

## **THE MEAN ANNUAL FLOW DEPTH OVER A WATERSHED AS A REGIONALIZATION PARAMETER OF HYDROMETRIC INFORMATION**

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In several countries, like in Portugal, the hydrologic studies required by the water resources planning and by the hydraulic structure design are very often confronted with the unavailability of local hydrometric data (flow data).

In fact, the number of stream gage stations is quite small and therefore it is frequently required to extrapolate the flow data measured at a stream gage station to others sections of the drainage network where that information does not exists. In order to accomplish the previous extrapolation regionalization criteria need to be applied.

The establishment of regionalization criteria involves the development of hydrologic studies for the watersheds within each region. Those studies can have different complexity degrees, from the transposition techniques that are presented in this paper, up to precipitation-runoff transformation conceptual models at different time scales.

In this paper the relevance of the mean annual flow depth over the watershed,  $\bar{H}$ , as a parameter that within each region characterizes the relative temporal variability of the flow regime, either among the years, or within each year, is pointed out.

Firstly it is shown how the  $\bar{H}$  parameter can describe the temporal variability of the annual flow and relations that allow estimating the annual flows with different non-exceedence probabilities as a function of  $\bar{H}$  are provided.

Based on the  $\bar{H}$  parameter, criteria for the transposition of mean daily flows and of monthly flows measured in stream gage stations for other sections of the drainage network where that information is not available are presented.

**KEYWORDS:** Mean annual flow depth, relative temporal variability, regionalization and transposition of flow data.