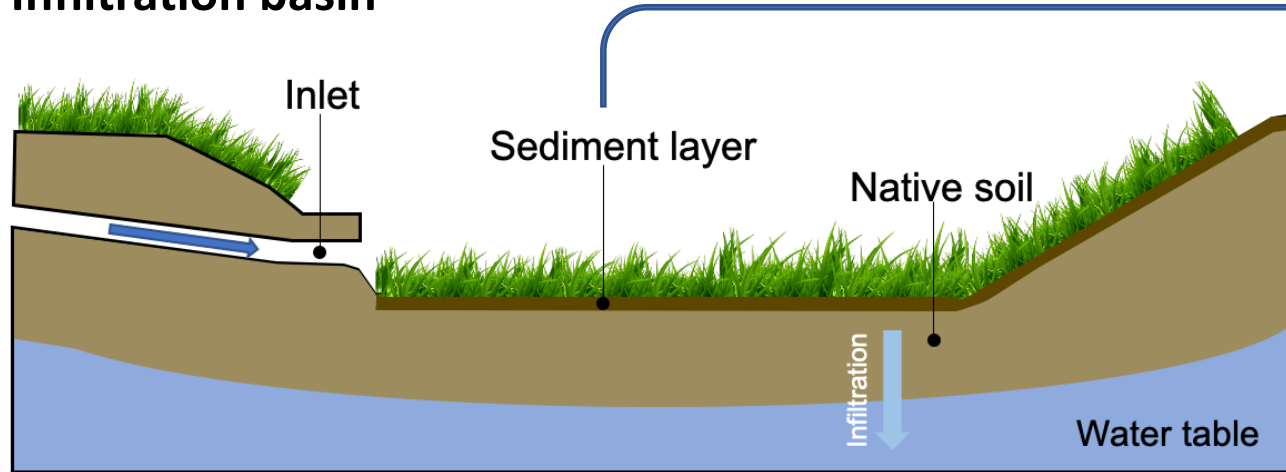


Urban sediment: a specific geochemical signature compared to natural sediments?

by Qiufang ZHAN, Vincent Chatain, Julien Couvidat, Jean-Baptiste Aubin, Gislain Lipeme Kouyi, Mathieu Gautier, Thierry Winiarski, Cécile Delolme

Infiltration basin



Contaminated sediment

- Evolution of pollutants



Rich in OM and Fe

Organic and inorganic pollutants

Microbial activities

PROGRAMME



Urban sediment geochemical property **specific** vs. other sediments?

- Generalization and comparison of geochemical properties to other kinds of sediments (19 basin sediment samples in Lyon + 19 sediment samples from scientific paper researches)

- Correlation matrix

→ Relationships between metals & particle size & OM

- PCA

→ Comparison of content pattern & identification of key factor

- Clustering

→ Gathering of similar sediments

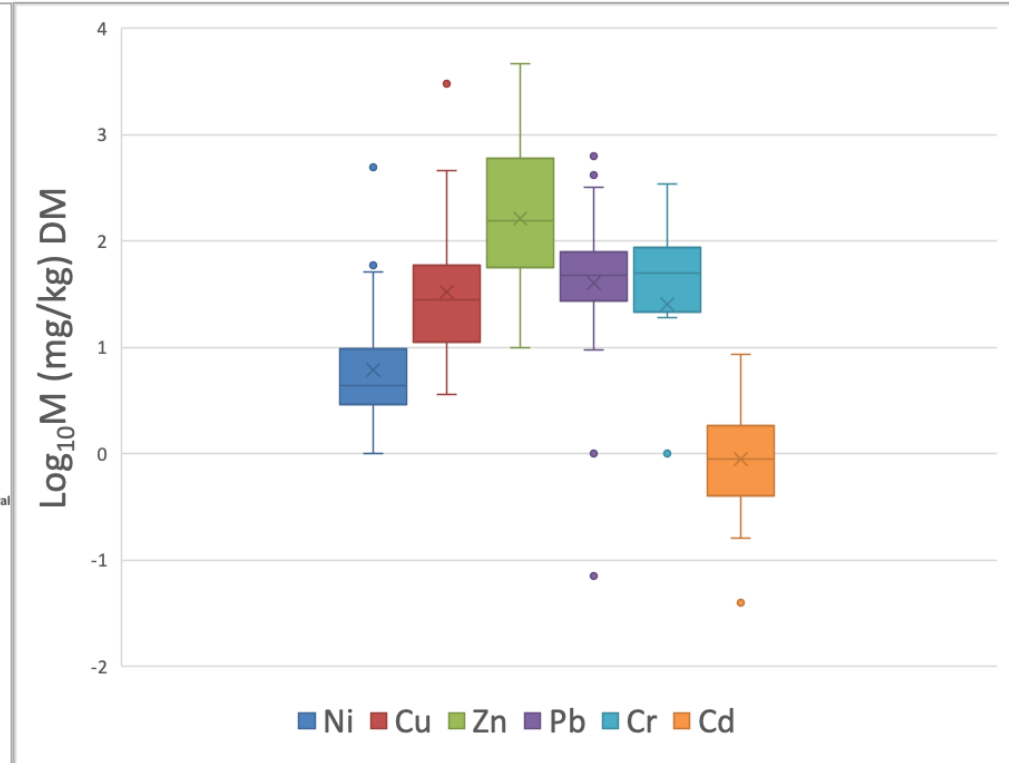
19 urban basin sediment

- ☐ Particle size analysis
- ☐ Trace metal
- ☐ Major elements & Fe
- ☐ Organic matter

PCA applied on the trace metals content of the sediment (38 basins)



Boxplot of logarithmic trace metal concentration of sediment (38 basins)



- All sediments polluted by **trace metals**
- Large amount of **anthropogenic** contaminants from nearby urban areas
- Urban sediments have a **specific** urban geochemical **signature**