Highlights:

* Digital implementation of a chaotic map results in a pseudo chaotic map due to numerical discretization.
* Stochasticity and mixing are relevant to characterize a chaotic behavior.
* We use quantifiers from information theory to characterize the evolution of simple and switching maps in based-2 precisions.
* As result we encountered that a long period is not synonymous of good statistics.
* Also, the statistics of the maps represented in fixed-point produces a non-monotonous evolution toward the floating-point results.