

Water resource management is crucial during low flow periods, whereas high flow estimation is essential for the prevention against flooding during high flow periods. In this study, we analyzed the long term historical data from the Hydro-Climatic Data Network (HCDN) from 1700 stations within the 21 regions across the entire 50 states of the United States. The tool developed by Environmental Protection Agency (EPA), DFLOW, was utilized to estimate 7Q10 low flows, and PeakFQ software was utilized to systematically estimate 100-year and 500-year floods within 95% confidence interval. We found a general pattern when comparing the 7Q10 values to the 100-year and 500-year return period peak flow indicating higher 7Q10 values may correlate to 100-year and 500-year return period flows.