Abstract:

Basic concepts of statistical inference, such as randomness, population, and sampling, are reviewed and placed within a specifically hydraulics context and physical scaling. Issues related to regression models, linear and nonlinear, are then discussed, emphasizing interval estimates and statistical significance, and their implications for inferences. Examples with data from the literature, mainly of sediment transport and river engineering applications, such as velocity profiles in a suspension, hydraulic geometry, and scour, are used to illustrate the concepts and techniques.