Autogenic Incision and Terrace Formation Resulting from Abrupt Late-Glacial Base-Level Fall, Lower Chippewa River, Wisconsin, USA

Geomorphology

During the peak of the last continental glaciation, ~25-20,000 years ago, the upper Mississippi and lower Chippewa rivers were large meltwater streams overloaded with glacier-derived sediment. As a result, both deposited thick fills of sand and gravel (or outwash) in their valleys. Then, sometime between 18,000 and 13,000 years ago, the Mississippi abruptly incised over 150 ft into its outwash fill, causing the Chippewa to incise in response. This paper presents an analysis, based on multiple lines of geomorphic evidence, of the Chippewa’s incision response. It has, in brief, included several incision episodes separated by periods of stability, a process that continues to the present day.