

APPENDIX A

The derivation of the basic equation of estimating the soil water storage

$$\frac{dB}{dt} = K \cdot \frac{A}{A_c} \quad [A1]$$

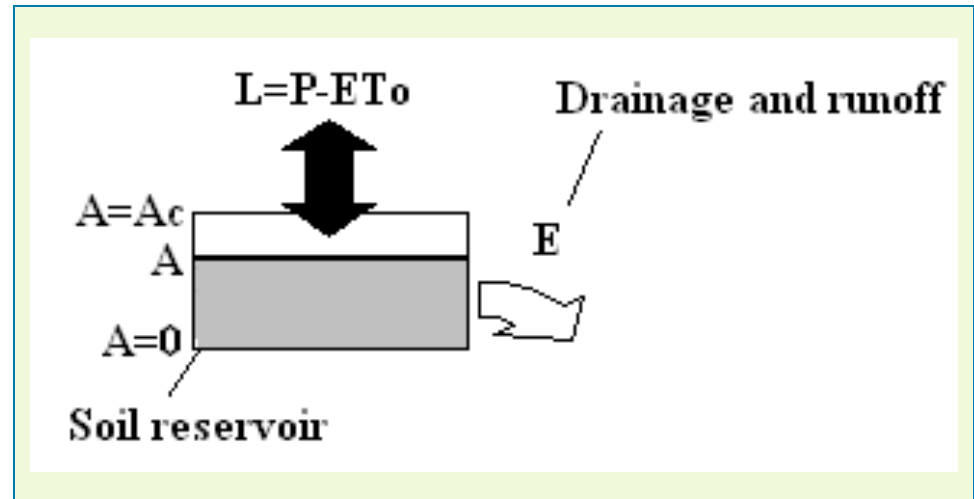
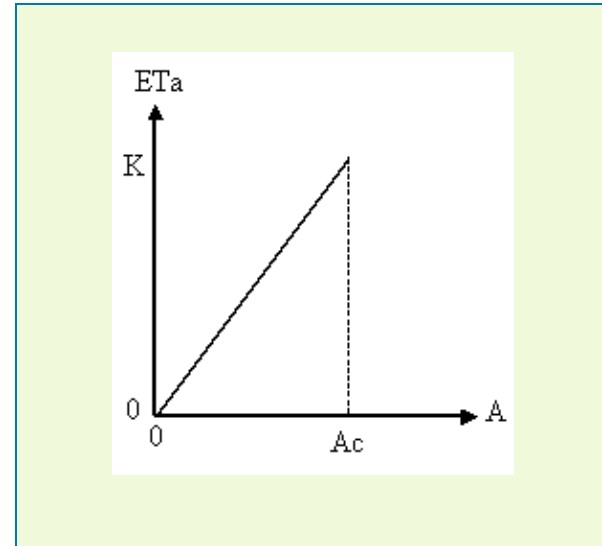
$$K = ETp = \frac{L}{T} \quad [A2]$$

$$A = A_c - B \quad [A3]$$

$$\int_0^L \frac{1}{A_c - B} dB = \frac{L}{T \cdot A_c} \int_0^T dt \quad [A4]$$

$$\left[-\ln\left(\frac{1}{A_c - B}\right) \right]_0^L = \frac{L}{T \cdot A_c} (t_0^T) \quad [A5]$$

$$A = A_c e^{-\frac{L}{A_c}} \quad [A6]$$



(L: accumulated potential water loss, mm)