HDS-2 Highway Hydrology, 2nd Ed

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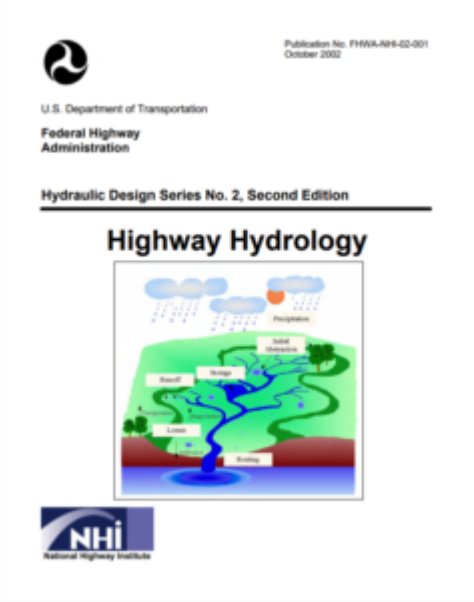

This document discusses the physical processes of the hydrologic cycle that are important to highway engineers. These processes include the approaches, methods and assumptions applied in design and analysis of highway drainage structures.

Hydrologic methods of primary interest are frequency analysis for analyzing rainfall and ungaged data; empirical methods for peak discharge estimation; and hydrograph analysis and synthesis.

The document describes the concept and several approaches for determining time of concentration. The peak discharge methods discussed include log Pearson type III, regression equations, the SCS graphical method (curve number method), and rational method. The technical discussion of each peak flow approach also includes urban development applications.

The document presents common storage and channel routing techniques related to highway drainage hydrologic analyses. The document describes methods used in the planning and design of stormwater management facilities. Special topics in

hydrology include discussions of arid lands hydrology, wetlands hydrology, snowmelt hydrology, and hydrologic modeling, including geographic information system approaches and applications.

This edition includes new sections on wetlands hydrology and snowmelt hydrology, an expanded section on arid lands hydrology, corrections of minor errors, and inclusion of dual units.