



Taub Center: Israel is burning up, and it's not from rocket fire

The number of Israelis dying from high temperatures is rising and nobody seems to care

• By MAAYAN HOFFMAN

The risk of mortality due to exposure to high temperatures is increasing in Israel, according to a new report by the Taub Center for Social Policy Studies.

In the early 1990s, the risk of mortality due to high temperatures per 100,000 persons in the region was negligible. Since then, the rate has increased. A preliminary study by the Taub center has found that, on average, 45 individuals die annually in Israel as a result of exposure to high temperatures during heat waves, with the heightened risk particularly pronounced among those aged 70 and above.

On Monday, the Taub Center published the next chapter in its 2023 *State of the Country Report*, titled "Climate Sensitivity and Regulatory Deficiencies: Environmental Health Challenges in Israel," by Maya Sadeh and Rakefet Shafran-Nathan. The report focuses on several areas: increasing exposure to air pollution, inadequate waste management, and rising temperatures – all of which harm the quality of life and health of the citizens of Israel.

"Rising temperatures are exacerbating adverse environmental conditions that can lead to chronic diseases," Sadeh said. To gain an understanding of the change in the intensity of heat loads in Israel, Taub Center researchers examined heat loads over seven decades, from the early 1950s to the beginning of the current decade, using the National Oceanic and Atmospheric Administration (NOAA) index, which correlates heat load levels with possible health effects.

"The researchers calculated the average heat load for each decade based on temperatures

and relative humidity measured in the summer at 2:00 p.m. each day."

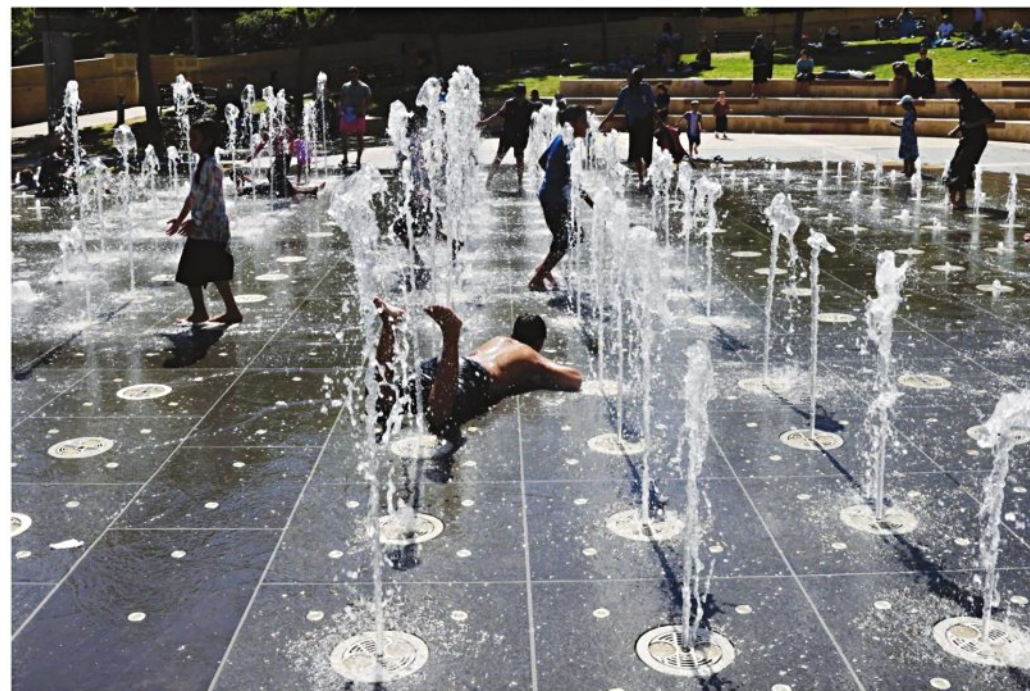
As per the NOAA index, temperatures below 27°C pose no risk of heat stress. In the 27°C to 32°C-range, caution is warranted due to the potential for tiredness and heat cramps. Within 32°C to 41°C is an escalated need for extreme caution, with an increased risk of developing heat cramps and heatstroke. The 42°C to 54°C range is deemed dangerous, while temperatures surpassing 54°C are classified as extremely dangerous, with the imminent risk of fatal heatstroke.

Between 2010 and 2021, more than half (53%) of the country was exposed to "extreme" heat stress at 2 p.m. in the summer months between May 15 and September 15, with temperatures between 32°C and 41°C. This is an increase from 46% between 2000 and 2009, 34% between 1990 and 1999, only 22% in the 1970s and 14% in the 1950s.

Moreover, since the 1990s, there has been a consistent rise in how much of the country experienced heat stress in the danger zone (41°C and over), from 1% in the 1990s to 4% in the last decade.

Until the 1980s, the increase in heat load was mainly noticeable in the South, the report said. But over the decades, the heat spread to the rest of the country, including the Golan Heights.

