

Metric	Abbreviation	Description
Nash–Sutcliffe efficiency	NSE	$\text{NSE} = 1 - \frac{\sum_{i=1}^n (o_i - m_i)^2}{\sum_{i=1}^n (o_i - \bar{o})^2}$
Pearson correlation coefficient	r	$r = \frac{\sum_{i=1}^n (o_i - \bar{o})(m_i - \bar{m})}{\sqrt{\sum_{i=1}^n (o_i - \bar{o})^2} \sqrt{\sum_{i=1}^n (m_i - \bar{m})^2}}$
Percent bias	PBIAS	$\text{PBIAS} = 100 \times \frac{\sum_{i=1}^n (m_i - o_i)}{\sum_{i=1}^n o_i}$
Relative root mean square error	RRMSE	$\text{RRMSE} = \frac{\sum_{i=1}^n m_i - o_i }{n \sigma_{\text{obs}}}$
Geometric reliability index (cumulative distribution)	GRI (GRI_sorted)	$\text{GRI} = \frac{1 + \sqrt{\frac{1}{n} \sum_{i=1}^n \left(\frac{m_i - o_i}{m_i + o_i} \right)^2}}{1 - \sqrt{\frac{1}{n} \sum_{i=1}^n \left(\frac{m_i - o_i}{m_i + o_i} \right)^2}}$
Relative difference between maximum concentrations	ΔC_{max}	$\Delta C_{\text{max}} = \frac{C_{\text{max}}^{\text{sim}} - C_{\text{max}}^{\text{obs}}}{C_{\text{max}}^{\text{obs}}}$
Fold difference between maximum concentrations	F.diff	$\text{F.diff} = \begin{cases} \frac{C_{\text{max}}^{\text{sim}} - C_{\text{max}}^{\text{obs}}}{C_{\text{max}}^{\text{obs}}} & C_{\text{max}}^{\text{sim}} > C_{\text{max}}^{\text{obs}} \\ \frac{C_{\text{max}}^{\text{obs}} - C_{\text{max}}^{\text{sim}}}{C_{\text{max}}^{\text{obs}}} & C_{\text{max}}^{\text{sim}} < C_{\text{max}}^{\text{obs}} \end{cases}$