

**Texas A & M University and U.S. Bureau of Reclamation
Hydrologic Modeling Inventory
Model Description Form**

JUNE 18, 1999

Name of Model:

Illinois Hydrodynamic Watershed Model III (IHW-III)

Model Type:

IHW-III is an event-based two-dimensional catchment runoff model

Model Objective(s):

To provide high accuracy simulation of 2-D catchment runoff

Agency and Office:

V.T. Chow Hydrosystems Lab, University of Illinois at Urbana-Champaign

Technical Contact and Address:

Model developed by V.T. Chow and A. Ben-Zvi, Contact Dr. Ben C. Yen, Dept. of Civil and Environmental Engineering, University of Illinois, 205 N. Mathews Ave. Urbana, IL 61801, Fax: (217) 333-0687

Model Structure or Mathematical Basis:

2-D Saint-Venant equations solved by a variation of Lax-Wendroff's numerical scheme.

Model Parameters:

Spatial Scale Employed in the Model:

Simplified overland surfaces and channel

Temporal Scale Employed in the Model:

Single event

Input Data Requirements:

Computer Requirements:

Model Output:

Runoff hydrographs, depth and velocity of flow in watershed

Parameter Estimation / Model Calibration:

Model Testing and Verification:

Verified with experimental data

Model Sensitivity:

Model Reliability:

Please see the HMI web page: <http://www.usbr.gov/hmi>
Forms are available in Text file, HTML, MS Word and WordPerfect formats
This effort is being conducted by River Systems & Meteorology Group: <http://www.usbr.gov/rsmg>

Model Application / Case Studies:**Documentation:**

Chow, V.T. and Ben-Zvi, A., "The Illinois Hydrodynamic Watershed Model III (IHW-III)," Civil Eng. Studies Hydraulic Eng. Series 26, University of Illinois at Urbana-Champaign, September 1973.

Other Comments:

This is the first successful two-dimensional numerical watershed model