

INVENTORY OF INDUSTRIAL LAND FIELD USING AN KRIGING ALGORITM IN GALATI AREA

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Abstract: *The city of Galati is situated in the geographic center of the largest hydrographic basin in Europe being in the same time, together with Braila city one of the most important industrial area in Romania. The present paper presents the inventory of some less knowing sites having complex pollution potentials affective same natural protect areas as Lower Siret basin. The present research in are on multicriterial monitoring points complex with prognosis using Kriging method. Interpolation methods estimate the values in unsampled locations. The mapping and spatial analysis often requires converting the field measurements into continuous space. Therefore the point data sets must be converted to a continuous form using an interpolation method. The errors, however, enter the spatial database long before any interpolation method is applied to the data set. The first type of error is associated with sampling design. The magnitude of a sample, as well as the procedure of obtaining it, depend on the objectives of the sampling process, and consequently vary with these objectives. Increasing the sample size also improves the accuracy of measurements up to a certain point. In spatial analysis the sampling is often performed on a regular grid or on an irregular set of points however, this might not depict the true variation of studied phenomena in the space.*

Keywords: *kriging, pollution, soil, monitoring*

1. Introduction

Galati is an industrial area, situated in the South - East of the largest hydrographic basin in Europe therefore it is highly sensitive to all types of pollution. Galati has an important steel and iron industry and different historic industrial activities.

The objective of this paper is, using XRF technique to determine the level of a number of heavy metals (Ar, Cd, Co, Hg and Mn) in the vicinity of the city (S-V area). The second part of this paper presents a method called kriging that is a prediction method to determine soil pollution for less accessible areas.

In the scientific world the XRF method has been utilized by Radu T, Diamond D in “Comparison of soil pollution concentrations determined using AAS and portable XRF techniques” [2] K. Kodoma, K. Prekoa & D. Boamahb in the article “X-ray Fluorescence (XRF) Analysis of Soil Heavy Metal Pollution from an Industrial Area in Kumasi, Ghana” [3], and Hall E.T., X-ray fluorescent analysis applied to archaeology [4]. Even native authors have written papers on this method like: Ion V. Popescu, Gh.V.Cimpoca, Claudia Stihi, Cristiana Radulescu, Gabriel State, Anca Gheboianu, Ioana Dulama. “Pollutant elements analysed by atomic and biomonitoring methods”[5], Gabriel State, Ion V. Popescu, Anca Gheboianu, Cristiana Rădulescu, Ioana