**Table S1** Soil pH, CaCO3 (g.kg-2), soil organic carbon (SOC, g.kg-2), total nitrogen (TN, g.kg-2), inorganic nitrogen (IN, mg.kg-2) and bulk density (BD, g.cm-3) in the 0-20 cm, soil temperature (oC) and soil moisture (v/v%) in the 0-10 cm, plant coverage (Cov., %) and height (H, cm) in the dry and wet conditions.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Soil properties | | | | | | | |  | Plant feature | |
|  | pH | CaCO3 | SOC | TN | IN | BD | ST | SM |  | Cov. | H |
| Dry | 8.84 ± 0.01 | 5.81 ± 0.23 | 4.91 ± 0.22 | 0.44 ± 0.01 | 8.99 ± 0.38 | 1.25 ± 0.03 | 0.32 ± 0.03 | 6.12 ± 0.02 |  | 70 ± 5% | 6.03 ± 0.64 |
| Wet | 8.33 ± 0.03 | 6.26 ± 0.16 | 10.48 ± 0.95 | 0.88 ± 0.07 | 10.63 ± 0.44 | 1.00 ± 0.05 | -0.16 ± 0.01 | 12.19 ± 0.05 |  | 90 ± 3% | 6.78 ± 1.12 |

Notes: Soil properties were obtained by analyzing soil samples collected in September 2011. Plant height and coverage were also measured in September 2011.



**Fig. S1.** Mean daily soil temperature at 0-10 cm and 30-40 cm depth in control and warmed plots in the dry (a, b) and wet (c, d) conditions from 2010-2018.



**Fig. S2.** Mean daily soil moisture at 0-10 cm and 30-40 cm depth in control and warmed plots in the dry (a, b) and wet (c, d) conditions from 2010-2018.