



# THE JERUSALEM POST



A view of Ben-Gurion Airport as dust storms descend on it. Photo courtesy of Israel Meteorological Service.

## Expert: Dust storms pose health risks, even indoors

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High air pollution levels subside on Thursday, with rains set to fall Friday

In the aftermath of Tuesday and Wednesday's severe dust storm, a Ben-Gurion University researcher stressed that such events should catalyze change in the residential construction industry.

"There is no way to run during dust storms," Dr. Itzhak Katra, a senior lecturer in the university's geography and environmental development department, told The Jerusalem Post on Thursday. "Buildings must be planned a bit differently with all these health considerations."

On Wednesday, the concentration of PM10 – dust particles with a diameter of 10 microns or less – rose on average to approximately 40 times their typical values, according to Environmental Protection Ministry measurements taken around the country. While Katra said he agrees with the ministry's recommendations to stay indoors during such an event, he and his colleagues have determined that most buildings cut down exposure by only about 50 percent – even with the windows closed.

The abnormal amounts of air pollution on Tuesday and Wednesday were associated with a deep depression over the eastern Mediterranean Sea, transporting dust from North Africa to the region. As part of this storm system, precipitation fell on Thursday over the North, and was expected to spread to the country's center by Friday, according to Israel Meteorological Service forecasts.

While the Environmental Protection Ministry called the dust storm the most widespread such event in the past five years in terms of air pollution levels, the ministry acknowledged that similar concentrations of dust were measured during March 2012 and both May and December 2010.

"We see that this one was a relatively strong dust storm, but there were some stronger in the past five years," Katra told the Post.

Katra said that he and his colleagues measured dust concentrations around various locations in Beersheba, and found spots in which levels were significantly higher than those measured by the ministry.

Ministry data showed Beersheba PM10 concentrations reaching a maximum of 2,278

micrograms per meter, behind Givatayim and Rehovot – which received 2,853 and 2,802 micrograms per cubic meter respectively – as well as Jerusalem, where levels rose to 2,520 micrograms per cubic meter.

The found that the city of Arad experienced the highest concentration, of up to 3,083 micrograms per cubic meter.

On a normal clear day, the average concentration of dust on a national level is about 50-60 micrograms per cubic meter.

Katra and his colleagues, on the other hand, found spots in Beersheba with between 3,300 and 3,500 micrograms per cubic meter of PM10, he said. They also measured levels of PM2.5 – particulate matter with a diameter of 2.5 microns or less – and found concentrations of 900 micrograms per cubic meter, according to Katra. While his research group has just begun to study PM2.5, Katra said that typical PM2.5 levels are only around 20 micrograms per cubic meter, and that this smaller particulate matter is thought to be more dangerous to human health.

“There is a trend of increasing dust storm intensity, but we still don’t know why that is and if it’s going to continue,” Katra said. “We are working on this and hopefully in one year or so we have more details about this trend.”

Most of the dust storms occur during the winter or spring, with the strongest ones typically falling in the winter, he explained.

Katra said that he and his colleagues have begun investigating the impacts of PM10 and PM2.5 exposure indoors, because people tend to spend the majority of their time at home – particularly during dust storms, and particularly if they are members of sensitive populations.

By midday on Thursday, the Environmental Protection Ministry said that monitoring stations across the country indicated a substantial reduction in concentration of dust levels – about a 95 percent reduction in comparison to peak levels experienced during the dust storm.

Nonetheless, the ministry warned that aside from in the North – where rains had already cleared the air – dust concentration levels still remained higher than average.

IMS forecasts indicated that occasional showers accompanied by isolated thunderstorms and strong winds would continue in the North overnight, beginning to impact the coastal region as well. These conditions are likely to persist on Friday, will snow falling on Mount Hermon and the northern mountain peaks.

Risks of flooding will affect both the coastline and the Jordan Valley, and unseasonably cold temperatures will remain around the country, through Saturday, the IMS said.



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