| Model | df | logLik | AICc | Delta AIC | Weight | R2 |
| --- | --- | --- | --- | --- | --- | --- |
| Biomass (g AFDM/m2) |
| s(Temperature) + NPf x Date | 14 | -556.9 | 1144.4 | 0.00 | 0.50 | 0.58 |
| s(Temperature) + Nf | 10 | -562.3 | 1146.1 | 1.72 | 0.21 | 0.64 |
| s(Temperature) + Nf x Date | 11 | -560.3 | 1146.5 | 2.08 | 0.18 | 0.61 |
| s(Temperature) + NPf | 11 | -561.9 | 1147.6 | 3.19 | 0.10 | 0.63 |
| s(Temperature, Date) + Nf x Date | 10 | -565.9 | 1155.3 | 10.93 | 0.00 | 0.59 |
| s(Temperature, Date) + Nf | 9 | -567.9 | 1155.5 | 11.13 | 0.00 | 0.60 |
| s(Temperature, Date) + NPf | 10 | -567.9 | 1157.8 | 13.35 | 0.00 | 0.60 |
| s(Temperature, Date) + NPf x Date | 12 | -564.8 | 1157.8 | 13.36 | 0.00 | 0.58 |
| s(Temperature) + Pf x Date | 11 | -628.7 | 1282.1 | 137.67 | 0.00 | 0.34 |
| s(Temperature) + Pf | 9 | -631.1 | 1282.3 | 137.88 | 0.00 | 0.39 |
| s(Temperature, Date) + Pf | 9 | -637.2 | 1293.9 | 149.54 | 0.00 | 0.39 |
| s(Temperature, Date) + Pf x Date | 10 | -636.0 | 1295.6 | 151.16 | 0.00 | 0.38 |
| s(Temperature) | 8 | -644.4 | 1306.0 | 161.65 | 0.00 | 0.34 |
| s(Temperature, Nf) | 8 | -643.9 | 1306.6 | 162.21 | 0.00 | 0.01 |
| Nf | 4 | -658.0 | 1324.2 | 179.81 | 0.00 | 0.27 |
| NP | 5 | -658.0 | 1326.3 | 181.92 | 0.00 | 0.27 |
| s(Temperature, Date) | 5 | -665.7 | 1341.8 | 197.35 | 0.00 | 0.26 |
| s(Temperature, NPf) | 6 | -665.0 | 1342.4 | 197.99 | 0.00 | -0.18 |
| s(Temperature, Pf) | 5 | -666.1 | 1342.5 | 198.10 | 0.00 | 0.25 |
| s(Temperature, Nf x Date) | 7 | -664.6 | 1343.9 | 199.47 | 0.00 | -0.16 |
| ts(Temperature, Pf x Date) | 7 | -665.6 | 1345.8 | 201.40 | 0.00 | 0.25 |
| s(Temperature, NPf x Date) | 9 | -664.5 | 1348.0 | 203.57 | 0.00 | -0.17 |
| Np | 4 | -689.3 | 1386.8 | 242.37 | 0.00 | 0.06 |
| Intercept-only | 3 | -693.8 | 1393.8 | 249.38 | 0.00 | 0.00 |
| ER (µM C/g AFDM/h) |
| s(Temperature) + Nf x Date | 7 | -534.0 | 1084.1 | 0.00 | 0.43 | 0.34 |
| s(Temperature, Date) + Nf x Date | 8 | -533.3 | 1085.4 | 1.35 | 0.22 | 0.33 |
| s(Temperature) + Nf | 5 | -536.7 | 1087.1 | 2.97 | 0.10 | 0.36 |
| s(Temperature) + NPf x Date | 9 | -532.8 | 1087.3 | 3.16 | 0.09 | 0.13 |
| s(Temperature, Date) + Nf | 6 | -535.9 | 1087.9 | 3.76 | 0.07 | 0.32 |
| s(Temperature) + NPf | 6 | -536.1 | 1088.4 | 4.34 | 0.05 | 0.28 |
| s(Temperature, Date) + NPf x Date | 10 | -532.5 | 1089.6 | 5.49 | 0.03 | 0.19 |
