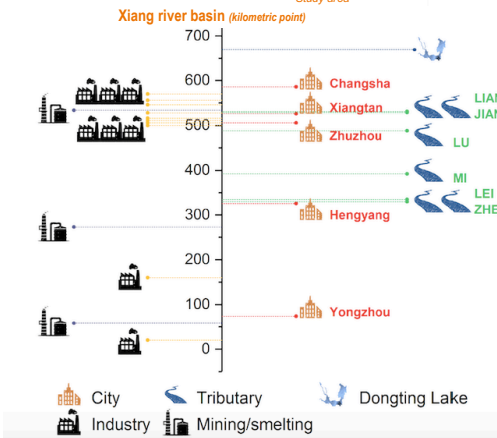


# Sediments of the Xian river (Hunan, China) : sources et mobility of selected trace elements

## Why this study ?

- Which and where trace elements are the most enriched ?
- Potential main sources ?
- Under which conditions these trace elements are released to surface waters ?

In a context of urban and economical extension since the late 1990s, from rice paddies to mining-related activities (coal, Sn, Pb and Zn) with a population increase (>10 millions of unhabitants in the Changsha-Zhuzhou-Xiangtan area)

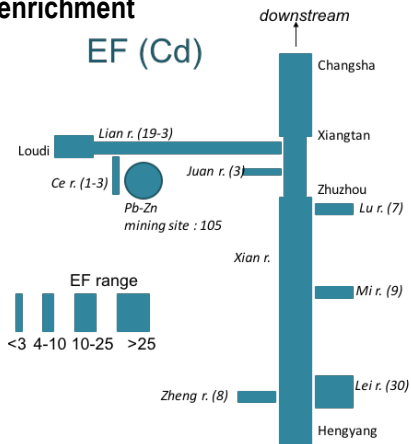


## How ?

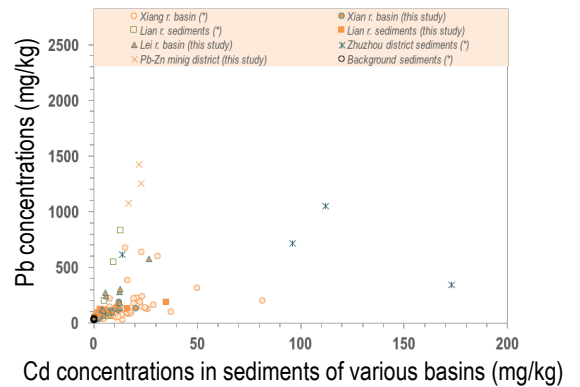
- Bed sediment survey + 1 core
- Up- and downstream confluence in the Xiang river basin (Hunan, China)
- Grain-size, chemical composition by ICP-MS on the <63 μm fraction
- Literature dataset of the study area
- 30 days weathering experiments under oxic and anoxic, biotic and sterile conditions

## And ?

- Bi, Cd >> As, Cu, Pb, Sb, Zn enrichment



- Anthropogenic sources located in different sub-basins: mines in the Lian and the Lei basins, urban and industrial inputs in the Zhuzhou area



## Then ? Example of Cd release

- More released under anoxic and biotic conditions (sterile cond. in progress)
- <0.1 % of released Cd from sediments

