

Chapter 9

THE EFFECT OF SEDIMENT GRAIN SIZE ON SOME ELEMENT CONTENT IN CORE SEDIMENTS FROM LAKE HAZAR

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Introduction

The aquatic ecosystems is very often polluted by trace elements due to human settlements, industrial wastewater and agriculture etc. (1, 2). The analysis of trace elements in sediments permits the estimation of pollution that might not be detected by analysis of only water samples (3, 4). Bottom sediments consist of particles that have been transported by water, air or glaciers from the sites of their origin in a terrestrial environment and have been deposited on the floor of a aquatic ecosystem (5, 6). They have always been considered as an important reservoir for a wide variety of pollutants, and generally also provide a record of catchment inputs into river, lake, or ocean (7, 8). Sediments are the final destination of trace elements, as a result of mobility and bioavailability, chemical speciation, biological and physico-chemical conditions and a combination of those phenomena (9).

Sediment cores are collected from sea and lake for many reasons. Core samples serve as an ideal tool for establishing the sedimentation rate, the history of pollutant additions to the aquatic ecosystem, and the inventories of polluting substances. These determinations are possible since suspended particles and bottom sediments adsorb pollutants dissolved in the aquatic ecosystem and control their transport and ultimate deposition (8).

In the natural surroundings tectonical, climatological, dynamic and physico-chemical conditions of sedimentation are the very important factors in the process of sediment composition formation (10). Size is a fundamental property

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