

Getting a whiff of climate change

April 10 2014, by Ben Orlove, Earth Institute, Columbia University



Smoke from the Wharton fire over New York. Credit: NBC News 4 New York

Monday was the day when millions of people in New York and New Jersey learned what climate change smells like, or at least what one of its aromas is.

Smoke from a fire in the pinelands of southern New Jersey blanketed the area, creating hazy conditions and a strong smell of wet burnt wood. Such fires have become increasingly common because of the deteriorating health of the [pine forests](#) of the region.

Populations of the Southern pine beetle, *Dendroctonus frontalis*, have

grown across southern New Jersey in the last decade. These insects were restricted to areas further south in earlier times, when the region experienced hard frosts most winters. But the [warmer winters](#) in recent years have allowed them to spread north, killing many pine trees and leaving dead wood—prime conditions for [forest fires](#).

These impacts further weakened the forests that were already damaged by an introduced pest, the gypsy moth, *Lymantria dispar*; this moth attacks oaks, which are second in importance after pines in the area of the fire.

The dry conditions of recent weeks led to the start of the fire in the Wharton State Forest on Sunday. Fanned by strong winds, it grew quite large, covering more than two square miles. It was fully contained by Monday night, though it was expected to continuing burning in spots for several more days.



Smoke rising from Wharton Forest. Credit: NBC News 10 Philadelphia

The plumes of smoke spread across several mid-Atlantic states, and remain trapped in the lower atmosphere by an inversion. As a result, over 16 million people experienced hazy skies and the scent of burning wood. The official air quality alert extended across 20 counties, warning people—especially the young, the old, and those with respiratory conditions—to avoid outdoor exercise.



Southern pine beetle. Credit: Department of Entomology, University of Florida

The cold weather of the winter that is just passing may slow the northward march of the beetle for a year or two, but unless [climate change](#) is addressed, the beetles will continue to expand the range,

creating [conditions](#) for more fires like the one this week.

Provided by Columbia University

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