

Neoproterozoic Orogenic Events in Northwest China

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Significant Neoproterozoic orogenic events have been distinguished from two places in northwest China. One is located at the southern belt of the Beishan Ranges of Gansu Province, the other along the north margin of the Qaidam Basin of Qinghai Province.

The orogenic events are characterized by extensive granitic gneisses with eclogite enclaves. $880 \pm 31\text{Ma}$ and $861 \pm 74\text{Ma}$ of single zircon U-Pb ages have been reported from the granitic gneiss and eclogite in the southern belt of the Beishan Ranges respectively. And a series of Neoproterozoic U-Pb zircon ages from granitic gneisses in the north margin of the Qaidam Basin were measured. Three isotopic ages of different methods for the eclogite from the north margin of the Qaidam Basin were recently obtained. Both Ar-Ar and Sm-Nd ages of the eclogite are ca. 550 Ma. However, a reference U-Pb zircon age is $760 \pm 10\text{Ma}$. Based on the isotopic data and other features of the granitic gneiss and eclogite, it is reasonable to infer that there was systematic response to the assembly of Rodinia during the early Neoproterozoic in northwest China.