



Formalization of hydrologic functioning types as criteria of calibration for distributed hydrologic model : method and first results

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The purpose of this study is to subdivide the Yzeron catchment into smaller units named "Remarkable Hydrologic Entities" (RHEs). These entities are defined remarkable by reason of the representative of their combination of topographic features and land use. These two features are considered as of the important factors because they integrate the aspects of production (interception, thickness of soils, ...) and of dynamics (strength of gravity) of flows. The objective is therefore to integrate the real complexity of relations between these factors in landscapes hydrologiques types. We rejoin so the notion of "Hydrologically Similar Units" (Karvonen and al. 1999).

The RHEs have been delineated by geographic information system (GIS) overlay analysis from physiographic basin properties such as topography, soil physics, geology, land use. Several studies (Blöschl, Grayson and Sivapalan, 1995, Flügel, 1997, Gottschalk and al. 2002) have been dedicated to take account the spatial variability of the physiographic basin characteristics, organized around the nature and the spatial structure of data and of the choice of spatial and temporal element size to the representation of studied process. The suburban catchment of the river Yzeron ($A = 148 \text{ km}^2$) in Lyon, France, are selected for this study.

The next step of this work consist to formalize "the dynamics and the production" of several hydrologics entities remarkable based on experimental approach. It will serve to integrate the complexity of relations between factors that determine flows in the landscapes hydrologics-types. The produced functions will serve as criteria of calibration for distributed model "WISTOO" developed on the Yzeron basin.