Eastern Region Flash Flood Conference - Abstract

Hydrologic Response Determination: A Multiple Analysis Approach

Many fast responding watersheds that pose a significant risk of flash flooding have an inadequate or inappropriate gauging record necessary to develop and calibrate a hydrologic model against. In some instances, the gauging record may not be of a long enough duration for a meaningful analysis to be performed, in other instances, the gauge may not be located in an area that captures the hydrologic response of the entire drainage area. In these instances, a multiple analysis approach may be appropriate and can increase confidence in the hydrologic model. FFA gauge analysis, regional regression equations, paleoflood analysis and numerical modeling can be jointly used to create an envelope of hydrologic responses for different recurrence interval rainfall events. The development of discharges from multiple sources provides insight into the potential uncertainty in the watersheds response to rainfall events. Understanding this uncertainty can aid the floodplain manager in administrating the floodplain and reducing risk.

Senior Engineer, DHI Water & Environment, Inc. 319 SW Washington Street, Suite 614, Portland, OR 97204. (503) 827-5900. E-mail: ejf@dhi.us