

# Scientist: Fire in Israel is a typical example of climate change effects in Mediterranean

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The Carmel mountain range, northern Israel, rises to 546 meters above sea level. The combination of high rainfall (average of 800 mm per year), mountainous landscape and little human-pressure have resulted in rich and diverse vegetation. Credit: Ran Gluzman

The fire disaster in the Carmel Mountains near Haifa is a typical example of climate change effect and a taste of the future, says Dr. Guy Pe'er, one of the authors of Israel's first report to the UN on climate change. Ten years ago, Dr. Pe'er and other Israeli scientists collated knowledge about the effects of climate change for Israel. They warned already in the year 2000 of expected climatic fluctuations, heat events, decreased rainfall and delayed late winter rainfall, all of which would lead to increased risk of intense forest fires.

According to "Israel's National Report on [Climate Change](#)", prepared by Pe'er and other members of Ben-Gurion University of the Negev on behalf of the Israeli Ministry of the Environmental Protection, the frequency, intensity and extent of the fires would increase due to the prolongation of droughts, increase in [water evaporation](#) and an increased frequency of intense heat waves. At a warming of 1.5 degrees by the year 2100, which is by now considered a conservative scenario, models predict the desert to expand northward by 300 to 500 kilometers to the north. Mediterranean ecosystems, such as the one occurring in the Carmel Mountains, would thus disappear from Israel. [Forest fires](#) in the Carmel mountain range in northern Israel was preceded by eight months of drought and occurred during a [heat wave](#) with temperatures around 30°C. Normally, first rainfall should have come in September or October, and the maximal daily temperature at this time of year should be around 15-20°C.

The Carmel mountain range, northern Israel, rises to 546 meters above Sea Level. The combination of high rainfall (average of 800 mm per year), mountainous landscape and little human-pressure have resulted in rich and diverse vegetation, including Israel's largest natural pine forest. Therefore, large parts are nowadays protected within National Parks and Conservation Areas.



This is a view from a resort over the Carmel mountain range at morning of Nov. 30, 2010. The resort was burned down shortly after that day. Credit: Tal Gluzman

Dr. Guy Pe'er, currently a fellow at the Helmholtz Centre for Environmental Research (UFZ), Leipzig, has witnessed three forest fires in the year 1989 where large areas of the Carmel mountains were burnt, penetrating the outskirts of his native city of Haifa. "Following the fire I spent over a year studying the recovery process of the vegetation and the Mesopotamian fallow deer at the reintroduction centre at the Carmel forest. It was there that I've learned that fires are something natural and nature can recover if no further disturbances occur." Guy Pe'er is nevertheless overwhelmed by the intensity and extent of the fire: the largest fire in 1989 has destroyed an area which was ten times smaller than the current one.

The worst forest fire ever in the history of Israel has spanned a total area of 5000 hectares, taken the lives of 42 people and burned 250 houses down. Damages are estimated at more than 55 million €. Israel has since then been engaged in heavy debates on responsibility: how did the government, the ministers and the fire-brigade contribute to this failure? Guy Pe'er holds a different opinion, suggesting that the discussion should involve the longer and more substantial causes of this fire, namely climate change. "It's a matter of our consumption, our society and habits. We consume more than we need and more than Earth can sustain, and by that we bring about climate change and risk our own future. Can we behave as responsible humans and change our habits?" says Pe'er. From the perspective of the Israeli conservation biologist the international politics should reflect this incident onto the ongoing UN conference on Climate Change in Cancun, and ensure that its decisions will finally lead to the mitigation of climate change. Because climate

change is not fiction: Israelis these days have got a glimpse of what may awaits the coming generations.

**More information:** Publication: Israel's National Report on Climate Chance (2000):

[nasa.proj.ac.il/Israel-Researc ... National\\_Report.html](http://nasa.proj.ac.il/Israel-Researc...National_Report.html)

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