

HR-268 Method For Estimating the Magnitude and Frequency of Floods at Ungaged Sites on Unregulated Streams in Iowa

Key Words: Flood frequency, Stream flow, Flood magnitude, Stream Gaging

ABSTRACT

This report provides techniques and procedures for estimating the probable magnitude and frequency of floods at ungaged sites on Iowa streams. Physiographic characteristics were used to define the boundaries of five hydrologic regions. Regional regression equations that relate the size of the drainage area to flood magnitude are defined for estimating peak discharges having specified recurrence intervals of 2, 5, 10, 25, 50, and 100 years. Regional regression equations are applicable to sites on streams that have drainage areas ranging from 0.04 to 5,150 square miles provided that the streams are not affected significantly by regulation upstream from the sites and that the drainage areas upstream from the sites are not mostly urban areas. Flood frequency characteristics for the main systems of selected rivers are presented in graphs as a function of drainage area.