

Water and Politics

Water and politics are intricately linked, with access to water resources playing a crucial role in shaping geopolitical dynamics, social stability, and economic development



As a fundamental human need, water is essential for survival, agriculture, and industry, making its management and distribution a politically charged issue. In many regions, water scarcity has heightened tensions and conflicts, both within and between nations. Countries sharing transboundary water bodies often engage in complex negotiations to ensure fair and sustainable use

Domestically, the politics of water often reflect broader social inequalities. In many developing nations, access to clean and affordable water remains a challenge, disproportionately affecting marginalized communities. Political leaders and governments are frequently judged on their ability to provide reliable water services, making water infrastructure a central aspect of political platforms and public policy. Privatization of water services has sparked debates over the commodification of a basic human right, with critics arguing that it leads to increased prices and reduced access for the poor, while proponents claim it improves efficiency and quality of service.



Climate change further complicates the politics of water by altering precipitation patterns and exacerbating droughts and floods, thus impacting water availability. Policymakers must navigate these challenges by investing in sustainable water management practices, such as conservation, innovative agricultural techniques, and advanced technologies for desalination and wastewater treatment. Additionally, international cooperation is vital for addressing global water issues, requiring robust legal frameworks and institutions to manage shared resources and mitigate conflicts.

In sum, water politics encompasses a wide range of issues from local governance and social justice to international diplomacy and environmental sustainability. Effective water management is crucial for peace, stability, and development, underscoring the need for equitable and forward-thinking policies to address one of the most pressing challenges of our time.

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Peak Water:

Do We Have Enough Groundwater To Meet Future

May 09 2024

A new study finds that, by mid-century, nearly half the global population could live in areas where groundwater will become so costly as to raise regional food prices and significantly alter the geography of trade and crop production. Nine percent of the world's water basins appear to have already reached such a state of near depletion. The new research, led by scientists at the Department of Energy's [Pacific Northwest National Laboratory](#), suggests an additional 11.5 percent could reach this point by 2030, with another 22 percent joining by mid-century. The authors of the new work sought to identify when and where water withdrawals from many of the world's aquifers could "peak," as in, when external forces could drive groundwater extraction to reach its maximum. Similar peaks have been observed in other resources, like fossil fuels or minerals.

But, until now, no study has observed and quantified the same behavior in groundwater. This new work marks the first time anyone has projected the peak and decline of water withdrawals in relation to demand from human-driven systems. It represents "the most extensive, large ensemble experiment focused on future global groundwater extraction to date," said lead author and Earth scientist Hassan Niazi. Though water is conserved within Earth's hydrosphere and never truly "lost," the new work affirms that groundwater does behave as a non-renewable resource, constrained in part by the cost of retrieval. Those who study groundwater recognize this, said coauthor and Earth scientist Tom Wild.

"While it's not new for us to show that groundwater behaves like a nonrenewable resource," said Wild, "our work provides a very stark and visible reminder of groundwater's finite nature, given how similar our projected groundwater patterns are to other resources that are in the process of being exhausted."

Yet the rate at which groundwater is extracted globally, said Niazi, runs counter to this idea. Withdrawal rates, after all, continue to rise.

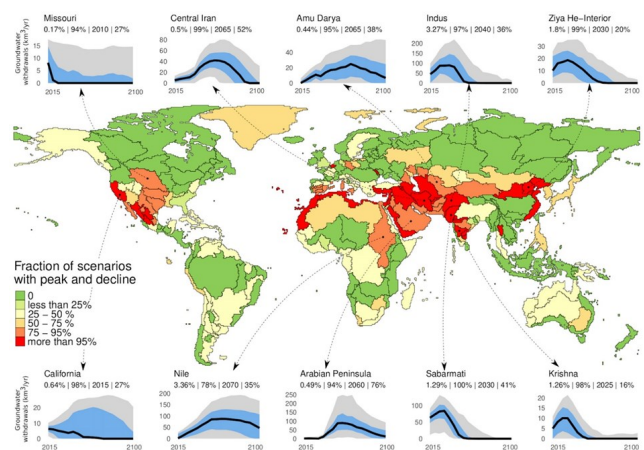
"About a fifth of the world's food is grown using groundwater," said Niazi. "So, it's important to recognize that groundwater, particularly that in deep aquifers, is finite, much like oil or copper.

And understanding when this depletable resource will peak and decline can help us carve out an informed path forward, as many regions face the imminent challenge of reducing their groundwater reliance. That's important because groundwater is tied to so many essential functions of society, from irrigation to energy and, inseparably, to the well-being of our environment."

The [new work was published recently](#) in the journal Nature Sustainability.

What drives a peak?

This figure depicts the percentage of 900 simulated scenarios in which the annual rate of non-renewable groundwater withdrawal peaks and declines over the 21st century. Many of the basins that have been responsible for the past five decades of global agro-economic productivity show peak and decline signatures across the lion's share of scenarios. (Figure by Hassan Nia-



zi | Pacific Northwest National Laboratory)

When an aquifer's level falls so low that its water can no longer be reached or the toll of doing so grows too costly, groundwater extraction reaches a point of either physical or economic infeasibility. Past this point, groundwater withdrawals typically decline as people look toward alternatives.

