Arsenic and other Geogenic Contaminants in Groundwater – a Global Challenge

Andreas Voegelin and Stephan Hug

Eawag, Swiss Federal Institute of Aquatic Science and Technology,
Ueberlandstrasse 133, 8600 Duebendorf, Switzerland
andreas.voegelin@eawag.ch, stephan.hug@eawag.ch

Groundwater is the main drinking and irrigation water resource in many regions around the world. Natural contamination of groundwater with geogenic contaminants (e.g., arsenic, manganese, fluoride, uranium, thallium) poses a major health threat to hundreds of millions of people worldwide. Especially problematic is arsenic due to its abundance and toxicity. To find solutions to this global challenge, it is essential to not only understand the biogeochemical mechanisms that control the release of geogenic contaminants and their fate in soils and aquifers, but also to predict areas at risk of contamination and to design strategies for water treatment and for minimizing contaminant transfer into the food chain. Our team addresses these challenges by combining fundamental and applied research as well as experimental and modeling approaches, thereby contributing to the mitigation and prevention of public health hazards related to geogenic contaminants.