lines show linear regressions (in χ-space) of relict upstream reaches to the outlet of tributaries that were used to quantify incision depths. See Figure 5 for the locations of sub-catchments and knickpoints.

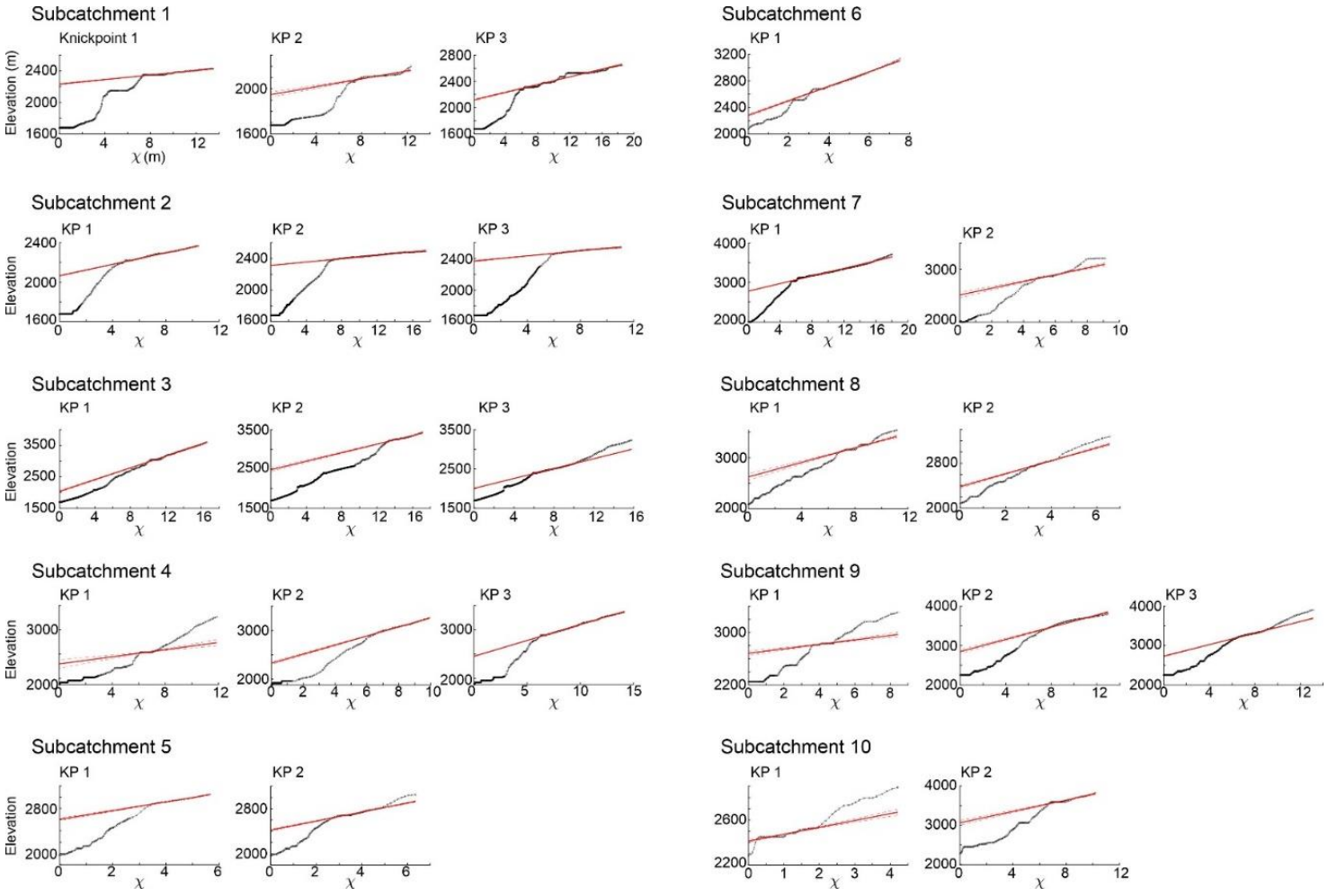

Figure S5 Box plot of k_{sn} values downstream and upstream of the slope-break knickpoints in the tributaries shown in Figures 5 and S4. See Table 1 for the values.

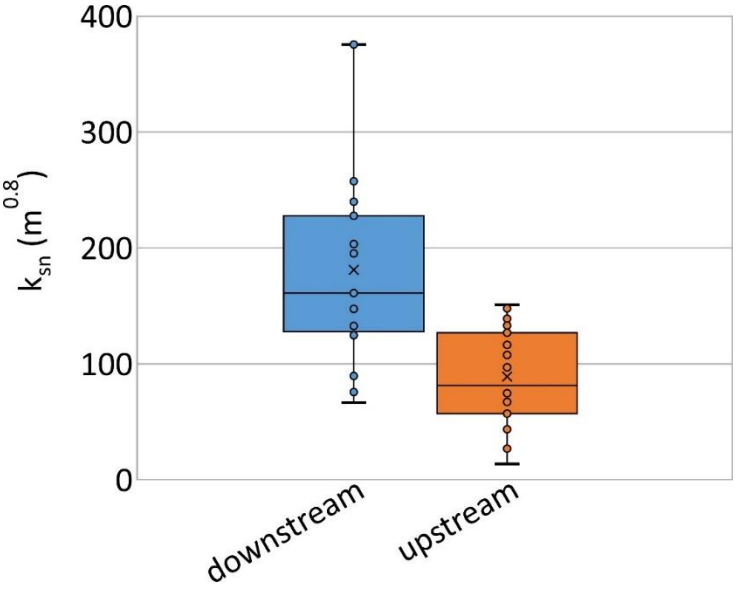

Figure S6 Google Earth image of the Saryjaz River in the vicinity of the "U-turn", showing inferred sedimentary remnants east of and high above the river. White arrows in rivers indicate flow directions.

Figure S7 Current drainage divide (white line) between the Saryjaz and Naryn catchments, with streams colored by (a) normalized channel steepness k_{sn}, and (b) χ-value. Basemap source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.