

## **URBAN GEOCHEMICAL MAPPING IN MADRID.APPLICATION TO ENVIRONMENTAL DIAGNOSIS.**

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The main objective of this study has been the multielement geochemical characterization of the urban and periurban soils in a large city. This aim includes the analysis of spacial distribution of trace and major elements and the establishment of their concentration levels, the definition of the element associations and the study of their origin, natural or anthropogenic, and finally the classification of the urban space based on the potentially harmful elements distribution and the recommendation of detail studies in areas with problems. The geochemical content of elements in soils is mainly a function of their primary features and of contaminants contribution (overall by diffuse atmospheric sedimentation). This complex relationship has been approached in this study by means of different kinds of samples and of geochemical data: soil samples (4 samples/ km<sup>2</sup> ), sediment dust from atmospheric aerosol and tree leaves. The treatment and graphic representation of the geochemical information has allowed to know the elementary distributions and estimate their background contents, the main geochemical associations and their most possible origin (lithologic or antropogenic, mainly from industrial sources or traffic). This study contributes to the knowledge of the current state of urban contamination and it will be useful to control and to study its future evolution.