

UN scientists warn of increased groundwater demands due to climate change

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Climate change has been studied extensively, but a new body of research guided by a San Francisco State University hydrologist looks beneath the surface of the phenomenon and finds that climate change will put particular strain on one of our most important natural resources: groundwater.

SF State Assistant Professor of Geosciences Jason Gurdak says that as precipitation becomes less frequent due to [climate change](#), lake and reservoir levels will drop and people will increasingly turn to [groundwater](#) for agricultural, industrial, and drinking water needs. The resource accounts for nearly half of all drinking water worldwide, but recharges at a much slower rate than aboveground [water sources](#) and in many cases is nonrenewable.

"It is clear that groundwater will play a critical role in society's adaption to climate change," said Gurdak, who co-led a United Nations-sponsored group of scientists who are now urging policymakers to increase regulations and [conservation measures](#) on nonrenewable groundwater.

The scientists recently released a book of their research, titled "Climate Change Effects on Groundwater Resources," that is the result of a global groundwater initiative by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). They will soon make their case to international policymakers at the March 12-17 World Water Forum in Marseille, France.

The high-profile forum will allow the scientists for the first time to put the comprehensive groundwater findings before decision makers who have the power to enact regulatory changes. Gurdak will recommend closely monitoring or limiting groundwater pumping as well as renewing cooperation from communities to consume less water.

"In many ways, California is leading the way in developing solutions," he said. "Artificial recharge, managed storage and recovery projects and low impact development around the state will become more important for many local water systems to bank excess water in aquifers."

More information: "Climate Change Effects on Groundwater Resources: A Global Synthesis of Findings and Recommendations," was published in December 2011 by CRC Press. Selections from the book can be read here: [userwww.sfsu.edu/~jgurdak/Publ ...
_tableofcontents.pdf](http://userwww.sfsu.edu/~jgurdak/Publ..._tableofcontents.pdf)

Provided by San Francisco State University

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