

Corrigendum to

“The PDM rainfall-runoff model” published in *Hydrol. Earth Syst. Sci.*, 11, 483–499, 2007

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The following provides a correction to Appendix A of the paper relating to the Pareto and Rectangular distribution.

PARETO DISTRIBUTION

$$F(c) = 1 - \left(\frac{c_{\max} - c}{c_{\max} - c_{\min}} \right)^b \quad c_{\min} \leq c \leq c_{\max}$$

$$f(c) = \frac{b}{c_{\max} - c_{\min}} \left(\frac{c_{\max} - c}{c_{\max} - c_{\min}} \right)^{b-1} \quad c_{\min} \leq c \leq c_{\max}$$

$$\bar{c} = S_{\max} = \int_{c_{\min}}^{c_{\max}} cf(c)dc = \frac{bc_{\min} + c_{\max}}{b+1}$$

$$S(t) = c_{\min} + (\bar{c} - c_{\min}) \left\{ 1 - \left[\frac{c_{\max} - C^*(t)}{c_{\max} - c_{\min}} \right]^{b+1} \right\}$$

$$C^*(t) = c_{\min} + (c_{\max} - c_{\min}) \left\{ 1 - \left[\frac{S_{\max} - S(t)}{\bar{c} - c_{\min}} \right]^{1/(b+1)} \right\}$$

$$V(t + \Delta t) = \begin{cases} \pi_i \Delta t - (S(t + \Delta t) - S(t)) & S(t + \Delta t) \leq S_{\max} \\ \pi_i \Delta t - (S_{\max} - S(t)) & \text{otherwise} \end{cases}$$

RECTANGULAR DISTRIBUTION

$$F(c) = \frac{c - c_{\min}}{c_{\max} - c_{\min}}$$

$$f(c) = \frac{1}{c_{\max} - c_{\min}}$$

$$\bar{c} = S_{\max} = \int_{c_{\min}}^{c_{\max}} cf(c)dc = \frac{c_{\min} + c_{\max}}{2}$$

$$S(t) = c_{\min} + (\bar{c} - c_{\min}) \left\{ 1 - \left[\frac{c_{\max} - C^*(t)}{c_{\max} - c_{\min}} \right]^2 \right\}$$

$$C^*(t) = c_{\min} + (c_{\max} - c_{\min}) \left\{ 1 - \left[\frac{S_{\max} - S(t)}{\bar{c} - c_{\min}} \right]^{1/2} \right\}$$

$$V(t + \Delta t) = \pi_i \Delta t - (S(t + \Delta t) - S(t))$$

$$(i) \quad C^*(t + \Delta t) \leq c_{\max} \quad V(t + \Delta t) = \frac{C^{*2}(t + \Delta t) - C^{*2}(t)}{2(c_{\max} - c_{\min})} - \frac{c_{\min} \pi_i \Delta t}{c_{\max} - c_{\min}}$$

$$(ii) \quad C^*(t + \Delta t) > c_{\max} \quad V(t + \Delta t) = \pi_i \Delta t - (S_{\max} - S(t))$$