

Impact of mining activities and urbanization on the sedimentation rate of Anning River in the Panxi Rift, Southwestern China

Ruilin Wang¹, Xinyu Wang², Zeming Shi³

¹[Department of Chemistry, Chengdu University of Technology, Chengdu, Sichuan, China,
E-mail: wangxinyu2014@cdut.edu.cn]

²[Department of Geochemistry, Chengdu University of Technology, Chengdu, Sichuan, China,
E-mail:wangxinyu2014@cdut.edu.cn]

³[Department of Geochemistry, Chengdu University of Technology, Chengdu, Sichuan, China
E-mail: shizm@cdut.edu.cn]

Clarifying the change of sedimentation rate affected by the modern human activities is vital to understand the impact of human activities including urbanization and mining on the sedimentation process. To fulfill this task, the intensity of ^{137}Cs and $^{210}\text{Pb}_{\text{ex}}$ in the three sediment cores along the Anning River of China is analyzed to reconstruct the historic change of sedimentation rate of this river at the 20th century. This case study indicates that (1) All the change points of the sedimentation rate were located exactly at the time when the local mining activity and urbanization starts; (2) The impact of urbanization on the sedimentation rate of Anning River is smaller, relative to the local mining activities at the REE mining region and V-Ti magnetite mining; (3) Significant increase of sedimentation rate at ~1990s at the downstream was resulted by the local mining activities and urbanization.