



Environmental Stratigraphy—Chemical Markers of Historic Contamination in Soils and Sediments

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Message from the Guest Editors

‘Environmental Stratigraphy is a discipline in which the chemical markers of contamination can be fingerprinted, using field, forensic, statistical and chemometric approaches. The basis of Environmental Stratigraphy is the Source – Pathway – Receptor model, in which the contaminants that originate in the source move through pathways to accumulate in receptors, chiefly sediments and soils. A natural analogue is the record by soil and sediments of volcanic events. Contaminant accumulation in the receptors is spatially controlled by sedimentary or soil-forming processes, and temporally controlled by the timing of the contaminating activity. Chemical analysis, combined with sedimentary logging and dating, enables detailed pictures to be developed of contamination histories that can be linked to their possible sources. A contaminant signature is rarely based on a single substance. It often comprises several substances emitted by the source industry or activity. Contamination events are recorded by the soil or sediments that will combine them. In some cases, the observed signature is unique to an activity and may help to identify it.





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