| s(Temperature, Date) + NPf | 7 | -535.5 | 1089.7 | 5.64 | 0.03 | 0.27 |
| Nf | 4 | -548.9 | 1108.9 | 24.76 | 0.00 | 0.22 |
| NP | 5 | -548.8 | 1111.1 | 27.00 | 0.00 | 0.21 |
| s(Temperature, Pf) | 5 | -552.1 | 1117.7 | 33.59 | 0.00 | 0.37 |
| s(Temperature, NPf) | 6 | -551.2 | 1118.5 | 34.36 | 0.00 | 0.26 |
| ts(Temperature, Pf x Date) | 7 | -550.3 | 1119.4 | 35.31 | 0.00 | 0.36 |
| s(Temperature) | 4 | -555.9 | 1123.0 | 38.89 | 0.00 | 0.19 |
| s(Temperature) + Pf | 5 | -555.0 | 1123.5 | 39.40 | 0.00 | 0.25 |
| s(Temperature, NPf x Date) | 9 | -549.7 | 1123.9 | 39.76 | 0.00 | 0.30 |
| s(Temperature, Date) | 5 | -555.4 | 1124.4 | 40.34 | 0.00 | 0.17 |
| s(Temperature, Date) + Pf | 6 | -554.2 | 1124.5 | 40.43 | 0.00 | 0.21 |
| s(Temperature, Nf) | 5 | -555.8 | 1125.2 | 41.10 | 0.00 | 0.09 |
| s(Temperature) + Pf x Date | 7 | -554.8 | 1125.7 | 41.64 | 0.00 | 0.22 |
| s(Temperature, Date) + Pf x Date | 8 | -554.1 | 1127.0 | 42.95 | 0.00 | 0.20 |
| s(Temperature, Nf x Date) | 7 | -555.3 | 1129.5 | 45.37 | 0.00 | 0.12 |
| Np | 4 | -560.1 | 1131.2 | 47.13 | 0.00 | 0.14 |
| Intercept-only | 3 | -562.6 | 1134.0 | 49.87 | 0.00 | 0.10 |
| GPP (µM C/g AFDM/h) |
| s(Temperature) + Nf x Date | 7 | -589.4 | 1195.0 | 0.00 | 0.36 | 0.54 |
| s(Temperature) + Nf | 5 | -591.5 | 1196.5 | 1.51 | 0.17 | 0.56 |
| s(Temperature, Date) + Nf x Date | 8 | -589.0 | 1196.8 | 1.79 | 0.15 | 0.56 |
| s(Temperature, Date) + Nf | 6 | -590.7 | 1197.6 | 2.52 | 0.10 | 0.54 |
| s(Temperature) + NPf | 6 | -590.8 | 1197.8 | 2.74 | 0.09 | 0.51 |
| s(Temperature) + NPf x Date | 9 | -588.4 | 1198.4 | 3.31 | 0.07 | 0.42 |
| s(Temperature, Date) + NPf | 7 | -590.2 | 1199.2 | 4.14 | 0.05 | 0.51 |
| s(Temperature, Date) + NPf x Date | 10 | -588.1 | 1200.7 | 5.68 | 0.02 | 0.46 |
| Nf | 4 | -607.7 | 1226.5 | 31.51 | 0.00 | 0.40 |
| NP | 5 | -607.7 | 1229.0 | 33.93 | 0.00 | 0.39 |
| s(Temperature) | 4 | -615.1 | 1241.2 | 46.20 | 0.00 | 0.30 |
| s(Temperature) + Pf | 5 | -613.9 | 1241.5 | 46.42 | 0.00 | 0.36 |
| s(Temperature, Nf) | 5 | -614.5 | 1242.5 | 47.43 | 0.00 | -0.07 |
| s(Temperature, Pf) | 5 | -614.5 | 1242.5 | 47.49 | 0.00 | 0.35 |
| s(Temperature, NPf) | 6 | -613.4 | 1242.9 | 47.91 | 0.00 | -0.03 |
| s(Temperature, Date) | 5 | -614.9 | 1243.4 | 48.40 | 0.00 | 0.28 |
| s(Temperature, Date) + Pf | 6 | -613.7 | 1243.5 | 48.45 | 0.00 | 0.34 |
| s(Temperature) + Pf x Date | 7 | -613.8 | 1243.7 | 48.68 | 0.00 | 0.34 |
