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Atmospheric deposition in an industrialized area in the north of spain (Gijón)

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Atmospheric deposition cause soiling and degradation of materials, leading to citizen discomfort. Moreover, these particles may contain a wide range of toxic substances such as heavy metals, which remains for very long periods in soils being an important source of soil contamination. The aim of this study is to determine the levels of atmospheric deposition (dry and wet) in three urban locations ("A", "B" and "C") of an industrialized area in the North of Spain (Gijón). Previous works carried out in that area found high levels of atmospheric deposition. Studies were performed between October and December 2019 over 5 sampling periods of two weeks using a British Standard Dustfall Gauge. Soluble and insoluble fractions were also determined. Meteorological data were used to evaluate the influence of wind, temperature and rainfalls in the levels of the samples collected. Samples collected in "A" and "B", which were closer to the industrial activity, presented higher levels of atmospheric deposition and a higher insoluble/soluble ratio than those collected in "C". The highest insoluble/soluble deposition ratio in "C" was collected in the sampling period with the lowest accumulated precipitation. No significant relationship between wind and deposition was found due to the similarity of the wind patterns.

Biography

Rosa Lara Bueno is BSc in Chemical Engineering at University of Salamanca and MSc in Energy Engineering at University of Oviedo. Currently working at the Institute of Environmental Assessment and Water Research of the Spanish National Research Council. She is a PhD student whose current research is focused on the identification and quantification of the sources of suspended and settleable particulate matter on the Northern Coast of Spain.

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