

The Indo-Burman Ranges in western Myanmar extend along the Sunda Arc subduction zone and may be divided into a western portion of Neogene sedimentary rocks and an eastern portion of Palaeogene sedimentary rocks, separated by the Kaladan Fault. Both Himalayan and Burman sources have been proposed for these sediments. Our thermochronological analyses on detrital grains, isotopic analyses on bulk rock, and petrographic and heavy mineral data indicate that the Palaeogene Indo-Burman Ranges contain a significant component of arc-derived material, interpreted as derived from the Burmese portion of the Mesozoic–Tertiary arc to the east. An older crustal component is also identifiable, which may have been sourced from the Himalaya or the Burmese margin. By contrast, the Neogene Indo-Burman Ranges show dominant derivation from the Himalaya. A minor arc-derived component may have been sourced from the Trans-Himalaya, or recycled from the arc-derived Palaeogene Indo-Burman Ranges.