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Testing TOPMODEL for flow prediction in ungauged basins.

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The diverse types of measurements and observations performed at the Vallcebre small research basins made possible the tentative application of a common version of TOPMODEL using information that might be obtained in a basin without permanent instrumentation. Point peak stream discharge estimates and discrete water table depth observations were used for conditioning the model comparing observed and predicted values, whereas discrete measurements of recession flows, water table depths and the extent of saturated areas were used for obtaining the probability density distributions of model parameters without running the model. The validation of the model with continuous flow records demonstrated that these discrete observations may substitute with advantage the usual model calibration with continuous discharge records, in terms of the reduction of the uncertainty associated with model predictions.