

ABSTRACT

River Flows

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River flow is among the least understood and complexed phenomena in nature. It is difficult to obtain analytical solutions to some of the river engineering problems that exist but this was greatly resolved by numerical techniques with the aid of computers. The equations and relationships that are presented here were derived from the continuity equation and the laws conservation of momentum for one-dimensional, unsteady flow. Of course this was significantly enhanced through certain assumptions which enabled the analysis of river flow.

The St. Venant equations describe in approximate, one - dimensional terms the unsteady flow of rivers. Numerical solutions to these equations as examined by Theodore Strelkoff are highlighted. Numerical analysis of the continuity equation is employed through different numerical techniques and the results graphically represented.