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# AFFDEF: A spatially distributed rainfall-runoff model for continuous time simulation of river discharge and change analysis

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AFFDEF is a spatially distributed rainfall-runoff model that is publicly available via the World Wide Web. The model is grid based and performs continuous time simulations of river flows at any time step and at any location in the catchment. Conceptual and physically based schemes are employed for simulating the rainfall-runoff transformation. AFFDEF's main strength is its computational efficiency, which allows the model to perform long simulation runs (e.g. thousands of years at hourly time step). Furthermore, AFFDEF does not require extensive information in terms of historical hydrological data or geomorphology of the contributing area. It may, therefore, represent a powerful tool for performing hydrological simulation studies. The model code, written in FORTRAN programming language, provides a user friendly and ready to use tool that runs on personal computers, as well as UNIX systems. We believe that AFFDEF may represent an easy model to use and attractive instrument for hydrological applications where long simulation runs of river flows are needed at different locations of the catchment. Of particular interest is the possibility to generate river flows data in ungauged cross-sections of the watershed and the possibility to investigate the impact of hydrological change.