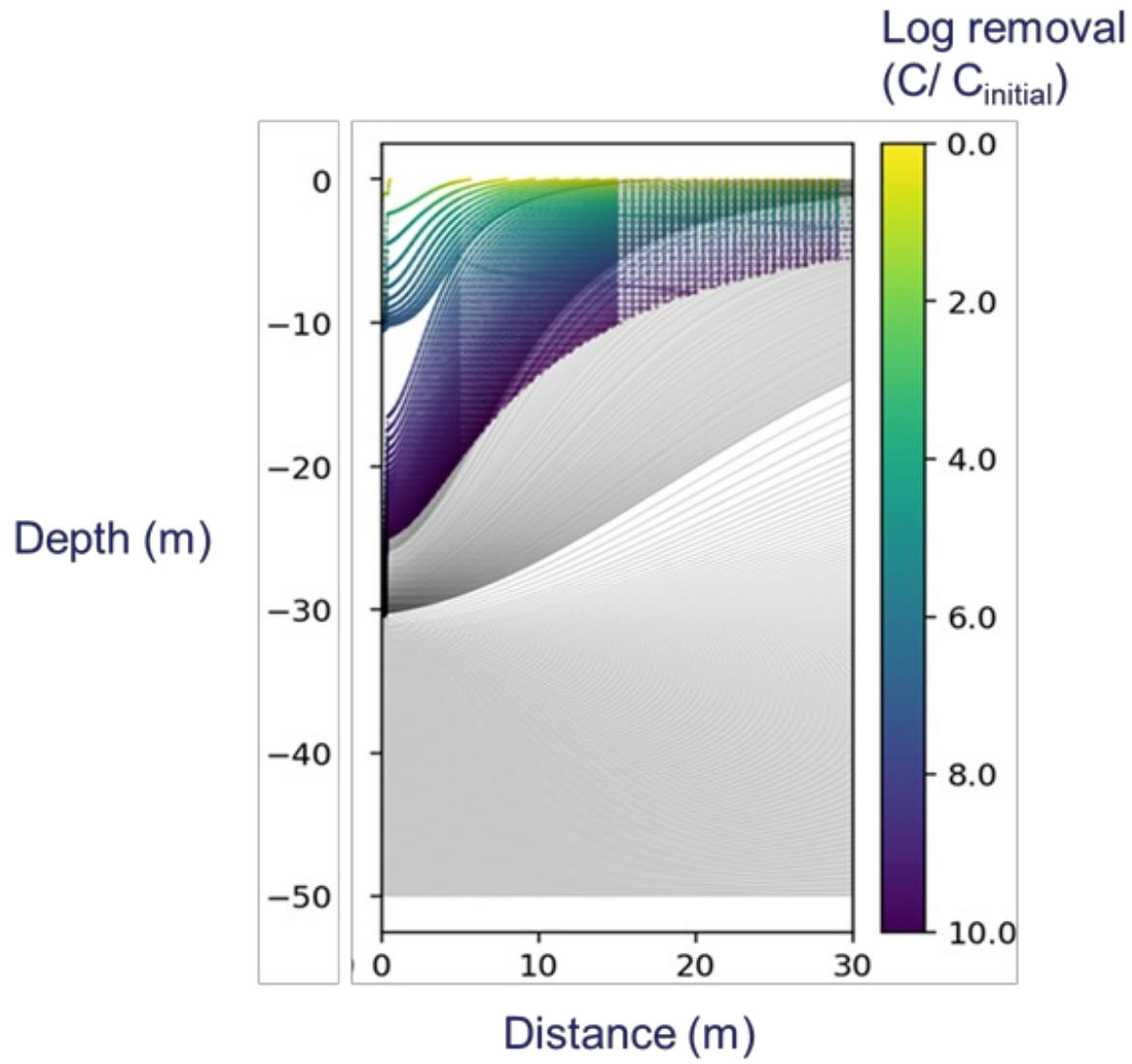
Product factsheet

Subsurface Transport and Removal

Software solution



Description

Managed Aquifer Recharge (MAR) offers numerous benefits including storage of water.

- The source water for MAR schemes is often contaminated with pathogens.
- One of the advantages of MAR, is that the pathogens may be removed during storage and transport

Challenge

- Existing models for pathogen removal require high expertise (e.g., Hydrus 2D) or are not suited for MAR-applications (QMRAwell)
- Removal parameters are hard to estimate
- Depend on organism related properties (e.g., diameter, survival rate)
- Environmental parameters such as temperature, redox conditions, and flow rate
- Existing databases are not tailored to conditions typical for MAR conditions

The aim of this tool is to retrieve plant pathogen transport properties and use this information to predict concentration of pathogens after subsurface storage.

Training material for SuTRa tool is available at https://youtu.be/Cg4ng8r6QdM.

Target audience

Direct users: Professionals involved in the design (e.g., engineers) or in evaluation of MAR-schemes (e.g., health experts, pest control experts)

Actors, their roles and interactions

Indirect beneficiaries:

- Agricultural companies -> less risk of plant diseases,
- MAR-Technology providers-> more optimal dimensioning of MAR-schemes

Unique selling points

Simple method to get a first estimate of microbial risks of Managed Aquifer Recharge.

Technical requirements

Computer with Python version 3.6 or higher installed.

Software data

- Version: First version
- Initial release: 2022
- License: MIT License

URL

https://sutra.readthedocs.io/en/latest/tutorial.html

Technologies applied by the product

- **Controlled artificial recharge and drainage (CARD) system**
- **Large scale Aquifer Storage & Recovery (ASR) Systems**

Costs

Use is free of charge.

Case Study applying the product

Flanders, Belgium



https://mp.watereurope.eu/d/CaseStudy/32

Related tags

Plant pathogens | groundwater | inactivation