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## Regional Assessment of Temporal Changes in Flood Frequency and Magnitude

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## Regional Assessment of Temporal Changes in Flood Frequency and Magnitude

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**Abstract:** Temporal analysis of flood frequency and magnitude have been studied for their significance in hydraulic design. The Bulletin 17B Log-Pearson Type III flood frequency analysis, developed by the USGS, is one of the most common analysis frameworks and has even been incorporated in automated software packages (Flynn et al., 2006). However, the inherent assumption of stationarity in most of these analyses is no longer applicable under changing climate conditions. This study summarizes a reanalysis of USGS peak flow gage records in the United States over the last 60 years in an attempt to quantify the temporal trends in flood frequency. The Cloud Services Integration Platform (CSIP) model-as-a-service cloud-computing platform was used to perform the analysis using the Bulletin 17B flood frequency method for all stream monitoring stations across the Nation. Results indicated regional temporal trends and spatial patterns to changes in flood frequency across the continental U.S.

**Keywords:** flood; regional; temporal; trends