

Distributed hydrologic modelling of runoff in Sebaou watershed (Algeria).

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Abstract :

The knowledge of the water cycle and the assembly of these steps in a model, is a prime necessity in the construction and development of an effective modeling tool and adapted to the use that will be made.

There are a multitude of hydrological models, which aims to reproduce the relationship between climate forcings and river flows in a given watershed. Among the existing models, deterministic models, which are separated into two categories: distributed models and global models. In the first case, the basin is modeled by explicitly considering the spatial variability of data and flow characteristics, the model variables are functions of space and time. However in global models, the effect of catchment is grouped into a single system. Given the heterogeneity of the land can not be included directly, they are the model parameters that allow to take account theoretically.

The results obtained from a comprehensive and conceptual modeling of surface runoff Watershed Sebaou are not very satisfactory because the Nash criterion decreases for certain sub watersheds to 40%. For this reason it is proposed to consider a distributed hydrological model in the simulation of the basin said surface flows to estimate the medium and long term developments in water resources face of climate change.

Keywords:

watershed, distributed hydrological model, simulation, surface runoff.