NUMERICAL MODELING OF REVERSING GROUNDWATER

By Xiang David

LAP Lambert Acad. Publ. Jan 2010, 2010. Taschenbuch. Book Condition: Neu. 220x150x9 mm. Neuware - Nitrate, typically derived from agricultural runoff and wastewater disposal, is the most widespread groundwater contaminant in the United States. A series of two- and three-dimensional finite-element groundwater models are presented here to simulate groundwater nitrate transport and remediation in the Florida Keys, where wastewater injection is suspected of contributing to the deterioration of the offshore coral reef. These models include quantification of the hydrogeology of reversing groundwater flow due to tidal pumping and nitrate removal rates based on a new application of a molecular technique for measuring microbial respiration rates. Physical constraints on tidal pumping, including comparisons of net to total submarine groundwater discharge rates and the variable-density mixing of recirculated seawater, were derived from observed tidal properties and published aquifer characteristics, with model calibration to previously conducted tracer experiments. The model demonstrates that even moderate tidal fluctuations are capable of driving reversing groundwater flow patterns, with net groundwater velocities and tracer distributions that closely match field measurements. 144 pp. Englisch.

READ ONLINE
[5.59 MB]

Reviews

It in one of my personal favorite publication. Indeed, it is actually perform, still an amazing and interesting literature. Its been printed in an exceptionally easy way which is merely soon after i finished reading this book where really altered me, change the way i believe.
-- Neal Homenick IV

Extensive information for book fanatics. Better then never, though i am quite late in start reading this one. I am just delighted to tell you that this is basically the best pdf i actually have go through within my personal daily life and might be he greatest pdf for actually.
-- Guillermo Marquardt