



RESOURCE

A Snapshot of the World's Groundwater Challenges

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Description / Abstract

Depletion and pollution of groundwater, Earth's largest and most accessible freshwater stock, is a global sustainability concern. A changing climate, marked by more frequent and intense hydrologic extremes, poses threats to groundwater recharge and amplifies groundwater use. However, widespread human development and contamination of groundwater reservoirs pose an immediate threat of resource extinction with impacts in many regions with dense population or intensive agriculture. A rapid increase in global groundwater studies has emerged, but this has also highlighted the extreme paucity of data for substantive trend analyses and assessment of the state of the global resource. Noting the difficulty in seeing and measuring this typically invisible resource, we discuss factors that determine the current state of global groundwater, including the uncertainties accompanying data and modeling, with an eye to identifying emerging issues and the prospects for informing local to global resource management in critical regions. We comment on some prospective management strategies.

Publication year

2020

Publisher

Annual Reviews

Keywords

Groundwater Management

Thematic Tagging

Climate

Language English

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A3.03

Source URL: <https://iwrmaactionhub.org/resource/snapshot-worlds-groundwater-challenges>