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Erratum

Erratum to "Holocene alluvial stratigraphy and response to climate change in the Roaring River valley, Front Range, Colorado, USA" [Quat. Res.78 (2012) 197–208]

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Due to a typesetter error in the final online and print versions of this article, the term "mid- to late Holocene interval" should have read "mid-late Holocene interval".

The corrected Abstract and second paragraph of the "Late Holocene (4000 cal yr BP-present)" section, page 206, are shown below. The publisher apologizes for the error.

Abstract

Stratigraphic analyses and radiocarbon geochronology of alluvial deposits exposed along the Roaring River, Colorado, lead to three principal conclusions: (1) the opinion that stream channels in the higher parts of the Front Range are relics of the Pleistocene and nonalluvial under the present climate, as argued in a water-rights trial USA v. Colorado, is untenable, (2) beds of clast-supported gravel alternate in vertical succession with beds of fine-grained sediment (sand, mud, and peat) in response to centennial-scale changes in snowmelt-driven peak discharges, and (3) alluvial strata provide information about Holocene climate history that complements the history provided by cirque moraines, periglacial deposits, and paleontological data. Most alluvial strata are of late Holocene age and record, among other things, that: (1) the largest peak flows since the end of the Pleistocene occurred during the late Holocene; (2) the occurrence of a mid-late Holocene interval (~2450–1630(?) cal yr BP) of warmer climate, which is not clearly identified in palynological records; and (3) the Little Ice Age climate seems to have had little impact on stream channels, except perhaps for minor (~1 m) incision.

Page 206, right column:

The conclusion that climate warmed after the first interval of gravel deposition is based on the nature and organic matter content of wetland sediment at several localities and the paleoecology of insect fauna. Wetland sediment began to accumulate at the Paleolake Tileston locality about 2430 ± 120 cal yr BP (Fig. 3B), and according to a radiocarbon age (2400 ± 130 ^{14}C yr BP) reported by Elias et al. (1986), it began accumulating at the Beetle locality about the same time (2450 ± 190 cal yr BP). Elias et al. (1986) estimated that at least half of a 20-kg sample of wetland sediment from the Beetle locality consisted of organic detritus (wood, needles and cones of conifers, seeds, and twigs) containing extremely abundant fossil insects. They extracted a minimum of 1975 individual insects from the sample, and concluded, "on the whole, the fossil insect fauna is representative of modern environmental conditions at the site". This mid-late Holocene interval of warmer, drier climate has not been described in palynological records in the Front Range or in other ranges of the southern Rocky Mountains, except for the work of Petersen and Mehringer (1976) at Twin Lakes in the La Plata Mountains of southwestern Colorado (Fig. 1C). The end date for this interval of warmer climate is uncertain; the youngest radiocarbon ages obtained for it are 1820 ± 50 (Fig. 3B) and 1810 ± 70 cal yr BP (Fig. 3C). Given that 40 cm of wetland unit B accumulated at Paleolake Tileston after 1810 ± 70 cal yr BP, deposition of the unit possibly continued until 1630 cal yr BP, which is the younger end of the 2σ-age range of 1810 ± 70 cal yr (Table 1).

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