# HBV–STATE OF ART HYDROLOGICAL MODELLING

The HBV model was originally developed by SMHI in the early 1970s to assist hydropower operations. The aim was to create a conceptual hydrological model with reasonable demands on computer facilities and calibration data. The HBV approach has proved flexibility and robustness in solving water resources problems, and it is used for a broad range of applications in more than 80 Countries around the world.

The HBV model is today an Integrated Hydrological Modelling System (IHMS): a modern, well tested and operational tool that can be linked with real time weather information and forecast systems. The HBV model and forecasts assist management, enhance safety and optimize production.

THE HBV/IHMS INCLUDES FEATURES AS:
- Database and modules for data quality control.
- Area-elevation distributions and snow routines.
- Parameter setting with respect with land use and soil classification.
- River routing sub-routines.
- Automatic updating procedures.
- Reservoir management/operation strategies.
- Menu-driven user interface with Windows™.
- Option for automatic model calibration and model runs.
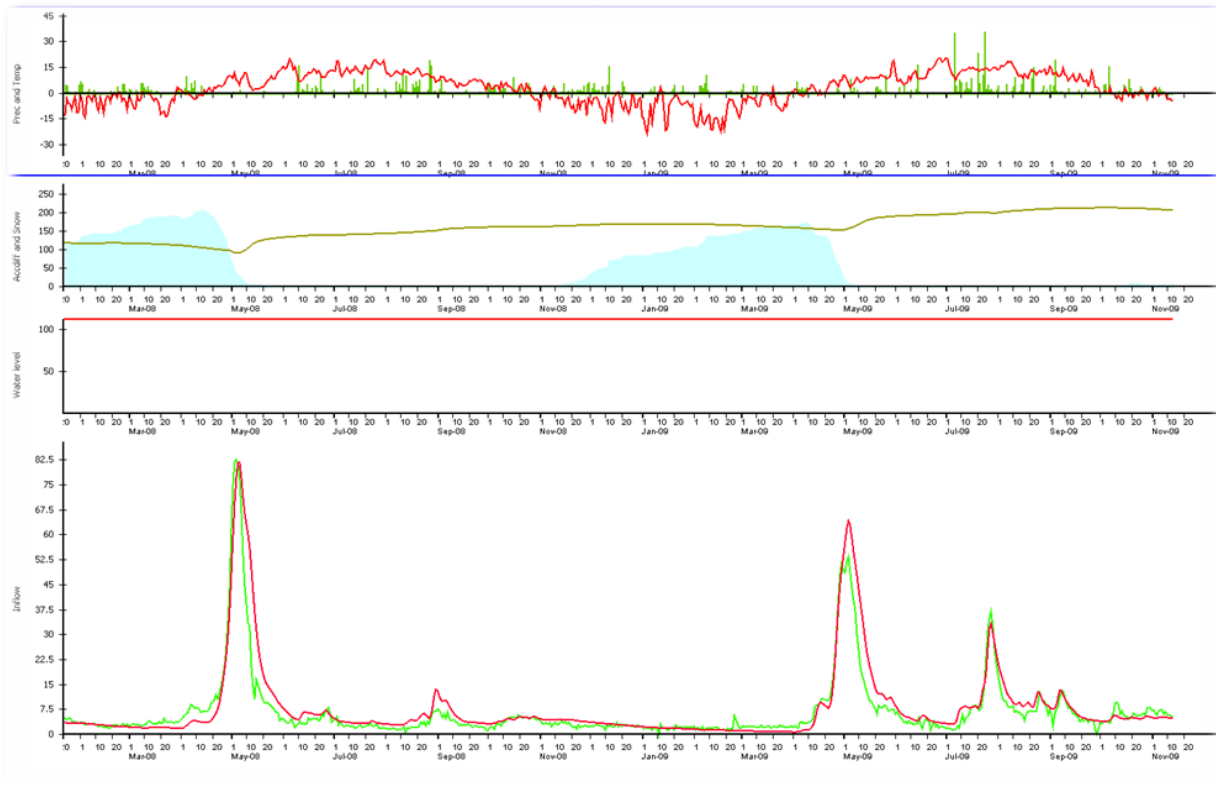
HBV APPLICATIONS

Hydropower: short term inflow forecasts for operational hydropower planning at dispatch centers and volume forecasts of up to a year for seasonal reservoir planning. This is used by the hydropower industry both in Sweden and worldwide.

Dam safety: Design flood computations including reservoir management strategies.

Climate change: Studies of the effect of changing climate conditions on run-off patterns, soil moisture, ground water recharge and evapotranspiration.

Flood warnings: Stream flow and volume forecasting for appraisal of flood risks and development of flood risk maps.

Pre-feasibility studies: Quality control of water stage and discharge records, extension of historical records and ground water simulations.

Water supply: Soil moisture simulations, water balance mapping for water demand plan.

SMHI OFFERS

■ Commercial and non-commercial license conditions depending on type of user and application.

■ Training covering HBV model theory, modules and use of IHMS, calibration and regulation routines, together with hands-on exercises.

■ Support services to help set up your own model.

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