HMR52

Model Uses	HMR52 is a physical model used for computing precipitation for 'Probable Maximum Storms' and 'Probable Maximum Precipitation' for basins and sub-basins.

Major Categories	Hydrology and Water Use; Climate	**Subject Knowledge Level**	Intermediate
Minor Categories	Precipitation; Watershed Conditions	**Technical Difficulty Level**	Intermediate
Model Type	Physical Model	**Geographic in Nature?**	Semi

Abstract

BOSS's HMR52, is a physical model based on HEC's HMR52 program that helps engineers compute basin-averaged precipitation for Probable Maximum Storms (PMS), and corresponding spatially-averaged Probable Maximum Precipitation (PMP) for a basin or combination of watershed sub-basins.

The program maximizes the precipitation from a storm by breaking the storm area into a set of concentric, elliptically-shaped isohyets, each representing different percentages of the storm's total rainfall. The program will automatically size, position, and orient the storm so that it will produce the maximum precipitation on the user-defined drainage basin. Since the PMP may not produce the Probable Maximum Flood (PMF), the storm-area size, position, and orientation can be adjusted by the user to maximize the PMF. The PMP data computed by BOSS HMR52 can be directly exported to HEC-1 to compute and plot the PMF hydrographs.

Future Developments
Unknown

Model Limitations
Unknown

Model Features

- Built-in Error Checking

- Menus and Help Screens

- Detailed Data Input Screens

- Ability to export data directly into HEC-1 for computation and plotting of hydrographs

- Infers spatial information and attributes in order to quantify maximum probabilities for events

Required Data Types
Data entry is performed through a series of data entry screens and includes information such as basin size, precipitation amounts, and drainage sizes.

Model Outputs
Output information includes information pertaining to Probable Maximum Flood, storm area sizes and generally assumed orientation. Data can also be exported from HMR52 directly into HEC for the creation of hydrographs.

Hardware Requirements
None noted

Software Requirements
None required, though HEC may be used

Supported Platforms

DOS	☐	**UNIX**	☐
Windows	☒	**Macintosh**	☐

Cost, Licensing and Availability
$570 – Single license

Source
BOSS International

Source URL
http://www.bossintl.com/html/hmr52_details.html