|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S14**. Generalized additive models (GAM) testing treatment (burned vs. unburned) and factor-smooth interaction effects on carbon dioxide (CO2) and methane (CH4) emissions from experimental mesocosms. Separate smoothers were fit for burned and unburned data, and ANOVA tables were generated by *anova.gam*(). | | | | | |
| **Carbon dioxide (ppm)** | |  |  |  |  |
|  | *Effect* | *df /edf* | *Ref.df* | *F* | *p-value* |
| Day-0 | Treatment | 1 | – | 15.200 | **<0.001** |
|  | s(plant material) : burned | 1.000 | 1.000 | 8.466 | **0.008** |
|  | s(plant material) : unburned | 3.874 | 4.708 | 3.061 | **0.038** |
|  |  |  |  |  |  |
| Day-10 | Treatment | 1 | – | 9.216 | **0.006** |
|  | s(plant material) : burned | 2.167 | 2.672 | 163.3 | **<0.001** |
|  | s(plant material) : unburned | 2.819 | 3.457 | 159.8 | **<0.001** |
|  |  |  |  |  |  |
| Day-31 | Treatment | 1 | – | 0.523 | 0.477 |
|  | s(plant material) : burned | 2.541 | 3.123 | 53.46 | **<0.001** |
|  | s(plant material) : unburned | 3.481 | 4.245 | 23.27 | **<0.001** |
|  |  |  |  |  |  |
| Day-59 | Treatment | 1 | – | 2.773 | 0.109 |
|  | s(plant material) : burned | 2.933 | 3.594 | 14.72 | **<0.001** |
|  | s(plant material) : unburned | 1.000 | 1.001 | 31.77 | **<0.001** |
|  |  |  |  |  |  |
| **Methane (ppm)** | |  |  |  |  |
| Day-0 | Treatment | 1 | – | 0.712 | 0.406 |
|  | s(plant material) : burned | 1.000 | 1.000 | 3.349 | 0.079 |
|  | s(plant material) : unburned | 1.000 | 1.000 | 2.799 | 0.106 |
|  |  |  |  |  |  |
| Day-10 | Treatment | 1 | – | 0.292 | 0.594 |
|  | s(plant material) : burned | 1.798 | 2.225 | 0.857 | 0.442 |
|  | s(plant material) : unburned | 3.291 | 4.020 | 6.557 | **0.001** |
|  |  |  |  |  |  |
| Day-31 | s(plant material) | 1 | 1 | 0.199 | 0.659 |
|  |  |  |  |  |  |
| Day-59 | Treatment | 1 | – | 3.652 | 0.068 |
|  | s(plant material) | 3.382 | 4.128 | 2.015 | 0.116 |
| *Treatment* indicates the parametric term in GAM, *s(plant material)* is the smooth term for either burned or unburned treatments. *df* = degrees of freedom for parametric terms; *edf* = effective degrees of freedom for smoother terms; *Ref.df* = reference degree of freedom, where dashes indicate NA for parametric terms. Significant effects (p<0.05) are in bold. | | | | | |