

Precipitation Scores

		Simulated	
		over THV	under THV
Observed	over THV	A — hit rate	B — miss rate
	under THV	C — false alarm	D — correct unprediction

THV — Threshold value $N = A + B + C + D$

$$\text{Threat Score} = \frac{A}{A+B+C}$$

$$\text{False Alarm Ratio} = \frac{C}{C+A}$$

$$\text{Frequency Bias} = \frac{A+C}{A+B}$$

$$\text{Probability Of Detection} = \frac{A}{A+B}$$

$$\text{Probability Of False Detection} = \frac{C}{C+D}$$

$$\text{Hanssen - Kuipers score} = \frac{AD-BC}{(A+B)(C+D)}$$

$$\text{Equitable Threat Score} = \frac{A - A_R}{A+B+C - A_R}, \quad A_R = \frac{(A+B)(A+C)}{N}$$

$$\text{Accuracy (fraction correct)} = \frac{A+D}{N}$$

$$\text{POD} = \frac{1}{1 + \frac{1}{\text{TS}} - \frac{1}{1 - \text{FAR}}} \quad \text{POD} = \text{FB} \cdot (1 - \text{FAR})$$