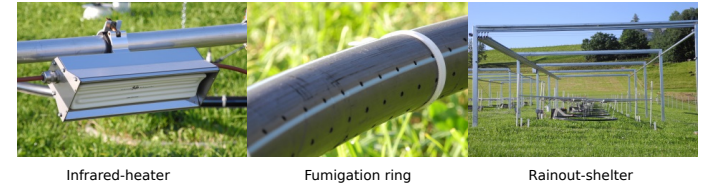


CLIMGRASS sampling site



View of the field site. Photo credits: Joana Séneca

Figure S1: Spatial arrangement of all plots from the Climgrass experimental site at HBLFA-Raumberg-Gumpenstein. The interdisciplinary teams involved in this project aim to monitor nutrient dynamics and changes on the hydrological, carbon and nitrogen cycles in montane grasslands, within a climate change scenario. For this experimental site, a completely randomized response surface design was used, which allows a more efficient estimation of treatment effects due to a more parsimonious modelling (Piepho et al. 2017). Rainout shelters were used to simulate drought, CO₂ fumigation rings increased atmospheric CO₂ levels by 150 ppm (C1) and 300 ppm (C2) above ambient conditions. Six infrared heaters per plot increased the soil temperature by 1.5 °C (T1) and 3 °C (T2) above ambient temperature. Out of 54 plots, 26 were sampled and analysed in this study. Sampled soil plots comprised the highest level of elevated temperature (+ 3 °C) and atmospheric CO₂ (+ 300 ppm) manipulations alone or in combination. Additionally, soil plots with rain-out shelters from ambient and from the most extreme combination of temperature and CO₂ were also sampled. More details regarding the sampling site and the maintenance of the facility are described in the Material and Methods section and on the website below.

Copyrights: HBLFA-Raumberg Gumpenstein. Figure availability: <https://climgrass.at/experimental-site.html>

Summary of plots sampled in this study

Plot code	Treatment conditions	Plot number
c0t0	[Amb]	1,7,11,13,17,19,22,36
c0t2	[eT]	21,42,51
c2t0	eCO ₂	24,34,41
c2t2	[eT] × [eCO ₂]	12,35,40,52
c0t0	[Amb] × [D]	28,44,47,49
c2t2	[eTeCO ₂] × [D]	27,43,48,50