| ts(Temperature, Pf x Date) | 7 | -613.4 | 1245.5 | 50.49 | 0.00 | 0.34 |
| s(Temperature, Date) + Pf x Date | 8 | -613.5 | 1245.9 | 50.86 | 0.00 | 0.33 |
| s(Temperature, Nf x Date) | 7 | -614.1 | 1247.0 | 51.91 | 0.00 | 0.12 |
| s(Temperature, NPf x Date) | 9 | -612.3 | 1249.1 | 54.06 | 0.00 | 0.13 |
| Np | 4 | -620.6 | 1252.3 | 57.25 | 0.00 | 0.19 |
| Intercept-only | 3 | -622.1 | 1252.8 | 57.78 | 0.00 | 0.16 |
| NEP (µM C/g AFDM/h) |
| s(Temperature) + Nf x Date | 10 | -550.3 | 1127.8 | 0.00 | 0.60 | 0.72 |
| s(Temperature) + NPf | 10 | -551.1 | 1129.1 | 1.30 | 0.31 | 0.72 |
| s(Temperature) + NPf x Date | 12 | -549.0 | 1131.6 | 3.82 | 0.09 | 0.73 |
| s(Temperature) + Nf | 5 | -565.6 | 1144.9 | 17.03 | 0.00 | 0.49 |
| s(Temperature, Date) + Nf | 6 | -565.3 | 1146.8 | 18.94 | 0.00 | 0.48 |
| s(Temperature, Date) + Nf x Date | 8 | -564.7 | 1148.2 | 20.40 | 0.00 | 0.46 |
| s(Temperature, Date) + NPf | 7 | -564.8 | 1148.4 | 20.58 | 0.00 | 0.50 |
| s(Temperature, Date) + NPf x Date | 10 | -563.6 | 1151.6 | 23.80 | 0.00 | 0.50 |
| Nf | 4 | -580.0 | 1171.0 | 43.16 | 0.00 | 0.41 |
| NP | 5 | -579.6 | 1172.7 | 44.83 | 0.00 | 0.42 |
| s(Temperature) | 4 | -586.9 | 1184.9 | 57.07 | 0.00 | 0.26 |
| s(Temperature) + Pf | 5 | -585.9 | 1185.3 | 57.46 | 0.00 | 0.26 |
| s(Temperature, Nf) | 5 | -586.1 | 1185.8 | 57.95 | 0.00 | -0.28 |
| s(Temperature, Date) | 5 | -586.9 | 1187.3 | 59.48 | 0.00 | 0.24 |
| s(Temperature) + Pf x Date | 7 | -585.7 | 1187.5 | 59.69 | 0.00 | 0.24 |
| s(Temperature, Pf) | 5 | -587.0 | 1187.6 | 59.81 | 0.00 | 0.24 |
| s(Temperature, Date) + Pf | 6 | -585.8 | 1187.7 | 59.91 | 0.00 | 0.25 |
| s(Temperature, NPf) | 6 | -586.1 | 1188.3 | 60.51 | 0.00 | -0.31 |
| s(Temperature, Nf x Date) | 7 | -585.6 | 1190.0 | 62.15 | 0.00 | -0.11 |
| s(Temperature, Date) + Pf x Date | 8 | -585.8 | 1190.4 | 62.61 | 0.00 | 0.23 |
| ts(Temperature, Pf x Date) | 7 | -586.6 | 1191.9 | 64.08 | 0.00 | 0.21 |
| s(Temperature, NPf x Date) | 9 | -585.5 | 1195.4 | 67.53 | 0.00 | -0.17 |
| Intercept-only | 3 | -593.4 | 1195.4 | 67.60 | 0.00 | 0.14 |
| Np | 4 | -592.7 | 1196.4 | 68.62 | 0.00 | 0.15 |
| N fixation (µM N/g AFDM/h) |
| s(Temperature) + Nf | 5 | -180.7 | 374.4 | 0.00 | 0.31 | 0.45 |
| s(Temperature, Nf) | 5 | -181.4 | 375.5 | 1.08 | 0.18 | 0.47 |
| s(Temperature) + Nf x Date | 7 | -179.9 | 376.0 | 1.64 | 0.13 | 0.49 |
