

Model	Formulation	Eq.	Variable definitions
R99	$r_{SM} = 1 \text{ for } P + SM/ET_p > 1$ $r_{SM} = P + SM/ET_p \text{ for } P + SM/ET_p \leq 1$	(21)	P = precipitation SM = soil moisture stored at 30 cm depth ET_p = potential evapotranspiration
C07	$r_{SM} = 1 \text{ for } w < 0.2 \text{ MPa}$ $r_{SM} = \left[1 - \frac{\log_{10} w - \log_{10}(0.2)}{\log_{10}(100) - \log_{10}(0.2)} \right]^{0.8} \text{ for } w \geq 0.2 \leq 100 \text{ MPa}$	(22)	w = saturation soil water potential
MeMo	$r_{SM} = \left[1 - \frac{\log_{10} \frac{1}{SM} - \log_{10}(0.2)}{\log_{10}(100) - \log_{10}(0.2)} \right]^{0.8} \text{ for } SM < 0.2$ $r_{SM} = \frac{1}{\sqrt[σ]{2\pi}} e^{-\frac{1}{2} \left(\frac{SM-0.2}{0.2} \right)^2} \text{ for } SM > 0.2$	(23)	SM = soil moisture