

## SM-A. The performance metrics

In this study, evaluations were conducted with the 3 most used statistical criteria in the literature. These are; Pearson's  $r$  correlation coefficient (R, Equation (S1)) which shows the linear relationship between the estimated and observed values, Mean Absolute Error (MAE, Equation (S2)) which independently determines the mean of the averages from their direction and the Root Mean Square Error (RMSE, Equation (S3)) which shows the distribution of the errors. For an appropriate mode, R correlation coefficient should be near 1, MAE ad RMSE scores should be near 0. These performance evaluation criteria can be defined mathematically as follows (Draper ve Smith, 1998).

$$R = \sqrt{1 - \frac{\sum_{j=1}^n (y_j - \hat{y}_j)^2}{\sum_{j=1}^n (y_j - \bar{y}_j)^2}} \quad (S1)$$

$$MAE = \frac{1}{n} \sum_{j=1}^n |y_j - \hat{y}_j| \quad (S2)$$

$$RMSE = \sqrt{\frac{1}{n} \sum_{j=1}^n (y_j - \hat{y}_j)^2} \quad (S3)$$

Here  $y_j$  is the mean of observed values,  $\hat{y}_j$  is the mean of estimated values and  $\bar{y}_j$  is the mean of real values.

Draper, N. R., Smith, H. 1998. "Applied regression analysis". New York, USA: Wiley.