Nonetheless, the authors said, "Over the past two years, various government ministries have tried to develop strategies and regulations for confronting extreme climate conditions, emphasizing heat waves. However, similar emphasis has not been placed on prolonged exposure to heat stress during the summer months, which considerably



PEOPLE COOL off in the spray of Jerusalem's Teddy Park during a July heat wave, with 30-minutes of cooling spray on the half hour. (Marc Israel Sellem/The Jerusalem Post)

impacts human health."

They said the issue and its results "is being pushed aside and not adequately addressed."

What are some of the other health impacts of rising temperatures?

"Short-term exposure to extreme heat stress may cause acute morbidity and mortality," the authors said. "Prolonged exposure over several months to heat stress above a given threshold may cause morbidity, both directly but primarily through indirect impact on physical and mental health due to the difficulty in performing physical activity outdoors and exposure to indoor air pollution."

They said prolonged exposure to heat stress could exacerbate preexisting health conditions, such as high blood pressure and asthma. On the other hand, it could lead to dehydration and heatstroke. It has been

tied to renal failure, premature birth and stillbirth, impact on mental health, exacerbation of heart and respiratory diseases, and an increase in the spread of infectious diseases, the authors said.

Moreover, heat stress leads to a decrease in physical activity, and "a lack of physical activity accounts for 7% of all mortality and 8% of mortality due to heart and vascular disease," the report said.

Heat also negatively harms mental health, including causing depression and anxiety, and heightened suicide risk. The report cited a study conducted in the Beersheva area that found an increase in suicide attempts during the summer after the temperature rose by 5°C.

Relatedly, figures from Israel showed an increase in the number of people visiting urgent medical facilities diag-

nosed with dehydration or heatstroke between 2010 and 2019, particularly since 2015. The highest number of visits was observed among very young children, ages birth to four years, and the elderly, aged 75 and older.

In addition, an increase of 1.47% was found in visits to hospital emergency rooms for every rise of 1°C in the temperature, according to one study.

A separate Israeli study found that a rise of 1°C in the summer was associated with an increase of approximately 10% in instances of strokes or transient ischemic attacks.

The Taub Center highlighted several ways to reduce heat stress, including natural shading. However, according to the center's research, as of 2022, less than 1% of streets in Israel are adequately shaded, and only 7.6% have moderate shading.

"The frequency and intensity of heat loads are steadily increasing, but appropriate measures to cope with this phenomenon are not being taken," the authors said.

While Sadeh and Shafran-Nathan showed that in some areas, Israel is more advanced than the OECD countries it is often compared to, in the fields of water management, desalination, the treatment of wastewater and its use in agriculture and industry, "Israel is about a decade behind the leading OECD countries."

Regarding greenhouse gas emissions, which threaten to lead to a further increase in global temperatures, Israel lags far behind in making efforts to meet its goal of becoming net-zero by 2050.

"The Ministry of Environmental Protection prepared a national plan that is meant to be updated periodically as needed," the report explained. "However, implementation has repeatedly been delayed."

For example, the climate bill presented by the previous government only passed a first reading in the Knesset in 2023. This government then submitted a new version with a target of reducing emissions by 30% by 2030 compared to 2015. However, that bill only made it through the Ministerial Committee on Legislation shortly before the war began and has since not progressed.

Either way, Israel's target is approximately 20% lower than the targets set by other European countries, which aim to cut emissions by 50% to 55% by the same year.

Moreover, the researchers noted that "the law permits the amendment of the emission reduction targets based on economic needs, so that the target is provisional and non-binding."

Israel's per capita emissions are relatively high, though not the highest in the OECD. The OECD average is 10.5 metric tons per capita, whereas Israel holds at 8.4. However, the OECD average in Europe is only 7.1. Israel has higher emissions per capita than Italy, Malta, Portugal, and even Turkey.

When it comes to waste management, Israel produces 14% more waste per capita than the OECD average, and the landfill rate is nearly double – 78% in Israel compared to 40% in OECD countries, the report showed.

"In 2022, more than 9,000 waste-burning events occurred in Israel, an activity prohibited by law," the Taub Center said. "Considering that waste burning is responsible for releasing 74% of the suspected or confirmed carcinogenic substances into the air, this is a significant and severe issue."

The report underscored an epidemic of improper disposal of construction waste in unauthorized locations, posing a threat by releasing pollutants like asbestos and respirable particles into the air, directly contributing to heart and respiratory diseases.

In response, the Environmental Protection Ministry is advancing a strategic plan for sustainable waste management anchored in a circular economy, aiming to decrease the current waste landfill rate of over 80% to 20% by 2050.

"To achieve Israel's ambitious goals for environmental protection by 2050, national and local-level steps are required," Sadeh said. "This includes promoting specific legislation like the climate bill and empowering local authorities to implement circular economy principles in their areas."