



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

RESEARCH

Impact of Rising Sea Levels on Coastal Aquifers

In their article titled '[Holocene Sea-Level Rise and Coastal Aquifer Interactions](#)', Prof. Dorit Sivan, Prof. Assaf Yasur-Landau from the Leon Recanati Institute for Maritime Studies, together with their international research team, and featured in *Quaternary Science Reviews* delves into the effects of sea-level variations on Israel's Carmel Coast. Their study reveals the transformation of the coastal environment and settlements, notably Tel Dor, due to sea-level rise. The research provides valuable insights into the impact of rising sea levels on coastal aquifers and the formation of wetlands, emphasizing the long-term risks faced by low-lying coastal regions.

Submarine Springs in the Dead Sea

In '[Out of Sight, Out of Mind: Submarine Springs in the Dead Sea – An Underappreciated Phenomenon](#)', Prof. Michael Lazar sheds light on the overlooked submarine springs in the Dead Sea. Published in *Geomorphology*, the study emphasizes the significance of these stable,



The Dead Sea (Credit: www.istockphoto.com image)

long-lasting freshwater sources and their crucial role in the Dead Sea's hydrology, particularly given increasing arid conditions and rising freshwater demands.

Integrating Seawater Desalination into Regional Systems

'[Optimizing Desalination for Regional Water Systems](#)' by Prof. Mashor Housh, School of Environmental Studies, of the Faculty of Social Sciences, discusses the challenges faced by arid regions in managing water supply systems amid increasing demand and water scarcity. The article, published in the *Journal of Cleaner Production*, emphasizes the importance of integrating seawater desalination into these systems. It proposes a two-stage

optimization approach to address decision timelines and uncertainty, using the Israeli national water supply system as a case study. The study also incorporates stakeholder preferences through multicriteria decision analysis, aiming to enhance sustainability and efficiency in regional water management.

PUBLIC ENGAGEMENT

Climate Change Preparedness in the Israeli Water Sector

[A workshop](#), titled 'Climate Change Preparedness in the Israeli Water Sector: Wastewater and Desalination Systems Facing Climate Challenges', was conducted by a group of

researchers from the University of Haifa and the Grand Water Research Institute at the Technion. The workshop aims to examine the perceptions of stakeholders in the Israeli water sector regarding the issue of separation between wastewater and desalination systems in the context of mapping challenges, risks, and knowledge gaps, and proposing managerial and technological solutions.

LEARNING AND STUDENTS

Teaching Water Resource Conservation

'Introduction to Climate and Water Resources', is a course taught by Dr. Elad Dente and Prof. Shlomit Paz, which covers climatology and meteorology fundamentals, analyzing factors and processes

influencing global climate and water resources. Dr. Dente also teaches a course on 'Water Resources in Israel' together with Prof. Uri Schattner. These courses collectively contribute to the university's commitment to educate students about vital water and sanitation issues and encourage sustainable practices.

OPERATIONS

Reducing Water Usage

After extensive pipe repairs, efficiency measures, and awareness raising,

this past year reported water use was 30% below the year before the COVID-19 pandemic shut down the campus.

Ensuring Well-being of Sanitation Workers

Sanitation workers [have completed safety training](#), including workshops on movement, proper work techniques, ergonomics, and more, funded by the National Insurance Institute and Prof. Naomi Schreuer. Recently, specialized water faucets were installed by maintenance staff to facilitate the filling of buckets, improving hygiene, and preventing work-related injuries. The Operations Unit, headed by Mr. Eyal Ofir, head of Operations Department, is also planning to purchase equipment to enhance worker safety and health, which will be funded through the research grant led by Prof. Schreuer.