

Preliminary data on plate-boundary deformation in Pakistan from GPS-Geodesy

Asif Khan, Faisal Khan and Abdul , NCEG, University of Peshawar,
Sarosh Lodi and Asif Sheikh, NED University Karachi
Din Mohammad Kakar, University of Baluchistan, Quetta
Roger Bilham and Walter Szeliga, University of Colorado, USA.
Rebecca Bendick, University of Montana, USA

A preliminary network of GPS geodesy was set up in Pakistan in 2001, which has now expanded to over 64 points. Our preliminary results show that much of Sindh province and the southern Punjab to be deforming insignificantly relative to the Indian plate; we find the Makran coast to be moving rapidly (18 mm/year) southward indicating a locked offshore region; we find post-seismic relaxation after the 2005 Kashmir earthquake to have largely ceased by 2009; interseismic convergence of the Karakorum ranges (>16 mm/yr) is reduced to 5-8 mm about a line from Peshawar to Islamabad indicating significant strain to focussed in the ranges to the north; we find the Potwar plateau to be moving at less than 3 mm SSE compared to its geologically estimated rate of 13 ± 2 mm/yr; and we have determined the geodetic rupture parameters of the 2005 Kashmir, and October 2008 Pishin Baluchistan earthquakes.