

LACUNARITY ANALYSIS OF STREAM FLOW TEMPORAL SERIES IN ATIBAIA AND JAGUARI RIVER BASIN

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- **ABSTRACT:** *In this work we apply lacunarity analysis to compare the dynamics of daily stream flow temporal series in the Atibaia and Jaguari river basins, for the periods before and after the construction of Cantareira system which was built to export approximately $31\text{m}^3\text{s}^{-1}$ from Piracicaba river basin to the metropolitan region of São Paulo city. The results demonstrate the efficiency of lacunarity analysis in evaluation of human impact on natural river flow regime. After the construction of water reservoirs the values of lacunarity and exponent β decrease, indicating more uniform distribution of periods with stream flow below chosen thresholds, and less heterogeneity in temporal variability of stream flow.*
- **KEYWORDS:** *Lacunarity; stream flow; Cantareira system.*

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