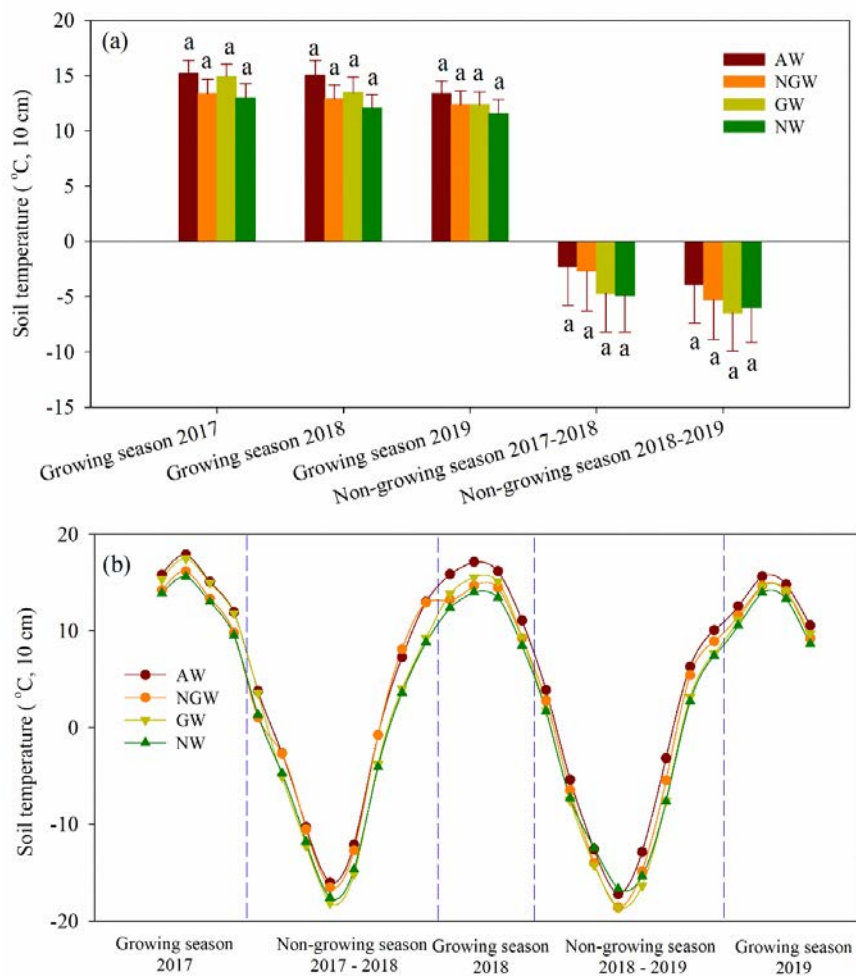**Different responses of CO_2, CH_4, and N_2O fluxes to seasonally asymmetric warming in an alpine grassland of Tianshan Mountains**

Figure S1 Variation in soil temperature (at 10-cm depth) under four treatments in alpine grassland from June 2017 to September 2019. AW, warming throughout the year; NGW, warming in nongrowing season only; GW, warming in growing season only; NW, non-warming. Significant differences among AW, NGW, GW and NW from analysis of variance (ANOVA) are denoted as bars within the same season with different lowercase letters, $P < 0.05$; data points are the mean ± standard error.