| s(Temperature) + NPf | 6 | -180.6 | 376.7 | 2.31 | 0.10 | 0.44 |
| s(Temperature, Date) + Nf | 6 | -180.7 | 376.9 | 2.54 | 0.09 | 0.43 |
| s(Temperature, NPf) | 6 | -181.1 | 377.5 | 3.16 | 0.06 | 0.46 |
| s(Temperature, Date) + Nf x Date | 8 | -179.9 | 378.6 | 4.26 | 0.04 | 0.47 |
| s(Temperature, Date) + NPf | 7 | -180.6 | 379.3 | 4.95 | 0.03 | 0.43 |
| s(Temperature, Nf x Date) | 7 | -180.7 | 379.3 | 4.97 | 0.03 | 0.52 |
| s(Temperature) + NPf x Date | 9 | -179.3 | 380.3 | 5.89 | 0.02 | 0.48 |
| s(Temperature) | 4 | -185.6 | 381.7 | 7.33 | 0.01 | 0.27 |
| s(Temperature) + Pf | 5 | -184.8 | 382.4 | 8.07 | 0.01 | 0.30 |
| s(Temperature, Date) + NPf x Date | 10 | -179.3 | 383.1 | 8.77 | 0.00 | 0.46 |
| s(Temperature, Pf) | 5 | -185.2 | 383.2 | 8.79 | 0.00 | 0.30 |
| s(Temperature) + Pf x Date | 7 | -183.7 | 383.5 | 9.10 | 0.00 | 0.33 |
| s(Temperature, NPf x Date) | 9 | -180.1 | 383.8 | 9.41 | 0.00 | 0.52 |
| s(Temperature, Date) | 5 | -185.6 | 384.1 | 9.73 | 0.00 | 0.27 |
| s(Temperature, Date) + Pf | 6 | -184.8 | 385.0 | 10.59 | 0.00 | 0.29 |
| s(Temperature, Date) + Pf x Date | 8 | -183.7 | 386.1 | 11.77 | 0.00 | 0.32 |
| ts(Temperature, Pf x Date) | 7 | -184.4 | 386.9 | 12.51 | 0.00 | 0.32 |
| Nf | 4 | -194.4 | 398.8 | 24.45 | 0.00 | 0.13 |
| NP | 5 | -194.0 | 400.8 | 26.40 | 0.00 | 0.12 |
| Intercept-only | 3 | -201.0 | 410.1 | 35.72 | 0.00 | 0.02 |
| Np | 4 | -200.0 | 410.1 | 35.75 | 0.00 | 0.02 |
| NH4 uptake (µM N/g AFDM/h) |
| s(Temperature) + Nf | 5 | -440.7 | 892.6 | 0.00 | 0.40 | 0.33 |
| s(Temperature) + NPf | 6 | -439.9 | 893.4 | 0.79 | 0.27 | 0.35 |
| s(Temperature, Date) + Nf | 6 | -440.7 | 895.1 | 2.47 | 0.12 | 0.32 |
| s(Temperature, Date) + NPf | 7 | -439.9 | 895.9 | 3.35 | 0.07 | 0.34 |
| s(Temperature) + Nf x Date | 7 | -439.9 | 896.0 | 3.45 | 0.07 | 0.31 |
| s(Temperature, Nf) | 8 | -438.0 | 897.3 | 4.70 | 0.04 | 0.46 |
| s(Temperature, Date) + Nf x Date | 8 | -439.9 | 898.7 | 6.11 | 0.02 | 0.30 |
| s(Temperature) + NPf x Date | 9 | -438.7 | 899.0 | 6.44 | 0.02 | 0.32 |
| s(Temperature, Date) + NPf x Date | 10 | -438.7 | 901.9 | 9.32 | 0.00 | 0.31 |
| Nf | 4 | -450.3 | 909.4 | 16.80 | 0.00 | 0.20 |
| NP | 5 | -449.7 | 910.5 | 17.89 | 0.00 | 0.22 |
| s(Temperature) | 4 | -452.6 | 913.9 | 21.31 | 0.00 | 0.14 |
| s(Temperature) + Pf | 5 | -452.2 | 915.6 | 23.01 | 0.00 | 0.13 |
| s(Temperature, Pf) | 5 | -452.6 | 916.3 | 23.68 | 0.00 | 0.13 |
