| Model | df | logLik | AICc | Delta AIC | Weight | R2 |
| --- | --- | --- | --- | --- | --- | --- |
| ER (µM C/g AFDM/h) | | | | | | |
| s(Temperature, Pf) | 5 | -375.1 | 763.7 | 0.00 | 0.21 | 0.32 |
| s(Temperature, NPf) | 5 | -375.8 | 765.2 | 1.53 | 0.10 | 0.28 |
| s(Temperature) | 4 | -377.2 | 765.5 | 1.75 | 0.09 | 0.26 |
| ts(Temperature, Pf x Date) | 7 | -373.4 | 765.6 | 1.88 | 0.08 | 0.30 |
| s(Temperature, Date) | 5 | -376.2 | 765.9 | 2.19 | 0.07 | 0.28 |
| Intercept-only | 3 | -378.7 | 766.2 | 2.50 | 0.06 | 0.20 |
| s(Temperature, Date) + Pf x Date | 8 | -374.1 | 767.0 | 3.28 | 0.04 | 0.23 |
| s(Temperature) + NPf | 5 | -377.0 | 767.5 | 3.82 | 0.03 | 0.25 |
| s(Temperature) + Pf x Date | 7 | -375.7 | 767.5 | 3.82 | 0.03 | 0.25 |
| s(Temperature, Nf) | 5 | -377.1 | 767.7 | 4.03 | 0.03 | 0.25 |
| s(Temperature) + Nf | 5 | -377.1 | 767.8 | 4.07 | 0.03 | 0.25 |
| s(Temperature) + Pf | 5 | -377.2 | 767.9 | 4.17 | 0.03 | 0.25 |
| s(Temperature, NPf x Date) | 7 | -374.6 | 768.0 | 4.30 | 0.02 | 0.28 |
| s(Temperature, Date) + NPf | 6 | -375.9 | 768.0 | 4.31 | 0.02 | 0.26 |
| s(Temperature, Date) + Nf | 6 | -376.1 | 768.3 | 4.61 | 0.02 | 0.26 |
| s(Temperature, Date) + Pf | 6 | -376.1 | 768.4 | 4.67 | 0.02 | 0.26 |
| Nf | 4 | -378.6 | 768.4 | 4.67 | 0.02 | 0.19 |
| NP | 4 | -378.7 | 768.4 | 4.73 | 0.02 | 0.20 |
| Np | 4 | -378.7 | 768.6 | 4.88 | 0.02 | 0.19 |
| s(Temperature) + Nf x Date | 7 | -376.6 | 769.3 | 5.65 | 0.01 | 0.24 |
| s(Temperature) + NPf x Date | 7 | -376.6 | 769.4 | 5.67 | 0.01 | 0.24 |
| s(Temperature, Date) + NPf x Date | 8 | -375.4 | 769.7 | 5.95 | 0.01 | 0.24 |
| s(Temperature, Date) + Nf x Date | 8 | -375.5 | 769.9 | 6.17 | 0.01 | 0.25 |
| s(Temperature, Nf x Date) | 7 | -376.0 | 770.8 | 7.08 | 0.01 | 0.26 |
| GPP (µM C/g AFDM/h) | | | | | | |
| s(Temperature) + Pf x Date | 7 | -431.4 | 879.0 | 0.00 | 0.42 | 0.38 |
| s(Temperature, Date) + Pf x Date | 8 | -431.1 | 880.9 | 1.95 | 0.16 | 0.37 |
| Intercept-only | 3 | -436.9 | 882.6 | 3.58 | 0.07 | 0.27 |
| Np | 4 | -435.9 | 882.9 | 3.94 | 0.06 | 0.31 |
| s(Temperature) + Nf x Date | 7 | -433.5 | 883.2 | 4.18 | 0.05 | 0.34 |
| Nf | 4 | -436.4 | 883.8 | 4.82 | 0.04 | 0.29 |
| s(Temperature) | 4 | -436.5 | 884.1 | 5.14 | 0.03 | 0.27 |
| s(Temperature) + Pf | 5 | -435.4 | 884.4 | 5.43 | 0.03 | 0.32 |
| NP | 4 | -436.9 | 884.9 | 5.89 | 0.02 | 0.26 |
| s(Temperature, Date) + Nf x Date | 8 | -433.2 | 885.2 | 6.26 | 0.02 | 0.33 |
| s(Temperature) + Nf | 5 | -435.9 | 885.4 | 6.42 | 0.02 | 0.30 |
