A REVIEW OF LOW-FLOW HYDROLOGY

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ABSTRACT

The purpose of this article is to assess the present state of low-flow hydrology, which is the study of the lowest flow in a river during the dry seasons of the year. The topic begins with an examination of low-flow producing processes under natural circumstances, as well as a description of human variables that influence low flows directly or indirectly. Following that, a review of current low-flow estimate techniques from stream flow time-series is presented, including flow duration curves, frequency analysis of severe low-flow occurrences and continuous low-flow periods, baseflow separation, and stream flow recession characterization. The article goes through a number of low-flow features (indices) and their uses. The connections between low-flow features are shown in a separate section. A regional regression approach, graphical depiction of low-flow features, creation of regional curves for low-flow prediction, and application of time-series simulation methods are among the approaches for low-flow estimate in ungauged river catchments discussed in the article. The article provides an overview of current low-flow-related research efforts from across the world. The issue of fluctuating minimum river flows as a consequence of climatic variability, as well as specific uses of low-flow data in river ecological research and environmental flow management, are also addressed. The review is mainly based on research findings from the previous two decades.

KEYWORDS: *Base, Flow Duration, Curve, Hydrology, Low Flow.*

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