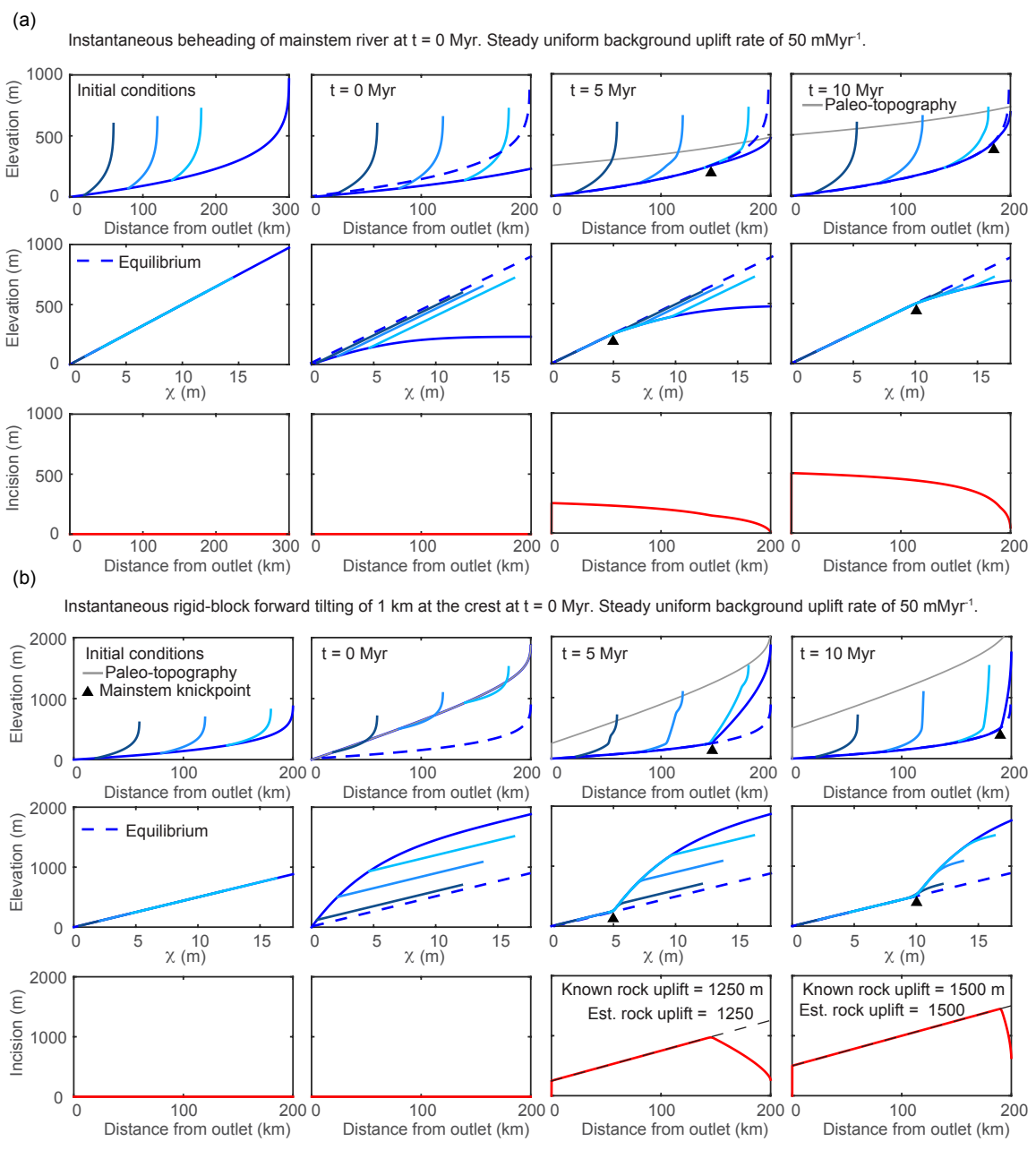
(a)
Instantaneous beheading of mainstem river at t = 0 Myr. Steady uniform background uplift rate of 50 mMyr-1.
Initial conditions
t = 0 Myr
t = 5 Myr
t = 10 Myr
Paleo-topography
Equilibrium
Elevation (m)
Incision (m)
Distance from outlet (km)
χ (m)
(b)
Instantaneous rigid-block forward tilting of 1 km at the crest at t = 0 Myr. Steady uniform background uplift rate of 50 mMyr-1.
Initial conditions
Paleo-topography
Mainstem knickpoint
t = 0 Myr
t = 5 Myr
t = 10 Myr
Equilibrium
Known rock uplift = 1250 m
Est. rock uplift = 1250
Known rock uplift = 1500 m
Est. rock uplift = 1500