

Quick, L., Sinclair, H.D., Attal, M., and Singh, V., 2019, Conglomerate recycling in the Himalayan foreland basin: Implications for grain size and provenance: GSA Bulletin, <https://doi.org/10.1130/B35334.1>.

## Data Repository

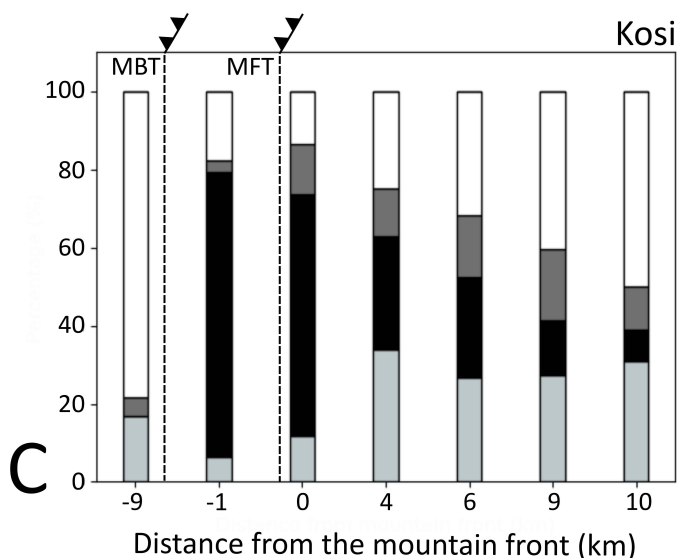
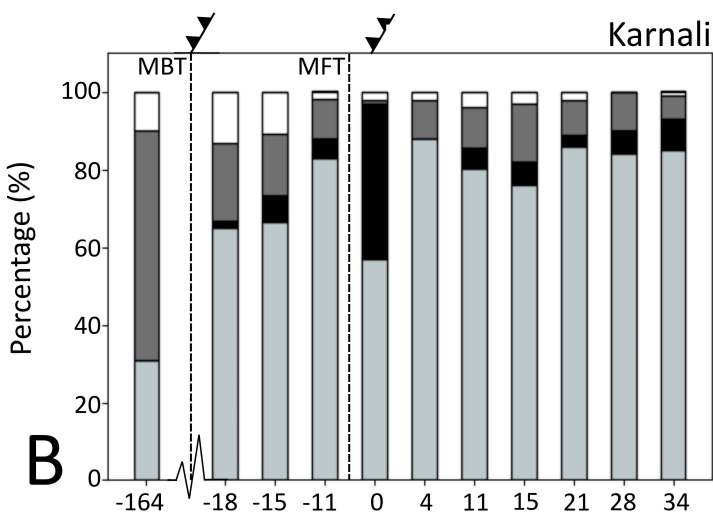
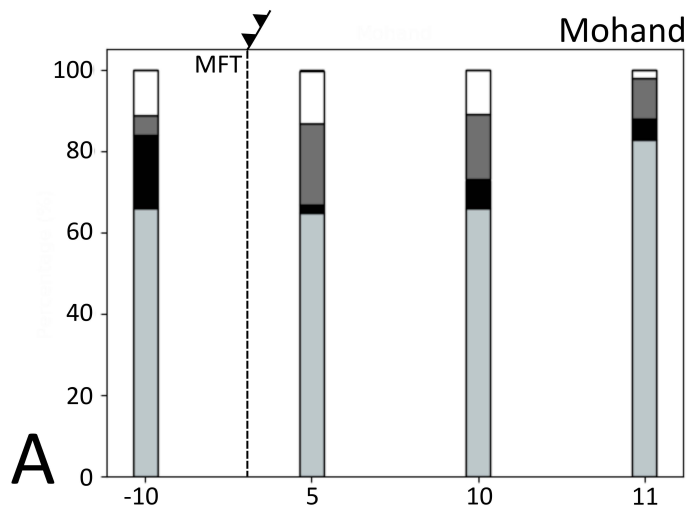
FIGURE A1. Pebble lithologies (including Lower-Middle Siwalik sandstone) documented on exposed gravel bars along the (A) Mohand, (B) Karnali and (C) Kosi rivers. Distances are relative to the mountain front, so negative distances are upstream of the mountain front.

