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# Abstract

Many quantitative relations in the environmental sciences, and specifically in watershed

# 1. Introduction

Wetlands are important global carbon stores, accoutning for 20-30% of the total terrestrial carbon (C) storage in soils despite only covering 4-6% of the Earth’s land surface (refs). While peatlands are responsible for the majority of C stored in wetland soils, freshwater mineral soil wetlands are also globally significant C stores. Freshwater mineral soil wetlands in North America account for approximately 40 Gt (or 18%) of the wetland C pool (Bridgham et al. 2006). Furthermore, freshwater mineral soil wetlands are typically much more productive compared to peat forming wetlands (Mitsch and Gosselink 2000; Rocha and Goulden 2009), enabling them to accumulate organic C at higher rates.

Despite FWMS wetlands being important global C stores, they are also important greenhouse gas (GHG) sources. FWMS wetlands such as marshes can have high methane (CH4) fluxes on a per unit basis.