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)

- 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

- 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

Grosbois C.*, Desmet M.*, Zhang M. *, Luo, L**, Shumskykh, M.*, Gassama, N.*, Peng, Q. *, Battaglia, F.*  a-University of Tours (France); b- Central South University (China); c-Hunan University of Agriculture (China); d-ASEMWATER (China, e- National geological survey BRGM (France)  / (*) Data from the literature