|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Correlation of fixed effects* | | | | | |
|  | **(Intr)** | **pH** | **DO\_prc** | **CH4\_uM** | **SpC** |
| **pH** | -0.902 |  |  |  |  |
| **DO\_percent** | -0.373 | 0.09 |  |  |  |
| **CH4\_uM** | -0.117 | -0.114 | 0.409 |  |  |
| **SpC** | -0.287 | 0.124 | 0.107 | -0.003 |  |
| **Temp\_C** | -0.88 | **0.844** | 0.092 | -0.021 | 0.045 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *All candidate variables Model 1: CO2\_uM ~ pH + DO\_percent + CH4\_uM + SpC + Temp\_C + (1 | Site)*  *AIC: 776.4, BIC: 793.4* | | | | | |
|  | **Estimate** | **Std. Error** | **df** | **t value** | **Pr(>|t|)** |
| **(Intercept)** | 507.0768 | 142.8519 | 55.46477 | 3.549668 | 0.000794\*\*\* |
| **pH** | -15.1433 | 11.58306 | 55.55073 | -1.30737 | 0.196473 |
| **DO\_percent** | -2.47085 | 0.653419 | 53.54266 | -3.78142 | 0.000394\*\*\* |
| **CH4\_uM** | 2.37684 | 1.09157 | 55.31538 | 2.177451 | 0.03373\* |
| **SpC** | 0.738859 | 0.544424 | 53.61007 | 1.357137 | 0.180424 |
| **Temp\_C** | -1.45402 | 4.146086 | 55.44173 | -0.3507 | 0.727146 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Removed Temp because of high correlation with pH*  *Model 2: CO2\_uM ~ DO\_percent + CH4\_uM + SpC + pH + (1 | Site)*  *AIC: 774.5, BIC: 789.4* | | | | | |
|  | **Estimate** | **Std. Error** | **df** | **t value** | **Pr(>|t|)** |
| **(Intercept)** | 463.0143 | 64.4384 | 61.1012 | 7.185 | 1.10E-09\*\*\* |
| **DO\_percent** | -2.4516 | 0.6183 | 60.6862 | -3.965 | 0.000196\*\*\* |
| **CH4\_uM** | 2.3735 | 1.0392 | 61.1502 | 2.284 | 0.025865\* |
| **SpC** | 0.7536 | 0.5166 | 59.3221 | 1.459 | 0.149873 |
| **pH** | -11.7431 | 5.9243 | 50.0335 | -1.982 | 0.052964° |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Removed non-significant variables from step()*  *Model 3: CO2\_uM ~ Date\_corrected + DO\_percent + CH4\_uM + pH + log(SO4) + (1 | Site)*  *AIC: 625.7227, BIC: 641.1773* | | | | | |
|  | **Estimate** | **Std. Error** | **df** | **t value** | **Pr(>|t|)** |
| **(Intercept)** | 510.8171 | 55.9913 | 61.9548 | 9.123 | 4.60E-13\*\*\* |
| **DO\_percent** | -2.5431 | 0.6265 | 61.752 | -4.059 | 0.000141\*\*\* |
| **CH4\_uM** | 2.3619 | 1.0533 | 60.509 | 2.242 | 0.028616\* |
| **pH** | -12.9506 | 5.8869 | 51.5821 | -2.2 | 0.032318\* |