

CGU_B_01: Biogenic greenhouse gas exchange in agricultural landscapes

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Session Description

Natural biogeochemical cycling of carbon and nitrogen encompasses a vast suite of processes, some of which produce the biogenic greenhouse gases carbon dioxide, methane, and nitrous oxide. These processes play a fundamental role in returning carbon and nitrogen to the atmosphere. With atmospheric mixing ratios of these gases increasing, there is a growing need to understand the factors that contribute to greenhouse gas emission to, or removal from, the atmosphere. Agricultural landscapes provide an invaluable service owing to their capacity to feed a growing population, but are among the most perturbed systems in the world. Nitrogen amendments and changes to carbon storage feature prominently in these areas, which can have important impacts on the exchange of greenhouse gases in these systems. This session will feature contributions describing investigations of aquatic and/or terrestrial greenhouse gas dynamics of agricultural regions. We encourage submissions from process-oriented studies to landscape-scale evaluation of patterns of greenhouse gas exchange with the atmosphere. Given the role of humans in these environments, contributions that consider the management of these systems in the context of greenhouse gas emissions are welcomed.

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