Figure A2. (A) Relationship between isoperimetric ratio (IR) and axes ratio for quartzite pebbles in the Mohand, Karnali and Kosi rivers. Red line represents theoretical maximum IR as a function of the axis ratio. (B) Relationship between our newly defined normalized isoperimetric ratio ( $IR_{norm}$ ) and axis ratio for the three rivers.  $IR_{norm}$  isolates the roundness component from the elongation component: perfectly rounded pebbles are characterised by  $IR_{norm} = 1$  irrelevant of their axis ratio. (C) Relationship between  $IR_{norm}$  and quartzite pebble size (b-axis): there is no correlation between pebble size and roundness.

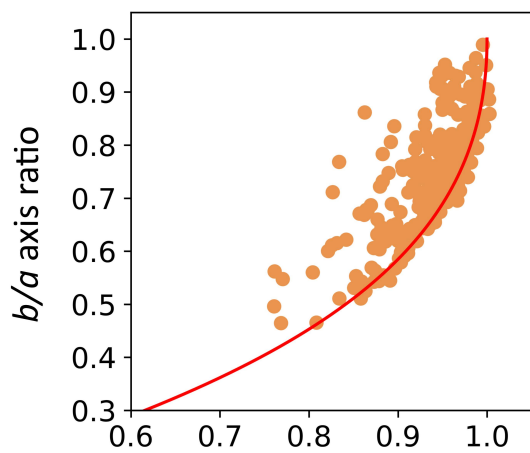
TABLE A1. Sample localities along the Mohand River.

TABLE A2. Sample localities along the Karnali River.

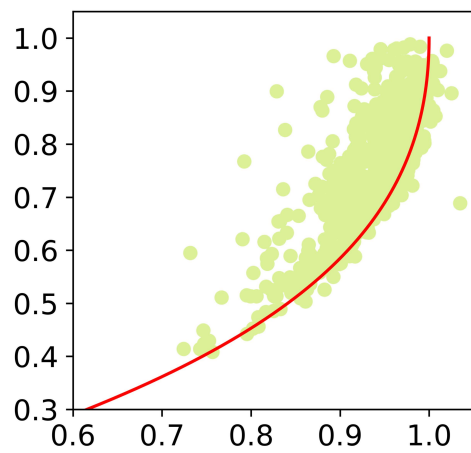
TABLE A3. Sample localities along the Kosi River.



