2005 Fall Meeting
Search Results

Cite abstracts as **Author(s) (2005), Title, *Eos Trans. AGU, 86*(52), Fall Meet. Suppl., Abstract xxxxx-xx**

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HR: 11:25h
AN: **T52A-05**
TI Identification of a large-scale, N-S extensional feature in southeastern Tibet, using NASA SRTM data
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AB Topographic analysis of a NASA SRTM DEM in southern Tibet highlights regional, N-S oriented lineaments that include known rifts. The easternmost lineament at approximately 92° longitude in the eastern Tibetan Plateau is >350 km long and 15-20 km wide. This robust feature is characterized by very low slope and local relief compared to adjacent terrain. It demarcates a geomorphic boundary separating regions with dramatically different topographic characteristics. West of the lineament mean elevation is high and local relief and slope around stream channels are low. East of the lineament mean elevation is about 200 m lower than to the west. Local relief is several hundred meters and slope around stream channels is two times higher than to the west, indicating a higher degree of fluvial incision. Long profiles of streams draining away from the lineament are graded on either side. However, the Tsangpo River crosses the lineament, where a large knickpoint is evident in this otherwise graded portion of the river. To the west, the long profile is flat, and the below-flood level Tsangpo channel is wide (~500 m); to the east the long profile is steep and the river channel narrows to ~100 m wide. The lineament connects previously mapped, smaller, discontinuous rift basins located to the south and north. With a few exceptions, Quaternary sediments are not mapped within this feature suggesting it has developed recently and/or is controlled by low-angle detachments. The depth to which it extends is unknown, but depth-to-Moho measurements (Zurek et al., this session) show that crustal thickness decreases in this region from west to east and patterns in shear-wave splitting (Sol et al., this session) and GPS

vectors also show a distinct change from west to east. Due to the low slopes and low local relief characteristic of this feature and because it appears to connect known, active rift basins, it is most likely extensional.

DE: 1824 Geomorphology: general (1625)
DE: 8107 Continental neotectonics (8002)
DE: 8110 Continental tectonics: general (0905)
DE: 8175 Tectonics and landscape evolution
DE: 9320 Asia
SC: Tectonophysics [T]
MN: Fall Meeting 2005

New Search