

# Ratio between the amount of offset stream channels and upstream length as an index of intramountain active strike-slip faults

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Stream channels, terrace risers, shorelines, and glacial moraines and valleys are good geomorphological markers that record offsets of faults which are generally used to evaluate the slip rate in active strike-slip faults. In the intramountain region, it is difficult to evaluate the activity of active faults because of the lack of dated geological and geomorphological markers. In order to evaluate the activity of intramountain active strike-slip fault, we have tried to focus on the relationship between the amount ( $D$ ) of deflected or offset stream channel and upstream length ( $L$ ) from deflected point by studying some typical strike-slip faults in central Japan and China. The statistical results show that there is a good linear relation ( $D=aL$ ) between  $D$  and  $L$  in the intramountain active strike-slip faults, but a wide variety in range-front active faults. It is also shown that there is a correlation  $s=10a$  between the coefficient  $a$  and strike-slip rates ( $s$ ) which were estimated from dated geological and geomorphological markers in the intramountain active faults. It is possible that the range-front faults juxtapose the steep mountain slope and wide basin so that the deflected stream would be abandoned or straightened and eventually did not record the accumulated deflection of stream channel. These results suggest that the coefficient  $a$  may be used as a special index for evaluating the slip rate in intramountain active strike-slip faults in which the dated geological and geomorphological markers are absent.