Mohand



Karnali



Kosi

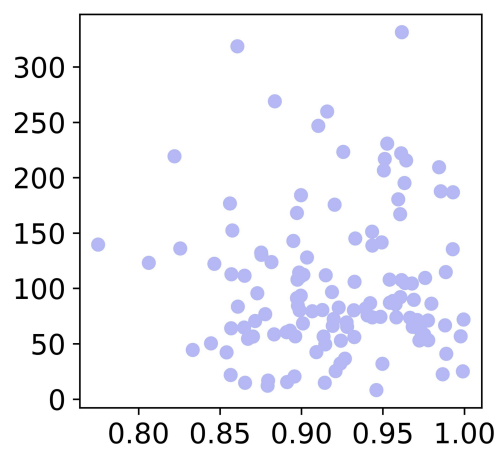
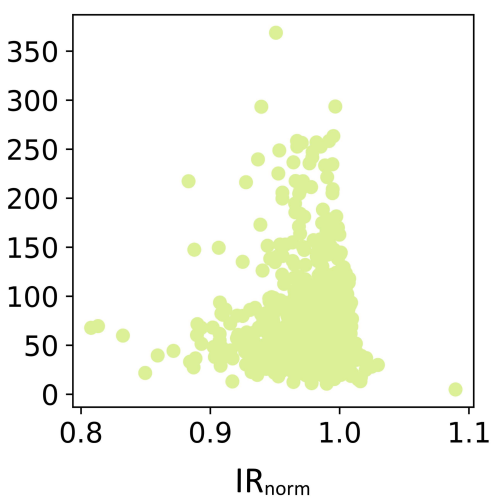
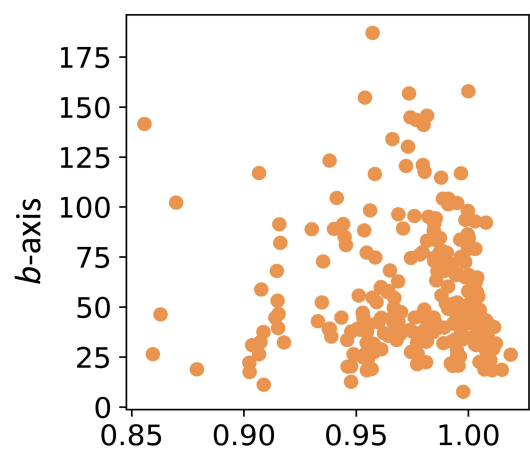
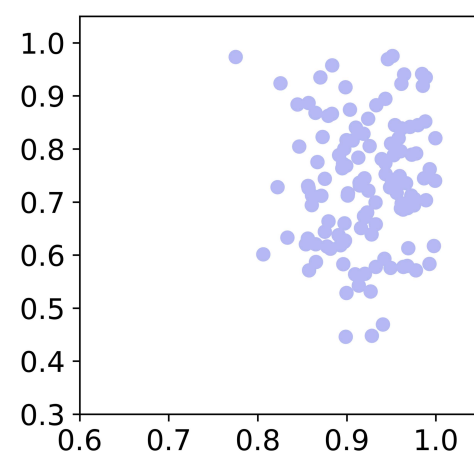
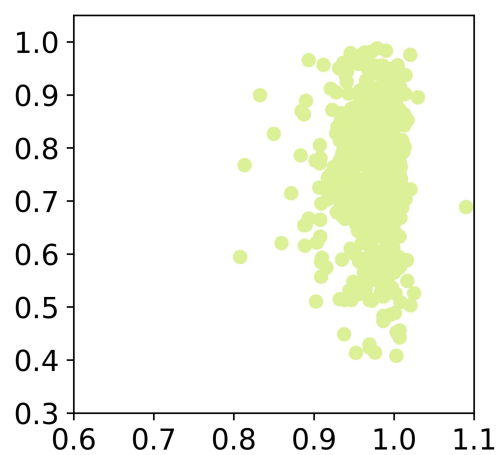
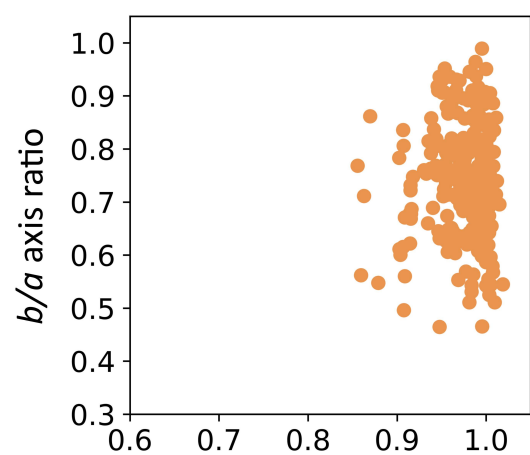
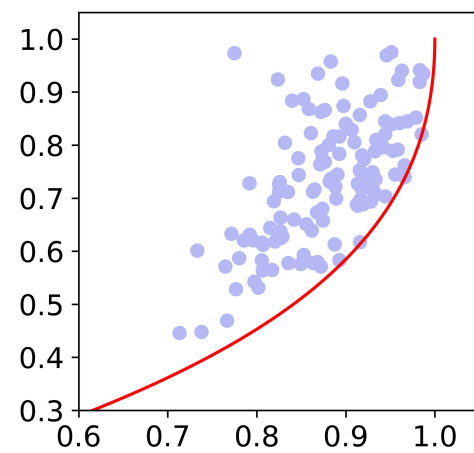


