

Tuesday 30 October 2018 – 16:30 AMGC Seminar:

“The leaching of two Northern France slag heaps: diagnosis of the surrounding aquatic environment and impact assessment”

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This study reported a project conducted in 2016, which aims to assess the potential leaching impact of two slag heaps in the Hauts-De-France region on biodiversity and ecosystems, based on a diagnosis of the surrounding aquatic environment of the slag heaps.

The approach is structured along three main axes: the first one is a geographical work on aquatic environments, using a study on habitats and the water system. The second and third ones correspond to a thorough physicochemical and ecological study, in order to determine the existence or absence of interactions between the chemical composition of surface waters and the present biodiversity at the bottom of the slag heaps. To spatially and temporally describe this link, it was chosen to base the reflection on cartographies and multivariate data analysis.

On one hand, the obtained results are typical signs of a neutralized acid mine drainage. Moreover, and linked with the water system functioning, the eutrophication of several areas has been shown. On the other hand, if the analysis did not highlight any impact of the leaching on the biodiversity of most of the considered aquatic environments, it has however pointed out four ponds where ecological diversity appeared lower. This impact would be characterized by the reduction of sulphate from the slag heaps leaching to sulphide, potentially toxic for aquatic environments.