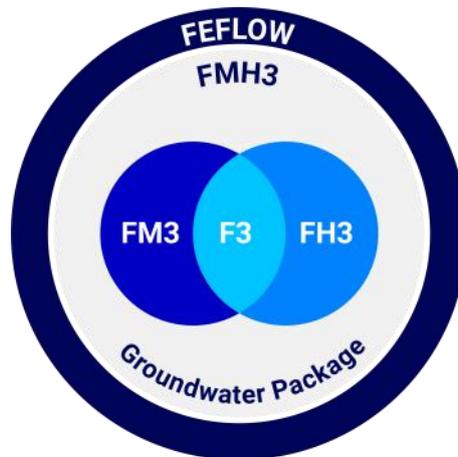


FEFLOW

Groundwater and Porous Media Modelling—Licensing

FEFLOW is available in different license types to offer the best option for your personal needs:



FEFLOW FMH3 GROUNDWATER PACKAGE

FEFLOW F3 THE CORE OF EVERY PROJECT

Applications includes from regional groundwater management, mine-water management, aquifer recharge and groundwater related in geotechnical projects

- Analysis of groundwater drawdown
- Capture zone delimitation
- Progress of excavations (open pit, underground mining, tunnelling)
- Dewatering estimation
- Seepage analysis
- Groundwater-related subsidence
- Groundwater/surface water interaction
- Detailed unsaturated-flow
- Industrial porous media

FEFLOW FH3 FLOW & HEAT PACKAGE

Integrated solution for groundwater and geothermal projects. Support economic feasibility studies, design, planning and optimisation of geothermal systems

- Open and closed loop systems
- Deep and shallow systems
- Borehole Heat Exchangers (BHE) w/o arrays
- Deep geothermal heat exchangers (DBHE)
- Complex wellbore trajectories
- Complex deep geothermal reservoir
- Freezing / Thawing
- Industrial porous media

FEFLOW FM3 MINING PACKAGE

Integrated solution for groundwater quality and quantity. Better management of groundwater quality, nuclear waste storage and remediation.

- Saltwater intrusion
- Chlorinated solvents
- Agricultural-related pollutants
- Brine-water (e.g. Potash and Lithium mining)
- Capture zone analysis based on groundwater-age
- Complex reactive transport

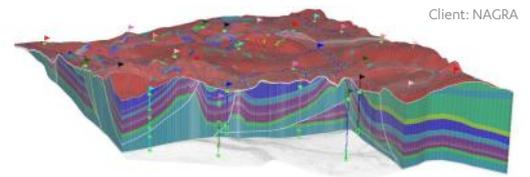
OUR TECHNOLOGY



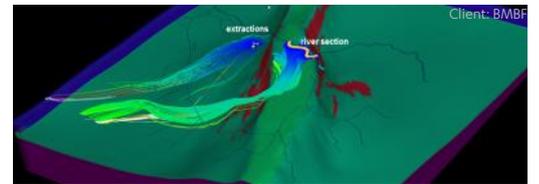
For more than 25 years, MIKE Powered by DHI software products have been used in water environments all over the world. Thousands of professionals choose MIKE software to solve tough and complex challenges in areas such as oceans and coastlines, rivers and reservoirs, ecology, groundwater, water distribution, wastewater and many more. Our data management, decision support and operational forecasting software suite traverses all our areas of applications, complementing existing MIKE technologies in the work we do for you.

FEFLOW PROJECT EXAMPLES

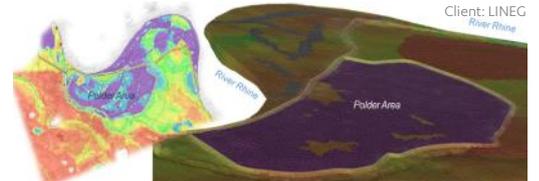
In the Swiss road map to establish repositories for radioactive waste five geologically suitable siting regions in northern Switzerland have been proposed. As a decision basis for the next selection stage, numerical models of the groundwater flow conditions were elaborated on regional and local scales. With FEFLOW the geology of the five regions including the proposed repository sites could be realistically described, including faults, thrusts and anticlines and taking into account sensitivity analyses and parameter uncertainties.



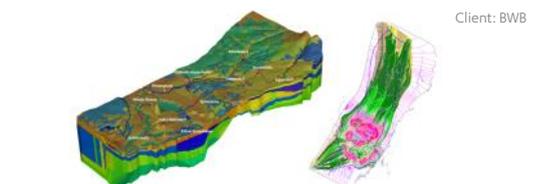
A historical deep salt mine in Stassfurt in Germany: The salt mine causes serious uncontrolled salt leaching and mass displacement effects in the underground. 3D FEFLOW variable density flow simulations have been performed, incorporating the geometry of the mine workings in suited detail. Model scenarios gave a better insight into flow and mass transport processes, which could help to quantify subsidence potential.



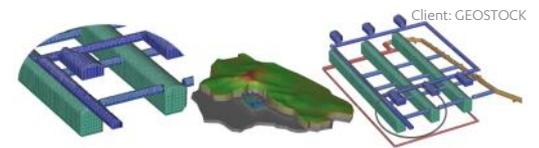
Impact of polder flooding: Along the river Rhine the impact of a retention polder has been analyzed with a 3D FEFLOW model. The polder is located in a mining region where subsidence is evident and artificial regulation of groundwater levels is already obligatory to prevent flooding of settlements. A special FEFLOW plug-in was developed enabling an accurate description of the temporal and spatial spreading of the flooded area, with which areas could be identified that are potentially affected by the polder flooding.



Berlin Water Works: For most of the Berlin Water Works studies have been performed with FEFLOW. These studies include the quantification of drinking water protection zones, catchment analyses for changing extraction rates or climatological conditions, mass transport simulations including hazard risk analyses and remediation strategy development, quantification of bank infiltration volumes and environmental impact studies.



Underground oil and gas storage: Simulation of the dewatering process during the construction of storage caverns for liquefied natural gas (LNG), including seawater intrusion (density-dependent flow) and variably saturated flow. The work carried out dealt with complex geometrical and physical conditions. Within the project innovative solutions for the posed problems have been applied, including script developments that can also be applied in other subsurface construction projects.



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