Preface of Minisymposium "Fifth Symposium on Mathematical Modelling of Hydrological Sciences"

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The challenges that poses the hydrological sciences require a lot of efforts, especially in the development and improvement of mathematical models. The need to understand deeply the phenomena puts us in the condition of create models that are more accurate, but at the same time increase their simplicity and reliability. It is therefore important to be provided with high-quality data, whether observed or simulated samples through appropriate software. Statistical models are a constant in all the works of this symposium, which are needed to verify the reliability of empirical literature expression, to predict floods, rainfalls and important economic quantities and to identify the main influencing factors of pluviometric regimes. In this Minisymposium all these problems are faced with original solutions, to contribute the development of hydrology on science pathway.

Predicting precipitation is the main focus of Latini et al. [1], who use probabilistic statistical models to estimate the monthly precipitation in the Midwest U.S. area using forecasts of temperature at the resolution of ~30km.

The main aim of Bertini et al. [2] is to define the optimal location of rain gauges within a measuring network in Mignone River basin, using a multi-objective optimization approach based on hydrological models.

The authors in Moccia and Mineo [3] investigate the influence of time series length in estimating the intensity-duration-frequency curves using observations of annual maxima rainfall in Lazio region.

Mineo et al. [4] provide monthly erosivity maps for the Lazio region using the density approach introduced in Revised Unviersal Soil Loss Equation.

REFERENCES

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