Title: LONGTERM STORAGE SOIL NUTRIENTS IN THE STORMWATER TREATMENT AREAS OF THE EVERGLADES BASIN.

Abstract:

Stormwater Treatment Areas (STAs) are constructed to reduce phosphorus (P) loads to the Everglades Protection Area (EPA). Six STAs (45,000 acres) were strategically located to reduce P loads to EPA. These STAs have been in operation for varying time periods ranging from 6 to 16 years and are differentiated into cells having emergent and submerged aquatic vegetation. We have collected soil cores from three STAs. These soil cores were sectioned at 2 cm interval and analyzed for physico-chemical properties. Isotopic ratios of carbon (C) and nitrogen (N) were determined to calculate the average depth of recently accreted sediments. The depth of recently accreted soil was estimated to be 10-12 cm in STA 1W using bulk density and total P profiles. At present we are exploring the utility of δC13 and δN15 ratios to determine differentiation between the old and new sediments. This analysis of soils from the STAs with varying years of operation would provide an indication of affects of age on operational efficiency of these constructed wetlands.

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