

Abstract:

The drought in Ethiopian Highlands, source of the Nile flood, has been in the news off and on since the early 1970s, to such an extent that it can be inquired if the Nile basin users are exposed to a drought risk increasing in time. Based on a methodology previously used for flood risk assessment, this article aims to study the progressive modification of the likelihood of the occurrence of a certain drought event in the Nile River, based on the longest annual record available at the Aswan station. The record is thoroughly studied to detect possible trends. It is then divided into subsamples, on which frequency analyses were performed using the Linear Moments (L-moments) method. L-moments perform well with short records and are less sensitive to extremes. The 10-, 25-, 50- and 100-year droughts are estimated based on every subsample, than the temporal evolutions of these estimates are investigated. The result of this analysis shows a weaving pattern, which is thoroughly examined and discussed.