

Sensitivity Analysis of High and Low Flow Metrics to Climate Variations

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Abstract

Natural hydrology systems, including high flow and low flow events, are important for aquatic ecosystem health and are essential for controlling the structure and function of ecological processes in river ecosystems. Ecosystem responses to flow changes have been studied in a variety of ways, but little attention has been given to how episodic typhoons and atmospheric circulation patterns can change these hydrologic regime-ecological response relationships. In this diagnostic study, we use an empirical approach to investigate the salient features of interactions between atmospheric circulation, climate, and runoff in the five major Korean river basins.

Key words: Typhoon, High Flow, Low Flow, Climate Variability, Atmospheric Circulation Patterns

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