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| Descrizione fisica      | 1 online resource (347 p.)  |
| Altri autori (Persone)  | LehrJay H. <1936-><br>PerrochetPierre   |
| Disciplina              | 551.49  |
| Soggetti                | Groundwater - Analysis<br>Radioactive tracers in hydrogeology   |
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| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Note generali           | Description based upon print version of record.   |
| Nota di bibliografia    | Includes bibliographical references (p. 266-298) and index.   |
| Nota di contenuto       | GROUNDWATER AGE; CONTENTS; Preface; Acknowledgments; 1 Introduction; 1.1 Age and Lifetime; 1.2 Age Determination in Geology (Geochronology) and in Other Disciplines; 1.2.1 Absolute Age and Relative Age; 1.2.2 Determination of Absolute Age of Rocks; 1.2.3 Geological Time Table; 1.3 Groundwater Age and Groundwater Residence Time; 1.3.1 Young, Old, and Very Old Groundwaters; 1.3.2 Dead Water and Active Water; 1.3.3 Age Gradient; 1.3.4 Age Mass; 1.3.5 Mixing, Dispersion, and Transport of Groundwater Age, Mean Age, and Distribution of Ages<br>1.3.6 Average Residence Time of Water in Various Compartments of the Hydrologic Cycle<br>1.3.7 Hydrogeochronology, Interdisciplinary Groundwater Age Science, and Hydrologic Time Concept; 1.3.8 Event Markers; 1.4 Life Expectancy; 1.5 Isochrone and Life Expectancy Maps; 1.6 Some Groundwater Age-Related Terms; 1.6.1 Isotopic Age, Radiometric Age, and Decay Age; 1.6.2 Hydraulic Age; 1.6.3 Piston-Flow Age, Streamtube Age, and Advective Age; 1.6.4 Model Age and Apparent Age; 1.6.5 Storage Time, Mean Transit Time, Turnover Time, |

## Flushing Time, and Travel Time

1.6.6 Reservoir Theory and Its Relation with Groundwater Residence Time  
2 History of Groundwater Age-Dating Research; 2.1 Pioneer of Groundwater Age Discipline-Sequence of the Earliest Publications; 2.2 Laboratories Worldwide for Dating Groundwater Samples; 2.3 Major Contributors to Groundwater Age-Dating Discipline; 2.4 Names Familiar in the Groundwater Dating Business; 2.5 Important Publications; 2.5.1 Book Chapters; 2.5.2 Ph.D. and M.Sc. Theses; 2.5.3 Journals; 2.5.4 Reports (mainly by the USGS); 2.6 Aquifers Subjected to Extensive Dating Studies; 3 The Applications of Groundwater Age Data  
3.1 Renewability of the Groundwater Reservoirs  
3.2 An Effective Communication Tool for Scientists and Managers-and Curiosity to Laymen as Well; 3.3 Age Monitoring for the Prevention of Overexploitation and Contamination of Aquifers; 3.4 Estimation of the Recharge Rate; 3.5 Calculation of the Groundwater Flow Velocity; 3.6 Identification of the Groundwater Flow Paths; 3.7 Assessing the Rates of Groundwater and Contaminants Transport Through Aquitards; 3.8 Constraining the Parameters of Groundwater Flow and Transport Models (Estimation of Large-Scale Flow and Transport Properties)  
3.9 Identification of the Mixing Between Different End Members  
3.10 Study of the Pre-Holocene (Late Pleistocene) Climate; 3.11 Evaluation of the Groundwater Pollution; 3.12 Calculation of the Travel Time of the Groundwater Plume to the Points of Interest; 3.13 Mapping Vulnerability of the Shallow Aquifers; 3.14 Performance Assessments for Radioactive Waste Disposal Facilities; 3.15 Site-Specific Applications; 3.15.1 Identification of the Seawater-Level Fluctuations; 3.15.2 Calculating the Timescale of Seawater Intrusion; 3.15.3 Disposal of Wastes into the Deep Old Saline Groundwater Systems  
3.15.4 Management of the Dryland Salinity in Australia

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### Sommario/riassunto

Groundwater Age is the first book of its kind that incorporates and synthesizes the state-of-the-art knowledge about the business of groundwater dating - including historical development, principles, applications, various methods, and likely future progress in the concept. It is a well-organized, advanced, clearly written resource for all the professionals, scientists, graduate students, consultants, and water sector managers who deal with groundwater and who seek a comprehensive treatment of the subject of groundwater age.

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