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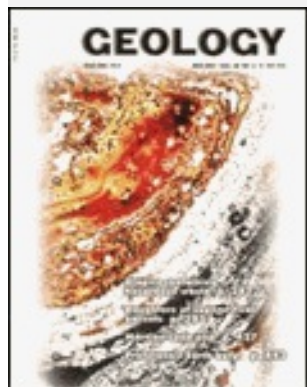
Volume 29, Number 5

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Late Quaternary arroyo formation and climate change in the American Southwest

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Arroyos, entrenched ephemeral streams that form in desert environments, first appeared in the arid and semiarid American Southwest after 8000 ^{14}C yr B.P. For at least 7 k.y. prior to that time, climate, vegetation, and groundwater conditions were not conducive for arroyo formation along the floors of desert valleys. After a hiatus in arroyo formation, the frequency of arroyo cutting and filling increased dramatically after 4000 ^{14}C yr B.P. The early Holocene arroyos and increased frequency of arroyo incision after 4000 ^{14}C yr B.P. are related to the establishment and changes in postglacial vegetation, climate, and groundwater conditions. As a result, arroyo sequences preserve a record of large-scale climate change and small-scale climatic perturbations that occurred during the Holocene. Human modification of valley flood plains is an additional factor that contributed to mid-nineteenth and early twentieth century arroyo cutting.

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N26°00'00" - N37°00'00", W114°45'00" - W93°30'00"
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N31°23'60" - N32°30'00", W113°22'00" - W110°28'00"
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