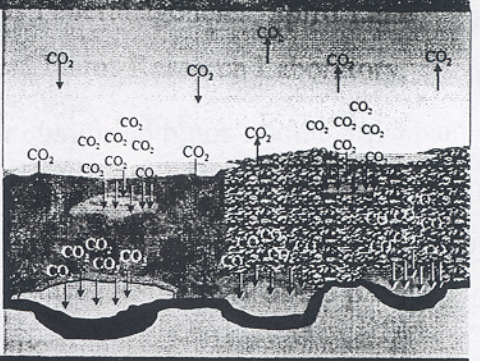
Prairie Wetland Carbon Research Meeting



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Prairie Wetlands of North America Important for Carbon Storage

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Wetlands in the prairie region of North America are generally assumed to be inconsequential to the total wetland carbon pool. In an effort to determine what these wetland stocks might be and if they represent a significant pool, we evaluated the potential of prairie pothole wetlands in North America to sequester carbon. Previous research suggests that prairie wetlands traditionally functioned as net sinks for atmospheric carbon, but cultivation, the current principal land use, has shifted their function from net sinks to net sources of atmospheric carbon. Land use changes that lead to protection of existing wetland carbon stocks, restoration of new wetland stocks, and cessation of activities that remove carbon stocks such as conventional agriculture may be expected to have a significant impact on total wetland carbon stocks in this region. Of the wetland area in the prairie pothole region, over 50% in the United States and 46% in Canada has been converted to cropland. Our analysis suggests that greater amounts of atmospheric carbon could be stored in wetlands in the prairie pothole region through restoration programs than on no-tillage cropland even though the acreage of wetlands is much smaller. However, both land use activities should be encouraged given they lead to net gain in carbon sinks.