

## Preliminary Screening for Heavy Metals in Sediments of Urban Streams from Uruguay.

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### Extended Abstract

Urban water courses can be considered complex systems due to their drainage and flooding dynamics, their ecosystems, and the activities that take place within the basins. This work is part of the research line developed by an Interdisciplinary Nucleus of the University of the Republic, called *Urban Waters Management Project*, an interdisciplinary approach that articulates the work of various research groups, empowering them to deepen the management of urban courses [1]. The study involves urban streams from 5 cities in Uruguay. In each one, sediments and water were sampled, and physicochemical and heavy metals were analyzed over a year.

The objective of this project is to contribute to the development of a methodology that integrates various perspectives and disciplines for the study of urban water courses based on the monitoring of different water quality parameters and heavy metals in urban stream sediments with a territorial analysis, to contribute to the construction of the environmental improvement of the basin and the quality of life of the population.

The first preliminary results comprised those from the watershed of the *Ceibal* stream, one of the most important of Salto city (Uruguay), is the site of several urban activities, such as industries, mechanical workshops, as well as other unregulated activities (informal settlements and waste sorters) which could represent sources of contamination by heavy metals [2], [3] and (Alvarez J. et al, unpublished results). Preliminary results obtained from *Ceibal* stream sediments, for cadmium, chromium, copper, mercury, lead, and zinc were compared with the reference regulations. The highest level of heavy metals were detected on P\_C\_14 site (Lead of 20 mg/hg, Zinc 46 mg/hg and Copper 36 mg/hg) (Alvarez J. et al, unpublished results), having within its drainage sub-basin several gasoline stations and parking lots. However, it was not possible to recognize a direct relationship between these levels of heavy metal and the activities identified in the territory. This research will contribute to the knowledge of urban streams concerning the possible presence of heavy metals, representing a starting point for the identification of polluting sources, and leaves suggestions to continue investigating the activities, specifically those informal, in coordination with other disciplines such as health, among others.

### References

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