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Accounting for intersite correlation in regional flood frequency analysis.

Annual maximum series from a group of catchments in a region are assumed to follow the Extreme Value Type I (Gumbel) distribution with either a common coefficient of variation or a common L-coefficient of variation as basis for estimation of extreme events using the index-flood method. Ungauged estimation has been carried out by regression of, respectively, the at-site mean values and the at-site estimated annual maxima. It is shown that accounting for intersite correlation can be important in regional flood frequency analysis unless the correlation is very small, if the prediction uncertainty should be realistically assessed.