

ii a) Concurrent

$$\mu_{ET} = 502 \text{ mm/yr} = \underline{50.2 \text{ cm/yr}} \text{ Vs } 40 \Rightarrow \text{diff} = +25\%$$

b) Yukon

$$\mu_{ET} = 397.51 \text{ mm/yr} = \underline{39.751 \text{ cm/yr}} \text{ Vs } 40 \Rightarrow \text{diff} = +0.625\%$$

c) Exhumeter

$$\mu_{ET} = 189.97 \text{ mm/yr} = \underline{18.9 \text{ cm/yr}} \text{ Vs } 20 \Rightarrow \text{diff} = -5.5\%$$

d) Nakhony

$$\mu_{ET} = 832 \text{ mm/yr} = \underline{83.2 \text{ cm/yr}} \text{ Vs } 80 \Rightarrow \text{diff} = +4\%$$

$\therefore$  They compare reasonably well

iii 95% abs. & relative uncertainty in ET

a) Concurrent

$$S_D = \frac{0.1 \times 1100}{2} = 55 \text{ mm yr}^{-1}$$

$$S_R = \frac{0.05 \times 597.59}{2} = 14.94 \text{ mm yr}^{-1}$$

$$S_{ET} = \sqrt{(55)^2 + (14.94)^2} = 56.99 \text{ mm yr}^{-1}$$

$$M_{ET} = \frac{2 \times 56.99}{502.41} = 0.23$$

$$\therefore P_A \{ 502.41 - 0.23(502.41) \} \leq \mu_{ET} \leq \{ 502.41 + 0.23(502.41) \}$$

$$= P_A \{ \underline{386.86 \text{ mm yr}^{-1}} \} \leq \mu_{ET} \leq \underline{630.55} = 0.95$$