

125-6 - FUTURE GLOBAL GROUNDWATER QUALITY CHALLENGES

 Monday, September 23, 2024

 3:25 PM - 3:45 PM

 Ballroom A&B (Anaheim Convention Center)

Abstract

Groundwater has a huge contribution to make for the security of future drinking water resources globally. However, there are a range of new and legacy groundwater quality issues which can constrain the use of groundwater for potable supply. Our development of groundwater resources in the last century has been a catalyst for phenomenal economic growth and improvements in drinking water supply and health. However, there is growing evidence that we are starting to approach and potentially exceed planetary boundaries for some key pollutant groups globally. The topic of groundwater quality has tended to take a back seat in the face of growing demand for increases in groundwater supply for irrigation and other uses. This keynote highlights some of the major current water quality challenges globally. These include the widespread issues of increasing groundwater salinity, geogenic sources of groundwater contamination, anthropogenic pollution related to food production as well as emerging threats from microbes, PFAS and microplastics. If we are to ensure that groundwater can deliver potable drinking water today, and for future generations, it is crucial that water quality challenges are fully investigated, and sustainable solutions implemented to protect groundwater supplies. This requires difficult decisions in terms of reducing inputs at source, protecting groundwater resources and related infrastructure the development of appropriate groundwater monitoring strategies and improvements in groundwater treatment for drinking water supply. The complexity of this type of challenge is illustrated through a case study on the ongoing use of biosolids as fertilisers on agricultural land and the potential risks to groundwater resources from some groups of contaminants associated with biosolids.

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