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

Name of Model:

WASMOD

Model Type:

Conceptual

Model Objective(s):

Water balance studies

Agency and Office:

Uppsala University

Technical Contact and Address:

Department of Earth Sciences, Hydrology, Villavagen 16, S-75236 Uppsala, Sweden

Model Structure or Mathematical Basis:

Water balance plus nonlinear relation between storage and discharge

Model parameters:

3 to 6 parameters depending on input data

Spatial Scale Employed in the Model:

Small to medium sized catchments

Temporal Scale Employed in the Model:

Weekly to seasonal

Input Data Requirements:

Minima requirement: precipitation; preferable: potential evapotranspiration, temperature

Computer Requirements:

Any PC computer

Model Output:

River flow, soil moisture index, actual evapotranspiration and other water balance components

Parameter Estimation/Model Calibration:

Automatic optimization

Model Testing and Verification:

The model has been tested on various aspects, such as influence of calibration period, input data

errors, ability in simulating hydrological impact of changed climate, etc.

Model Sensitivity:

Sensitive to precipitation data error, not so sensitive to potential evapotranspiration data error

Model Reliability:

Minima 5 years calibration data, preferable 10 years

Model Application/Case Studies:

Has been used on more than 100 catchments in over 20 countries Documentation: the program is written in Fortran and contains an optimization routine.

Other Comments:

It has been tested that it is possible to establish regression equations between model parameter values and catchment physical characteristics.