



Analysis of the Environmental Quality Behavior in the Sumapaz River Basin using Data Mining (Colombia)

**López Sánchez Wilson Ricardo¹; Rodríguez Miranda Juan Pablo^{2*};
Ruiz Ochoa Mauricio Andres³**

¹Electronic Engineer. (Candidate) Magister in Information and Telecommunications Sciences. LASER Research Group. Francisco Jose de Caldas District University, Colombia.

²Sanitary and Environmental Engineer. Magister in Environmental Engineering. PhD (Candidate). Associate Professor. Facultad del Medio Ambiente y Recursos Naturales. Universidad Distrital Francisco José de Caldas. Director of the AQUAFORMAT research group. Postal Address: Carrera 5 Este No 15 - 82. Avenida Circunvalar Venado de Oro. Bogotá DC Colombia.

³ Environmental Engineer. Doctor of Engineering. Assistant professor. Universidad Unidades Tecnológicas de Santander, Colombia.

Abstract : This paper presents the assessment of the concurrent environmental quality evaluated in the conditions in the Watershed of the Sumapaz River, integrating the variables of the water quality (BOD₅, TSS, N-NO₂ y P_{total}) and precipitation. Using the data mining technique establishes membership functions and describes data and analyzed variables. In the body of surface water, there is a detriment of the environmental quality in the medium and low basin, which is an obvious contamination of the river and therefore the need to do short-term intervention actions in the basin.

Key Words : Watershed, data mining, environmental quality.