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Estimating percentiles of black-box deterministic functions with random inputs is a challenging task when the number of function evaluations is severely restricted, which is typical for computer experiments. This article proposes two new sequential Bayesian methods for percentile estimation based on the Gaussian Process metamodel. Both rely on the Stepwise Uncertainty Reduction paradigm, hence aim at providing a sequence of function evaluations that reduces an uncertainty measure associated with the percentile estimator. The proposed strategies are tested on several numerical examples, showing that accurate estimators can be obtained using only a small number of functions evaluations.