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Guest Columnist: Trees, bees and global warming

By REESE HALTER
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There are a number of important reasons why the Carmel Forest should mostly be allowed to rehabilitate itself.

According to NASA's Goddard Institute for Space Studies the temperatures across the planet between December 1, 2009, and November 30, 2010, show that 2010 ranks as the hottest year on record. And clearly after the worst-ever forest fire on Mount Carmel few Israelis would dispute the consequences of rising temperatures, prolonged droughts and intense heat waves.

It is heart-breaking for those of us who have spent many decades working in wild forests around the globe observing these magnificent and complex systems that were designed to be carbon dioxide sinks (that is to remove CO₂ from the stratosphere), now becoming sources of CO₂ – emitting the main rising greenhouse, temperature-trapping gas on Earth.

It's not just the forests of the Amazon, where in 2005 drought and an extreme storm laid waste to at least 500 million trees, vast tracts of the US forests – the fourth largest in the world – are now emitting more CO₂ than they are taking in.

Even some of the forests on the slopes of Nahal Kesalon are feeling the bite of a series of repeated droughts as mature Jerusalem and stone pines die of water starvation, contributing even more CO₂ to the ever-rising global trend.

The UN climate meeting in Cancun was unable to agree on setting any targets for reductions in greenhouse gases. Perhaps Mexico's President Felipe Calderon's quote best sums up the lackluster meeting of 193 nations: "Global climate change is like a bus careening down a mountain road with all aboard – all countries of the world – wrestling to grab the steering wheel and hit the brakes."

To Israel's credit it recognizes that global warming poses immediate threats to its national security. It is laudable that the government has set a bold 20 percent reduction in electricity consumption and an emphasis on creating green buildings. Efficiency is the bridge to our best friend in the 21st century – innovation. Becoming efficient is simply a matter of changing habits, and everyone is required to participate.

ALTHOUGH OVER 47 square kilometers of the “lung” of the country, the Carmel Forest, have blackened, it will naturally regenerate, albeit in a couple decades at least, before replacement trees reach a height similar to the appearance before the fire.

There are a number of important reasons why the forest should mostly be allowed to rehabilitate itself. The Jerusalem pines, oaks, laurels and olives have all evolved with fire and summertime droughts. Moreover, the heat of the fire caused the pines to release millions of seeds from their cones, and after the winter rainfall a greening-up period will commence. Rockrose and thorny broom, pink, white and yellow flowers will return in the coming years.

There’s another salient argument for sticking with the Mediterranean native forests: As Earth’s temperatures continue to increase, these forests are the best candidate for surviving the impending droughts and heat waves forecast for this century. More than 24 climate models predict that precipitation in Israel will decrease by 10 percent by 2020.

There is, however, an opportunity along the edges of the burned Carmel Forest to plant bee-friendly trees and promote the country’s fastest growing business sector: organic agriculture.

Around the globe bees are dying by the billions to a mysterious disease called colony collapse disorder. One species in particular, the Italian honeybee, accounts for more than \$250 billion of commerce annually worldwide.

Honeybees pollinate everything from apples to zucchini, over 100 food crops including half the ingredients in ice creams.

In addition, they are crucial for ensuring alfalfa and clover for the beef and dairy industries and annually they help provide 100 million bales of cotton, clothing our species.

Globally, honeybees produce 1.2 billion kilograms of honey, 20 million kilograms of beeswax and potent pain medicines.

Over the last 12 years the KKL-JNF nurseries have provided more than one million megaflower producing eucalyptus trees. Lemonflowered mallees, coral gums, hybrid gums and red capped gums offer more than 450 beekeepers around the country an important food source for their bees, especially during the dryness of April to September. Thrifty eucalypts provide shade for beekeepers to leave hives under trees, and 36 eucalypts per acre offer a million blossoms to support a colony of bees for part of the year.

Along with eucalypts I’d also suggest planting carob trees, as they thrive in dry conditions and still produce fruit, which attracts bees and the Egyptian Rousette bats that eat the fruit and disperse the seeds throughout the forest.

More bees are necessary for organic farming, which last year topped \$300 million in sales; the demand is far outstripping the supply.

As we burn more fossil fuels, greenhouse gases will continue to rise and accordingly so will temperatures. All vegetation will face water stress. Israeli deserts are predicted to expand northward by 400 kilometers in the coming decades. Sadly, there will be more firestorms like the one that charred Mount Carmel.

The writer is a conservation biologist at California Lutheran University. His latest book is [The Incomparable Honeybee](#). www.DrReese.com



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