Groundwater Contamination: Performance, Limitations and Impacts

Editors: Anna L. Powell

Book Description:
Groundwater contamination is nearly always the result of human activity. In areas where population density is high and human use of the land is intensive, groundwater is especially vulnerable. Virtually any activity whereby chemicals or wastes may be released to the environment, either intentionally or accidentally, has the potential to pollute groundwater. When groundwater becomes contaminated, it is difficult and expensive to clean up. This book focuses on the performance, limitations and impacts of groundwater contamination. (Imprint: Nova)

Table of Contents:
Preface

Chapter 1. Groundwater Pollution and Control: An Overview
(Theophilus Aanuoluwa Adagunodo, Department of Physics, Covenant University, Ota, Ogun State, Nigeria)

Chapter 2. Groundwater Contamination: Sources and Mitigation
(H. Ayedun, Department of Chemical Sciences, Ondo State University of Science and Technology, Okitipupa, Ondo State, Nigeria)

Chapter 3. Groundwater Contamination: Performance, Effects, Limitations and Control
(Theophilus Aanuoluwa Adagunodo, Department of Physics, Covenant University, Ota, Ogun State, Nigeria)

Chapter 4. Groundwater Contamination: Performance Limitations and Impacts in the Niger Delta
(Awajiogak A. Ujile, Associate Professor, Department of Chemical/Petro-Chemical and Petroleum Engineering, Rivers State University of Science and Technology, Port Harcourt, Nigeria)

Chapter 5. Fluoride as a Pollutant in Some Brazilian Aquifer Systems
(Daniel Marcos Bonotto and Gabriell e Roveratti, Departamento de Petrologia e Metalogenia, Universidade Estadual Paulista (UNESP), Rio Claro, São Paulo, Brazil, and others)

Index

Series:
Water Resource Planning, Development and Management

Binding: ebook
Pub. Date: 2017
Pages: 6x9 - (NBC-R)
ISBN: 978-1-53611-017-3
Status: AV

https://www.novapublishers.com/catalog/product_info.php?products_id=61254&osCsid=079f4e1d05588bb1c74c855ba093e22d
### CONTENTS

**Preface vii**

**Chapter 1** Groundwater Pollution and Control: An Overview  
*Theophilus Aanuoluwa Adagunodo*  
1

**Chapter 2** Groundwater Contamination: Sources and Mitigation  
*Ayedun Hassan*  
13

**Chapter 3** Groundwater Contamination: Performance, Effects, Limitations and Control  
*Theophilus Aanuoluwa Adagunodo*  
33

**Chapter 4** Groundwater Contamination: Performance Limitations and Impacts in Niger Delta-Nigeria  
*Awajiogak A. Ujile*  
65

**Chapter 5** Fluoride as a Pollutant in Some Brazilian Aquifer Systems  
*Daniel Marcos Bonotto and Gabrielle Roveratti*  
103

**Index**  
125

Chapter 1

GROUNDWATER POLLUTION AND CONTROL: AN OVERVIEW

Theophilus Aanuoluwa Adagunodo

Department of Physics, Covenant University, Ota, Ogun State, Nigeria

ABSTRACT

The pollutant creates a contaminant plume within an aquifer. Movement of water and dispersion within the aquifer spreads the pollutant over a wider area. This Chapter is aimed at reviewing the groundwater pollution sources, solid wastes and control measures for groundwater pollution. Pollution can occur from on-site sanitation systems, effluent from wastewater treatment plants, landfills, leaking sewers, petrol stations or from over application of fertilizers in agriculture. Pollution (or contamination) can also occur from naturally occurring contaminants, such as fluoride or arsenic. Using polluted groundwater causes hazards to public health through poisoning or the spread of disease. In spite of various awareness embarked upon by various government agencies and non-governmental agencies, some Nigerians still cultivate the habit of disposing wastes indiscriminately. Government agencies should be more funded, gear up to rise to the occasion by combating this seemingly intractable problem. Conclusively,