| s(Temperature, NPf) | 5 | -436.1 | 885.9 | 6.87 | 0.01 | 0.26 |
| s(Temperature, Date) | 5 | -436.2 | 886.0 | 7.07 | 0.01 | 0.27 |
| s(Temperature, Nf) | 5 | -436.3 | 886.3 | 7.28 | 0.01 | 0.26 |
| s(Temperature, Date) + Pf | 6 | -435.1 | 886.4 | 7.39 | 0.01 | 0.31 |
| s(Temperature) + NPf | 5 | -436.5 | 886.5 | 7.52 | 0.01 | 0.26 |
| s(Temperature, Pf) | 5 | -436.5 | 886.5 | 7.53 | 0.01 | 0.26 |
| s(Temperature, Date) + Nf | 6 | -435.6 | 887.4 | 8.37 | 0.01 | 0.29 |
| s(Temperature, Date) + NPf | 6 | -436.2 | 888.5 | 9.55 | 0.00 | 0.25 |
| s(Temperature) + NPf x Date | 7 | -436.3 | 888.7 | 9.74 | 0.00 | 0.25 |
| s(Temperature, Nf x Date) | 7 | -435.6 | 890.0 | 11.00 | 0.00 | 0.25 |
| s(Temperature, NPf x Date) | 7 | -435.6 | 890.1 | 11.09 | 0.00 | 0.25 |
| s(Temperature, Date) + NPf x Date | 8 | -436.0 | 890.8 | 11.85 | 0.00 | 0.24 |
| ts(Temperature, Pf x Date) | 7 | -436.1 | 891.1 | 12.07 | 0.00 | 0.24 |
| NEP (µM C/g AFDM/h) | | | | | | |
| s(Temperature) + Pf x Date | 7 | -415.1 | 846.4 | 0.00 | 0.42 | 0.30 |
| s(Temperature, Date) + Pf x Date | 8 | -415.1 | 849.1 | 2.66 | 0.11 | 0.29 |
| s(Temperature) + Nf x Date | 7 | -416.7 | 849.5 | 3.12 | 0.09 | 0.28 |
| Np | 4 | -419.3 | 849.7 | 3.26 | 0.08 | 0.24 |
| Intercept-only | 3 | -420.7 | 850.1 | 3.64 | 0.07 | 0.18 |
| Nf | 4 | -419.6 | 850.2 | 3.76 | 0.06 | 0.23 |
| s(Temperature) + Pf | 5 | -419.3 | 852.1 | 5.74 | 0.02 | 0.22 |
| s(Temperature, Date) + Nf x Date | 8 | -416.7 | 852.2 | 5.77 | 0.02 | 0.27 |
| s(Temperature) | 4 | -420.7 | 852.4 | 6.02 | 0.02 | 0.16 |
| NP | 4 | -420.7 | 852.4 | 6.02 | 0.02 | 0.16 |
| s(Temperature) + Nf | 5 | -419.6 | 852.6 | 6.23 | 0.02 | 0.22 |
| s(Temperature, Nf) | 5 | -420.1 | 853.8 | 7.39 | 0.01 | 0.15 |
| s(Temperature, Pf) | 5 | -420.3 | 854.2 | 7.79 | 0.01 | 0.16 |
| s(Temperature, Date) + Pf | 6 | -419.3 | 854.7 | 8.27 | 0.01 | 0.21 |
| s(Temperature, NPf) | 5 | -420.7 | 854.9 | 8.44 | 0.01 | 0.15 |
| s(Temperature, Date) | 5 | -420.7 | 854.9 | 8.47 | 0.01 | 0.15 |
| s(Temperature) + NPf | 5 | -420.7 | 854.9 | 8.49 | 0.01 | 0.15 |
| s(Temperature, Date) + Nf | 6 | -419.5 | 855.2 | 8.75 | 0.01 | 0.20 |
| s(Temperature) + NPf x Date | 7 | -420.5 | 857.2 | 10.76 | 0.00 | 0.14 |
| s(Temperature, Date) + NPf | 6 | -420.7 | 857.4 | 11.03 | 0.00 | 0.13 |
| s(Temperature, Nf x Date) | 7 | -419.5 | 857.8 | 11.39 | 0.00 | 0.13 |
| s(Temperature, NPf x Date) | 7 | -420.2 | 859.2 | 12.78 | 0.00 | 0.13 |
| ts(Temperature, Pf x Date) | 7 | -420.3 | 859.4 | 13.02 | 0.00 | 0.13 |
| s(Temperature, Date) + NPf x Date | 8 | -420.5 | 859.8 | 13.41 | 0.00 | 0.12 |