Much of the research on groundwater depletion investigates when and where aquifers may physically "run dry." Yet this is only one part of a complicated picture.

Source: Pacific Northwest National Laboratory (PNNL)

Climate change could become the main driver of biodiversity decline by mid-century



April 25, 2024

Global biodiversity has declined between 2% and 11% during the 20th century due to land-use change alone, according to a large multi-model study published in *Science*. Projections show climate change could become the main driver of biodiversity decline by the mid-21st century.

The analysis was led by the German Centre for Integrative Biodiversity Research (iDiv) and the Martin Luther University Halle-Wittenberg (MLU) and is the largest modelling study of its kind to date. The researchers compared thirteen models for assessing the impact of land-use change and climate change on four distinct biodiversity metrics, as well as on nine ecosystem services.

Global biodiversity may have declined by 2% to 11% due to land-use change alone

Land-use change is considered the largest driver of biodiversity change, according to the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). However, scientists are divided over how much biodiversity has changed in past decades. To better answer this question, the researchers modelled the impacts of land-use change on biodiversity over the 20th century. They found global biodiversity may have declined by 2% to 11% due to land-use change alone. This span covers a range of four biodiversity metrics¹ calculated by seven different models.

Climate and land-use change combined might lead to biodiversity loss

The researchers also examined how biodiversity and ecosystem services might evolve in the future. For these projections, they added climate change as a growing driver of biodiversity change to their calculations.

Climate change stands to put additional strain on biodiversity and ecosystem services, according to the findings. While land-use change remains relevant, climate change could become the most important driver of biodiversity loss by mid-century. The researchers assessed three widely-used scenarios -- from a sustainable development to a high emissions scenario. For all scenarios, the impacts of land-use change and climate change combined result in biodiversity loss in all world regions.

While the overall downward trend is consistent, there are considerable variations across world regions, models, and scenarios.

Projections are not predictions

"The purpose of long-term scenarios is not to predict what will happen," says co-author Dr Inês Martins from the University of York. "Rather, it is to understand alternatives, and therefore avoid these trajectories, which might be least desirable, and select those that have positive outcomes. Trajectories depend on the policies we choose, and these decisions are made day by day." Martins co-led the model analyses and is an alumna of iDiv and MLU.



Source:

Materials provided by German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig. Note: Content may be edited for style and length.

Fourth International Baghdad Water Conference spotlights importance of transboundary water cooperation for peace and development in the region

02 May 2024



Iraq grapples with severe water challenges exacerbated by climate change, population growth, upstream dam construction, and decades of conflict and instability. The Euphrates and Tigris rivers, vital lifelines for the region's agriculture, ecosystems, and communities, face increasing threats from upstream water diversions, pollution, and unsustainable water management practices. Over the last 40 years, water flows from the Euphrates and Tigris rivers, which provide up to 98% of Iraq's surface water, have decreased by 30-40%. Iraq's overall water supply is expected to decrease by up to 60% by 2025 compared with 2015. These challenges underscore the urgent need for coordinated action and international cooperation to ensure the sustainable use and management of these transboundary water resources.

Against this backdrop, the Ministry of Water Resources of Iraq hosted the Fourth International Baghdad Water Conference (Baghdad, 27-29 April 2024), highlighting the importance of transboundary water cooperation in addressing pressing environmental and socio-economic issues. Under the slogan "Together we can", the Fourth International Baghdad Water Conference gathered Ministers and Deputy Ministers from Egypt, Iran, State of Palestine, Syria, and Tunisia to address multifaceted water-related challenges in the region and beyond to exchange best practices in tackling water-related issues and

the importance of transboundary water cooperation in addressing climate change impacts and fostering socio-economic development.

In 2023, Iraq became the first Party to the UN Water Convention from the Middle East and North Africa region, committing to enhanced transboundary water cooperation with its neighbors. In line with this, the conference served as an excellent opportunity to announce the National Water Dialogue, which "will contribute to the coordination between various sectors and will deepen and strengthen coordination to remove fragmented responsibilities", said Dr. Sadeq Baqer Al-Jawad from the Prime Minister's Advisory Commission in a session organized by the Ministry of Water Resources and the UN Water Task Force in Iraq, including the UNECE secretariat of the Water Convention. The Convention's secretariat and a representative from Kazakhstan shared the over twenty-year experience gathered in Eastern Europe, the Caucasus, and Central Asia in the National Policy Dialogues on Integrated Water Resources Management under the Water Convention's programme of work.

This experience shows how effective an inter-sectoral multistakeholder platform can be in strengthening national governance, including the adoption and revision of water legislation, helping to test and introduce new practices and approaches, such as economic instruments, and attracting investments for driving water policy re-





Water for Peace Lost: Israel's War on Gaza Exacerbating Water Scarcity

96%

Drop in Average Water consumption
per capita due to War on Gaza



81% of households in Gaza
lack access to sufficient **clean water**



2 liters/person/day is the average water
consumption for all domestic needs

341 person share 1 toilet

1292 person share 1 shower



57%

of assessed WASH
facilities are damaged



40%

of the water networks in
Gaza Strip were destroyed



83%

of groundwater wells
are not operating

Statistics as of 20 March 2024

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