

# Performance Metrics

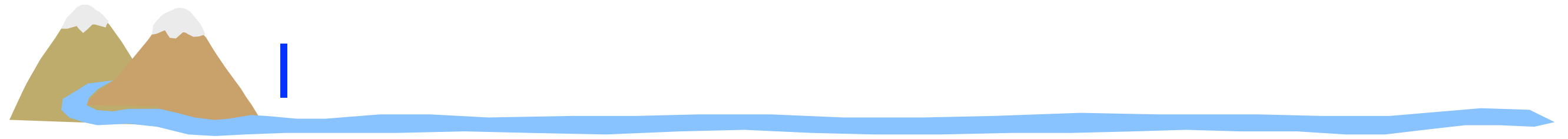
- If you are combining = need to increase with “better” models
- Transform metrics like RMSE that work in reverse

$$SSE = \frac{1}{n} \sum_{i=1}^n (m_i - o_i)^2$$

$L = (SSE)^{-n}$  where  $n$  is a shaping parameter  
(Freer et al., (1997))

$$L = \exp(-nSSE)$$

$$L = (\max(RMSE) - RMSE) / (\max(RMSE) - \min(RMSE))$$



$$\text{relErr} = \frac{(\bar{m} - \bar{o})}{\bar{o}}$$

Transform to 0-1,  
and positive

$$\text{mErr} = 1.0 - \min(1.0, \text{abs}(\text{relErr}))$$

$$\text{mErr} = 1.0 - \min(1.0, \text{abs}(\text{relErr}) / \max(\text{abs}(\text{relErr})))$$

Combining

$$\text{cperf} = \text{mErr} * \max(\text{NSE}, 0)$$

$$\text{cperf} = 0.75 * \text{mErr} * 0.25 * \max(\text{NSE}, 0)$$