

## عنوان مقاله:

Northern Grassland's Greenhouse Gas Emission Is Robust to Experimental Warming and Defoliation

## محل انتشار:

همایش بین المللی بحران های زیست محیطی ایران و راهکارهای بهبود آن (سال: 1391)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

The continued increase in global temperatures is widely expected to influence soil greenhouse gas emissions (GHG) in grazed grassland ecosystems. This study was conducted to quantify the effects of experimental warming and simulated grazing on greenhouse gas emissions in a northern temperate grassland, a system susceptible to climatic fluctuations, during two consecutive growing seasons in 2006 and 2007. Soil greenhouse gas emissions including N<sub>2</sub>O, CO<sub>2</sub> and CH<sub>4</sub> were studied. Soil nitrous oxide (N<sub>2</sub>O) emission at the soil surface increased due to warming, changing the system from an N<sub>2</sub>O sink to a source in 2006. However, in the following year (2007), the effects of warming on the above-mentioned N fluxes differed with or without defoliation. Soil CO<sub>2</sub> and CH<sub>4</sub> effluxes showed transient and weak responses to defoliation and warming in both years. In addition, soil respiration was temporarily influenced by a warming x defoliation interaction early in the study, with a 45% decrease in defoliated plots and a 146% increase in non-defoliated plots due to warming. The transient and weak responses of soil N<sub>2</sub>O, CO<sub>2</sub> and CH<sub>4</sub> emissions suggest that this temperate grassland may be able to acclimatize fast from warming for the short-term

## کلمات کلیدی:

Warming, Defoliation, Greenhouse gas emissions, Grasslands

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/201188>

