The main objectives of this study were to identify the edaphic factors that could be related to vegetation distribution in the lower-Cheliff plain (35.750° - 36.125°N, 0.5° - 1°E) one the largest salted plains of northwestern Algeria and to establish the relationships between these soil factors and the main plant communities. Soil and vegetation data were obtained from 133 relevés. Species in Chenopodiaceae and Asteraceae were dominant in the salted plain. Soil variables measured included electrical conductivity, elevation, soil texture, soil structure, organic matter, CaCO3, pH, Ca++, Na+, Cl-, CaMg and color of soil. Multivariate analyses including detrended correspondence analysis (DCA) and redundancy analysis (RDA) were performed to analyze the collected data. The results showed that the vegetation distribution pattern was mainly related to conductivity and elevation. Separation of relevés into groups according to the first two axes of RDA provided four vegetation units, each one composed of several diagnostic species with highly significant fidelity value according to Fisher’s test. The theoretical maps produced by kriging revealed a close relationship between these vegetation units and conductivity.

Palabras clave
Redundancy analysis, vegetation units, salinity, cartography, lower-Cheliff, Algeria.