1. Record Nr. UNINA9910366627903321 Autore Maliva Robert G Titolo Anthropogenic Aquifer Recharge: WSP Methods in Water Resources Evaluation Series No. 5 / / by Robert G. Maliva Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2020 **ISBN** 3-030-11084-2 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (872 pages) Collana Springer Hydrogeology, , 2364-6454 Disciplina 627.56 551.49 Soggetti Hydrogeology Water - Pollution Sustainable development Environmental sciences Waste Water Technology / Water Pollution Control / Water Management / Aquatic Pollution Sustainable Development **Environmental Science and Engineering** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction to Anthropogenic Aquifer Recharge -- Hydrogeology Nota di contenuto Basics – Aquifer Types and Hydraulics -- Vadose Zone Hydrology Basics -- Groundwater Recharge and Aquifer Water Budgets -- Geochemistry and Managed Aquifer Recharge Basics -- Anthropogenic Aquifer Recharge and Water Quality -- Contaminant Attenuation and Natural Aquifer Treatment -- MAR Project Implementation -- MAR Hydrogeological and Hydrochemistry Evaluation Techniques -- Vadose Zone Testing Techniques Clogging -- Pretreatment.-ASR and Aquifer Recharge Using Wells -- Groundwater Banking -- Surface-Spreading Systems – Infiltration Basins -- Surface-Spreading Systems (Non-Basin) -- Vadose Zone Infiltration Systems -- Recharge and Recovery Treatment Systems -- Soil-Aquifer Treatment -- Riverbank Filtration --

Saline-Water Intrusion Management -- Wastewater MAR and Indirect Potable Reuse -- Low Impact Development and Rainwater Harvesting --

Unmanaged and Unintentional Recharge.

Sommario/riassunto

The book is an overview of the diversity of anthropogenic aquifer recharge (AAR) techniques that use aquifers to store and treat water. It focuses on the processes and the hydrogeological and geochemical factors that affect their performance. This book is written from an applied perspective with a focus of taking advantage of global historical experiences, both positive and negative, as a guide to future implementation. Most AAR techniques are now mature technologies in that they have been employed for some time, their scientific background is well understood, and their initial operational challenges and associated solutions have been identified. However, opportunities exist for improved implementation and some recently employed and potential future innovations are presented. AAR which includes managed aquifer recharge (MAR) is a very important area of water resources management and there is no recent books that specifically and comprehensively addresses the subject.