



## **A model for estimating water equivalent of snow**

**B. Zahabiyoun, A. Sharafati**

Iran University of Science & Technology, Tehran, I.R. Iran (bagher@iust.ac.ir / Fax: +98 21 77240398)

Snow Water Equivalent (SWE) is a type of common snow pack measurement. It is the amount of water contained within the snow pack. It can be evaluated as the depth of water that would theoretically result provided that the entire snow pack melted instantly. SWE is considered as an important variable in hydrologic and water resources management studies. A particular application is in seasonal flow forecasting. Due to the scarce or the lack of measurements of this variable in catchment studies, it is a need to develop a physical model for generating SWE in daily basis from other daily climatic variables such as wind speed, relative humidity, temperature, rainfall. In this paper a model named SWEG is developed for generating daily SWE. Having introduced the model, it was employed to be calibrated using Genetic Algorithm over the study catchment successfully. The accurate results in the validated process confirmed its potential for use in hydrologic studies.