TABLE A1. SAMPLE LOCALITIES ALONG THE MOHAND RIVER

Sample	Data type	Latitude (°N)	Longitude (°E)	Location details
Gravel bar	Lithology, grain size (surface)	30.235996	77.950150	Within Siwalik conglomerate ~10 km upstream of MFT
Gravel bar	Grain size (surface)	30.217695	77.933832	Within Siwalik conglomerate ~7 km upstream of MFT
Gravel bar	Grain size (surface)	30.197842	77.914565	Within Middle Siwalik sandstone ~3 km upstream of MFT
Gravel bar	Grain size (surface)	30.175600	77.902492	Mountain front (MFT) Near Mohand town
Gravel bar	Lithology, grain size (surface and subsurface), shape	30.141309	77.876064	~5 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	30.104132	77.862792	~10 downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	30.091881	77.854739	~11 km downstream of MFT Near Telpura Bridge
Gravel bar	Grain size (surface)	30.074881	77.843810	~13 km downstream of MFT
Conglomerate	Lithology, grain size	30.235996	77.950150	Within Siwalik conglomerate ~10 km upstream of MFT

TABLE A2. SAMPLE LOCALITIES ALONG THE KARNALI RIVER

Sample	Data type	Latitude (°N)	Longitude (°E)	Location details
Gravel bar	Lithology, grain size (surface), shape	28.776703	81.580164	Above the MBT ~164 km upstream of the MFT
Gravel bar	Lithology, grain size (surface), shape	28.756816	81.253327	Within Siwalik conglomerate ~18 km upstream of the MFT
Gravel bar	Lithology, grain size (surface), shape	28.736067	81.262164	Within Siwalik conglomerate ~15 km upstream of the MFT
Gravel bar	Lithology, grain size (surface)	28.724044	81.274211	Within Siwalik conglomerate Near Kuine bridge, ~11 km upstream of MFT
Gravel bar	Lithology, grain size (surface), shape	28.631691	81.277637	Mountain front (MFT) Near Chisopani bridge
Gravel bar	Lithology, grain size (surface), shape	28.599792	81.259463	Bifurcation ~4 km downstream of MFT
Gravel bar	Lithology, grain size (surface), shape	28.569004	81.205424	~11 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	28.544683	81.186374	~15 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	28.507501	81.161264	~21 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	28.467970	81.111664	~28 km downstream of MFT
Gravel bar	Lithology, grain size (surface), shape	28.431828	81.072190	Sattighat bridge ~34 km downstream of MFT
Conglomerate	Lithology, grain size	28.724044	81.274211	Near Kuine village
Conglomerate	Lithology, grain size	28.734434	81.258173	~3 km upstream of Kuine village

TABLE A3. SAMPLE LOCALITIES ALONG THE KOSI RIVER

Sample	Data type	Latitude (°N)	Longitude (°E)	Location details
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.912110	87.158485	Above the MBT ~9 km upstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.854028	87.151549	Within Middle Siwalik sandstone ~1 km upstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.845011	87.149932	Mountain front (MFT)
Gravel bar	Lithology, grain size (surface)	26.811187	87.153804	Near Chatara ~4 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.799139	87.145019	~6 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.781528	87.124428	~9 km downstream of MFT
Gravel bar	Lithology, grain size (surface and subsurface), shape	26.774337	87.126746	~10 km downstream of MFT
Patchy gravel bar/ sand bar	Grain size (surface)	26.747081	87.120260	~12 km downstream of MFT
Patchy gravel bar/ sand bar	Grain size (surface)	26.726536	87.108414	~15 km downstream of MFT