

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