Confidence Intervals for Bulletin 17C Flood Frequency–What Do We Know?

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Guidelines for estimating flood frequency in the United States were recently revised in Bulletin 17C, based on innovations developed by the late Dr Tim Cohn, USGS. These new methods include a generalized method-of-moments estimator, the Expected Moments Algorithm (EMA), that fully utilizes historical and paleoflood data and other interval estimates. A generalized version of the Grubbs-Beck test (MGB) is used for the identification of potentially influential low floods (PILFs). Confidence intervals are based on an improved quantile variance estimator and cover the range of flood skews observed in the United States. Interesting aspects of these confidence intervals, given long paleoflood records, are explored to show what we know or do not know about tail behavior and estimates of extreme floods.