| N fixation (µM N/g AFDM/h) | | | | | | |
| s(Temperature) + Nf x Date | 10 | -36.9 | 99.9 | 0.00 | 0.81 | 0.60 |
| s(Temperature) + Nf | 8 | -41.4 | 102.8 | 2.93 | 0.19 | 0.41 |
| s(Temperature, Date) + Nf x Date | 8 | -51.8 | 122.5 | 22.58 | 0.00 | 0.59 |
| Nf | 4 | -56.8 | 122.7 | 22.76 | 0.00 | 0.42 |
| s(Temperature, Date) + Nf | 6 | -54.9 | 124.8 | 24.87 | 0.00 | 0.41 |
| NP | 4 | -70.6 | 152.1 | 52.17 | 0.00 | 0.16 |
| s(Temperature) + Pf x Date | 7 | -68.0 | 152.2 | 52.35 | 0.00 | 0.16 |
| s(Temperature) + NPf | 5 | -69.9 | 153.1 | 53.24 | 0.00 | 0.14 |
| Np | 4 | -71.9 | 154.0 | 54.06 | 0.00 | 0.13 |
| s(Temperature) + NPf x Date | 7 | -69.3 | 154.7 | 54.79 | 0.00 | 0.14 |
| s(Temperature, Date) + Pf x Date | 8 | -68.0 | 154.9 | 54.96 | 0.00 | 0.15 |
| s(Temperature, Date) + NPf | 6 | -69.5 | 155.0 | 55.14 | 0.00 | 0.13 |
| s(Temperature) + Pf | 5 | -71.4 | 155.6 | 55.67 | 0.00 | 0.12 |
| s(Temperature, Date) + NPf x Date | 8 | -69.0 | 156.8 | 56.95 | 0.00 | 0.13 |
| s(Temperature, Date) + Pf | 6 | -71.3 | 158.0 | 58.06 | 0.00 | 0.11 |
| Intercept-only | 3 | -77.7 | 164.0 | 64.08 | 0.00 | 0.05 |
| s(Temperature) | 4 | -77.4 | 165.8 | 65.89 | 0.00 | 0.04 |
| s(Temperature, Nf) | 5 | -77.2 | 167.8 | 67.90 | 0.00 | -0.01 |
| s(Temperature, NPf) | 5 | -77.2 | 167.9 | 68.01 | 0.00 | 0.00 |
| s(Temperature, Date) | 5 | -77.3 | 168.0 | 68.11 | 0.00 | 0.03 |
| s(Temperature, Pf) | 5 | -77.4 | 168.2 | 68.26 | 0.00 | 0.01 |
| s(Temperature, Nf x Date) | 7 | -77.1 | 172.8 | 72.89 | 0.00 | -0.05 |
| s(Temperature, NPf x Date) | 7 | -77.1 | 172.9 | 72.97 | 0.00 | -0.03 |
| ts(Temperature, Pf x Date) | 7 | -77.1 | 172.9 | 73.02 | 0.00 | -0.06 |
| NH4 uptake (µM N/g AFDM/h) | | | | | | |
| s(Temperature) + Nf | 5 | -298.2 | 607.5 | 0.00 | 0.65 | 0.51 |
| s(Temperature, Date) + Nf | 6 | -298.2 | 610.0 | 2.47 | 0.19 | 0.51 |
| s(Temperature) + Nf x Date | 7 | -297.4 | 611.0 | 3.48 | 0.11 | 0.53 |
| s(Temperature, Date) + Nf x Date | 8 | -297.4 | 613.7 | 6.13 | 0.03 | 0.52 |
| s(Temperature) + Pf | 5 | -302.5 | 616.0 | 8.50 | 0.01 | 0.32 |
| s(Temperature, Date) + Pf | 6 | -302.3 | 618.2 | 10.70 | 0.00 | 0.32 |
| s(Temperature) + Pf x Date | 7 | -302.4 | 621.0 | 13.51 | 0.00 | 0.30 |
| s(Temperature, Date) + Pf x Date | 8 | -302.3 | 623.4 | 15.90 | 0.00 | 0.29 |
| s(Temperature, Nf) | 5 | -309.3 | 629.8 | 22.24 | 0.00 | 0.34 |
| s(Temperature) | 4 | -311.0 | 630.8 | 23.26 | 0.00 | 0.18 |
| s(Temperature, Pf) | 5 | -310.0 | 631.1 | 23.58 | 0.00 | 0.25 |