| s(Temperature, Date) | 5 | -452.6 | 916.3 | 23.68 | 0.00 | 0.13 |
| s(Temperature, Date) + Pf | 6 | -452.2 | 918.1 | 25.48 | 0.00 | 0.12 |
| s(Temperature, NPf) | 6 | -452.5 | 918.5 | 25.92 | 0.00 | 0.06 |
| s(Temperature) + Pf x Date | 7 | -451.5 | 919.1 | 26.48 | 0.00 | 0.11 |
| ts(Temperature, Pf x Date) | 7 | -452.3 | 920.8 | 28.26 | 0.00 | 0.10 |
| s(Temperature, Nf x Date) | 7 | -452.4 | 921.1 | 28.47 | 0.00 | 0.05 |
| s(Temperature, Date) + Pf x Date | 8 | -451.5 | 921.7 | 29.15 | 0.00 | 0.09 |
| Intercept-only | 3 | -458.7 | 923.9 | 31.30 | 0.00 | 0.00 |
| Np | 4 | -458.5 | 925.7 | 33.15 | 0.00 | -0.01 |
| s(Temperature, NPf x Date) | 9 | -452.2 | 926.1 | 33.47 | 0.00 | 0.01 |
| Tot. N Assim (µM N/g AFDM/h) |
| s(Temperature) + Nf | 5 | -441.1 | 893.3 | 0.00 | 0.39 | 0.32 |
| s(Temperature) + NPf | 6 | -440.3 | 894.1 | 0.78 | 0.26 | 0.35 |
| s(Temperature, Date) + Nf | 6 | -441.1 | 895.8 | 2.47 | 0.11 | 0.31 |
| s(Temperature, Date) + NPf | 7 | -440.3 | 896.7 | 3.35 | 0.07 | 0.34 |
| s(Temperature, Nf) | 8 | -437.8 | 896.9 | 3.61 | 0.06 | 0.46 |
| s(Temperature) + Nf x Date | 7 | -440.4 | 897.0 | 3.66 | 0.06 | 0.31 |
| s(Temperature, Date) + Nf x Date | 8 | -440.4 | 899.6 | 6.32 | 0.02 | 0.29 |
| s(Temperature) + NPf x Date | 9 | -439.2 | 900.0 | 6.64 | 0.01 | 0.32 |
| s(Temperature, Date) + NPf x Date | 10 | -439.2 | 902.9 | 9.53 | 0.00 | 0.31 |
| Nf | 4 | -451.2 | 911.1 | 17.73 | 0.00 | 0.20 |
| NP | 5 | -450.5 | 912.2 | 18.84 | 0.00 | 0.21 |
| s(Temperature) | 4 | -452.6 | 914.0 | 20.66 | 0.00 | 0.15 |
| s(Temperature) + Pf | 5 | -452.3 | 915.7 | 22.38 | 0.00 | 0.14 |
| s(Temperature, Pf) | 5 | -452.6 | 916.3 | 23.02 | 0.00 | 0.14 |
| s(Temperature, Date) | 5 | -452.6 | 916.4 | 23.03 | 0.00 | 0.14 |
| s(Temperature, Date) + Pf | 6 | -452.3 | 918.2 | 24.86 | 0.00 | 0.13 |
| s(Temperature, NPf) | 6 | -452.5 | 918.5 | 25.21 | 0.00 | 0.06 |
| s(Temperature) + Pf x Date | 7 | -451.6 | 919.3 | 25.93 | 0.00 | 0.11 |
| ts(Temperature, Pf x Date) | 7 | -452.4 | 920.9 | 27.57 | 0.00 | 0.11 |
| s(Temperature, Nf x Date) | 7 | -452.5 | 921.1 | 27.76 | 0.00 | 0.05 |
| s(Temperature, Date) + Pf x Date | 8 | -451.6 | 921.9 | 28.60 | 0.00 | 0.10 |
| Intercept-only | 3 | -459.1 | 924.7 | 31.33 | 0.00 | 0.00 |
| s(Temperature, NPf x Date) | 9 | -452.2 | 926.1 | 32.74 | 0.00 | 0.02 |
| Np | 4 | -458.9 | 926.6 | 33.22 | 0.00 | -0.01 |