| # | $R^2$ (%) | $\Delta R^2$ (%) | Residual $R^2$ (%) | Cross validated MAE | Reduction in MAE (%) |
|---|---|---|---|---|---|
| - | - | - | - | 1360.65 | - |
| 1 | 0.0 | 0.0 | 0.0 | 0.33 | 100.0 |
| 2 | 37.4 | 37.4 | 37.4 | 0.23 | 32.0 |
| 3 | 72.8 | 35.4 | 56.6 | 0.18 | 21.1 |
| 4 | 92.3 | 19.4 | 71.5 | 0.15 | 16.8 |
| 5 | 98.1 | 5.9 | 75.9 | 0.15 | 0.4 |
| 6 | 99.7 | 1.6 | 85.6 | 0.15 | 0.0 |
| 7 | 100.0 | 0.3 | 99.8 | 0.15 | 0.0 |
| 8 | 100.0 | 0.0 | 100.0 | 0.15 | 0.0 |

Table 1: Summary statistics for cumulative additive fits to the data. The residual coefficient of determination ($R^2$) values are computed using the residuals from the previous fit as the target values; this measures how much of the residual variance is explained by each new component. The mean absolute error (MAE) is calculated using 10 fold cross validation with a contiguous block design; this measures the ability of the model to interpolate and extrapolate over moderate distances. The model is fit using the full data and the MAE values are calculated using this model; this double use of data means that the MAE values cannot be used reliably as an estimate of out-of-sample predictive performance.

Model checking statistics are summarised in table 2 in section 4. These statistics have revealed statistically significant discrepancies between the data and model in component 8.

The rest of the document is structured as follows. In section 2 the forms of the additive components are described and their posterior distributions are displayed. In section 3 the modelling assumptions of each component are discussed with reference to how this affects the extrapolations made by the model. Section 4 discusses model checking statistics, with plots showing the form of any detected discrepancies between the model and observed data.