| s(Temperature) + NPf | 5 | -310.0 | 631.1 | 23.62 | 0.00 | 0.21 |
| s(Temperature, NPf) | 5 | -310.7 | 632.4 | 24.91 | 0.00 | 0.21 |
| s(Temperature, Date) | 5 | -310.9 | 633.0 | 25.43 | 0.00 | 0.18 |
| s(Temperature, Date) + NPf | 6 | -310.0 | 633.5 | 25.98 | 0.00 | 0.20 |
| s(Temperature, Nf x Date) | 7 | -309.0 | 634.1 | 26.59 | 0.00 | 0.34 |
| s(Temperature) + NPf x Date | 7 | -309.3 | 634.8 | 27.30 | 0.00 | 0.21 |
| Nf | 4 | -313.1 | 634.9 | 27.39 | 0.00 | 0.21 |
| ts(Temperature, Pf x Date) | 7 | -309.9 | 636.0 | 28.43 | 0.00 | 0.23 |
| s(Temperature, NPf x Date) | 7 | -310.0 | 636.1 | 28.59 | 0.00 | 0.21 |
| s(Temperature, Date) + NPf x Date | 8 | -309.3 | 637.4 | 29.90 | 0.00 | 0.20 |
| Np | 4 | -317.6 | 643.8 | 36.31 | 0.00 | 0.09 |
| NP | 4 | -324.4 | 657.5 | 49.98 | 0.00 | 0.01 |
| Intercept-only | 3 | -325.8 | 657.9 | 50.41 | 0.00 | 0.00 |
| Tot. N Assim (µM N/g AFDM/h) | | | | | | |
| s(Temperature) + Nf | 5 | -298.8 | 608.7 | 0.00 | 0.64 | 0.52 |
| s(Temperature, Date) + Nf | 6 | -298.8 | 611.2 | 2.47 | 0.19 | 0.51 |
| s(Temperature) + Nf x Date | 7 | -297.9 | 611.9 | 3.25 | 0.13 | 0.54 |
| s(Temperature, Date) + Nf x Date | 8 | -297.9 | 614.6 | 5.88 | 0.03 | 0.53 |
| s(Temperature) + Pf | 5 | -303.6 | 618.4 | 9.70 | 0.01 | 0.32 |
| s(Temperature, Date) + Pf | 6 | -303.5 | 620.7 | 11.96 | 0.00 | 0.32 |
| s(Temperature) + Pf x Date | 7 | -303.6 | 623.3 | 14.65 | 0.00 | 0.30 |
| s(Temperature, Date) + Pf x Date | 8 | -303.5 | 625.8 | 17.11 | 0.00 | 0.29 |
| s(Temperature, Nf) | 5 | -311.1 | 633.2 | 24.53 | 0.00 | 0.33 |
| s(Temperature) | 4 | -312.5 | 633.8 | 25.12 | 0.00 | 0.18 |
| s(Temperature) + NPf | 5 | -311.4 | 633.9 | 25.16 | 0.00 | 0.21 |
| s(Temperature, Pf) | 5 | -311.6 | 634.3 | 25.64 | 0.00 | 0.25 |
| s(Temperature, NPf) | 5 | -312.2 | 635.6 | 26.88 | 0.00 | 0.20 |
| Nf | 4 | -313.5 | 635.8 | 27.09 | 0.00 | 0.22 |
| s(Temperature, Date) | 5 | -312.5 | 636.0 | 27.35 | 0.00 | 0.17 |
| s(Temperature, Date) + NPf | 6 | -311.3 | 636.3 | 27.56 | 0.00 | 0.20 |
| s(Temperature) + NPf x Date | 7 | -310.6 | 637.4 | 28.70 | 0.00 | 0.21 |
| s(Temperature, Nf x Date) | 7 | -310.8 | 637.7 | 29.04 | 0.00 | 0.32 |
| ts(Temperature, Pf x Date) | 7 | -311.5 | 639.2 | 30.53 | 0.00 | 0.22 |
| s(Temperature, NPf x Date) | 7 | -311.6 | 639.4 | 30.72 | 0.00 | 0.20 |
| s(Temperature, Date) + NPf x Date | 8 | -310.6 | 640.0 | 31.34 | 0.00 | 0.20 |
| Np | 4 | -318.3 | 645.4 | 36.71 | 0.00 | 0.09 |
| NP | 4 | -325.3 | 659.3 | 50.58 | 0.00 | 0.01 |
| Intercept-only | 3 | -326.7 | 659.9 | 51.22 | 0.00 | 0.00 |