

$R^2 \equiv$ "proportion of variance \bar{y} explained by our predictors relative to a mean-only model."

$$R^2 = 1 - \frac{\text{sum of squares of error}}{\text{total sum of squares}}$$

$$= 1 - \frac{\sum (y_i - \hat{y}_i)^2}{\sum (y_i - \bar{y})^2} \left\{ \begin{array}{l} \text{gap b/w preds \& obs data} \\ \text{gap b/w baseline and our data} \end{array} \right.$$

$$= \frac{\sum (\hat{y}_i - \bar{y})^2}{\sum (y_i - \bar{y})^2} \text{] total variability}$$