Temporal variation of chemical composition in influents and effluents of wastewater treatments in the city of Savannah. (S11-sajwan075004-Poster)

Authors:

- K.S.Sajwan* Savannah State University
- C.T.McArthur Savannah State University
- P.Sivapatham Savannah State University
- J.Todd Savannah State University

Abstract:

This study was undertaken to monitor temporal and spatial variation of chemical composition of influent and effluent water collected from four wastewater treatment facilities in the city of Savannah on monthly intervals. The results of this study indicated that pH of collected water samples were slightly acidic to near neutral (6.2 to 7.8) and their electrical conductivity varied substantially in the rage of 0.39 to 1.65 mS. In addition total suspended solids were also determined by filtration of influent samples and this varied from 0.1 to 1.0 g L-1. Various elements were determined by ICP-OES while various anions and cations in these samples were determined by IC. Calcium (22 to 34 mg L-1), Mg (5.2 to 10.4 mg L-1) and P (2 to 100 mg L-1) were the dominant macronutrient elements present in these samples. In addition all these samples had little amounts of Zn (0.01 to 0.3 mg L-1), Mn (0.001 to 0.05 mg L-1) and Fe (0.002 to 1.0 mg L-1). Ion chromatograph analysis indicated that influent water had N as NH4+ (2.0 to 36 mg L-1) form where as effluent with N as NO3- (3 to 60 mg L-1). Discussion on variation in elemental composition in between influent and effluent will be presented in relation to source of location variability and other measured parameters.

Corresponding Author Information:

Kenneth Sajwan Savannah State University 127 Drew Griffith Hall, P.O. Box 20600 phone: 912-353-2315 fax: 912-353-3186 e-mail: sajwank@savstate.edu Savannah, GA 31404

Presentation Information:

Presentation Date: Tuesday, November 12, 2002 Presentation Time: 2:00-4:00 pm Poster Board Number: 1930

Keywords:

Wastewater, Temporal variation, Metals, Anions