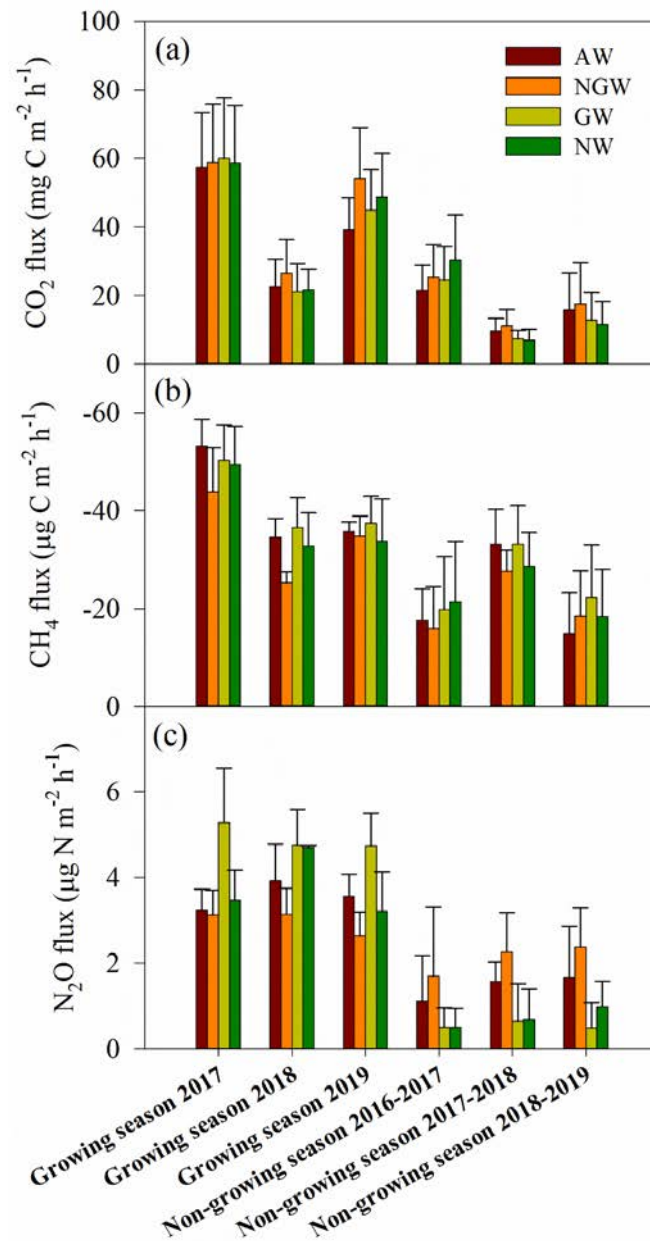Figure S2 Variation in CO_2, CH_4, and N_2O fluxes under four treatments in the growing season and nongrowing season from October 2016 to September 2019. AW, warming throughout the year; NGW, warming in the nongrowing season only; GW, warming in the growing season only; NW, non-warming. No significant differences among AW, NGW, GW, and NW were reported from ANOVA; data points are the mean ± standard error
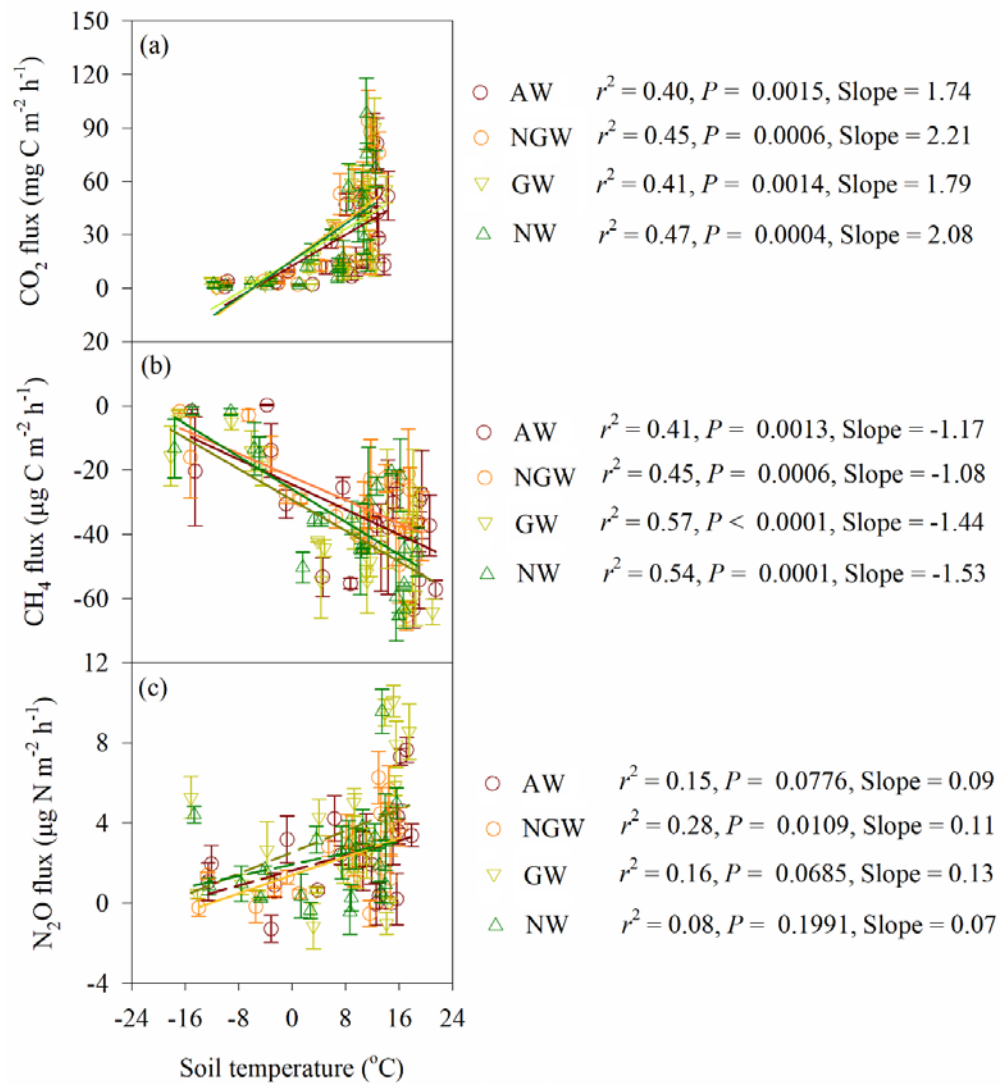
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20 Figure S3 The relationship between CO_2, CH_4 and N_2O fluxes and soil temperature (at

21 10-cm depth) from October 2016 to September 2019. AW, warming throughout the year;

22 NGW, warming in the nongrowing season only; GW, warming in the growing season

23 only; NW, non-warming.