

Fluvial Geomorphology Suggests Recent Tectonic Activity Near the Northern Barrier Range, Western New South Wales

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Abstract: Large faults expressed at the ground surface often have clear effects on drainage networks, but smaller scale tectonic activity, or that which occurs beneath sediments, can have more subtle effects (e.g. changes to valley slope can increase meander sinuosity or promote anabranching). In the Fowlers Creek terminal floodout, the channel is sinuous but active meandering occurs in only two reaches. These reaches have higher slopes and show traces of repeated avulsions. Underlying uplift is suggested. Other nearby planform irregularities suggest a concealed large tectonic feature. In earthquake hazard mapping, fluvial geomorphology can be a useful indicator of neotectonic activity.