HealthFacts

# Sneezing and Wheezing:
## How Global Warming Could Increase Ragweed Allergies, Air Pollution, and Asthma

*110 million Americans live in areas with both ragweed and ozone problems.*

**We already know that global warming is making the planet hotter. Scientific studies have also shown that our changing climate could favor the formation of more ozone pollution in some areas and intensify the health problems stemming from allergenic pollen such as ragweed. This is bad news for allergy sufferers and asthmatics because both ragweed and ozone have been linked to respiratory problems such as asthma and to allergic symptoms in adults and children. Moreover, studies show that people exposed to both ragweed and ozone can become sicker than people exposed to just one of these pollutants. These negative health effects will only get worse if carbon dioxide ($CO_2$) concentrations keep rising and global warming continues unchecked.**

For more information, please contact
**Kim Knowlton**
at (212) 727-2700.

Read the full issue paper at
**www.nrdc.org/policy**

### Allergies and Asthma: Serious Health Threats on the Rise

An estimated 36 million Americans have some type of seasonal allergy, and 20 to 30 percent of the population at some time suffers from seasonal *allergic rhinitis* (or "hay fever") whose symptoms include inflammation and irritation of the nose, sinuses, throat, eyes, and ears; sneezing; runny nose; and itchy eyes.[1] It is estimated that more than 3.8 million days per year are missed at schools and businesses due to seasonal ragweed pollen allergies.[2]

About 17 million children and adults in the United States have asthma,[3] a chronic lung disease in which air passages become inflamed and constricted, making breathing difficult. Some researchers have voiced concerns about children's health being threatened by global warming, and proposed that the rise in asthma cases could be an early impact of climate change.

### Global Warming Worsens Respiratory Health

The severity of both allergies and asthma is closely linked to environmental conditions, particularly air quality. Global warming and rising $CO_2$ levels could worsen air quality and threaten human health due to increased levels of allergenic pollen and ground-level ozone. Scientific studies have found that allergenic pollen production increases as carbon dioxide concentrations and temperatures climb. Warmer temperatures can enhance the reactions that form ground-level ozone smog in the air we breathe.

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New NRDC research—mapping for the first time areas within the United States where ragweed and unhealthy ozone pollution overlap (see map below)—shows that 110 million Americans live in areas with both ragweed and ozone problems. Together, the two pollutants can interact to worsen respiratory health, making these areas especially vulnerable to increasing allergic and respiratory disease with global warming. Among the most vulnerable regions are the Los Angeles basin, the southern Mississippi River valley, the Great Lakes area, the Mid-Atlantic states, the New York area, and New England. Our analysis found that people in 308 counties in the United States live in places with the double threat of ragweed and high ozone levels. In fact, 13 of the top 15 "Asthma Capitals 2007" identified by the Asthma and Allergy Foundation of America[4] are in counties where both problems occur.

### Government Agencies Must Protect Communities from the Health Effects of Global Warming

Many of the sources of ozone-producing chemicals are the same as those of global warming pollution—industrial facilities, electric utilities, and motor vehicle exhaust. Minimizing emissions from these sources can help reduce both ozone air pollution and global warming, helping to create better air quality conditions today and a cooler, healthier environment in the future. To achieve this goal, governments must act quickly to institute comprehensive controls on sources of air pollution and global warming pollution, such as mandatory legislation that reduces global warming pollution on the order of 20 percent by 2020 and 80 percent by 2050.

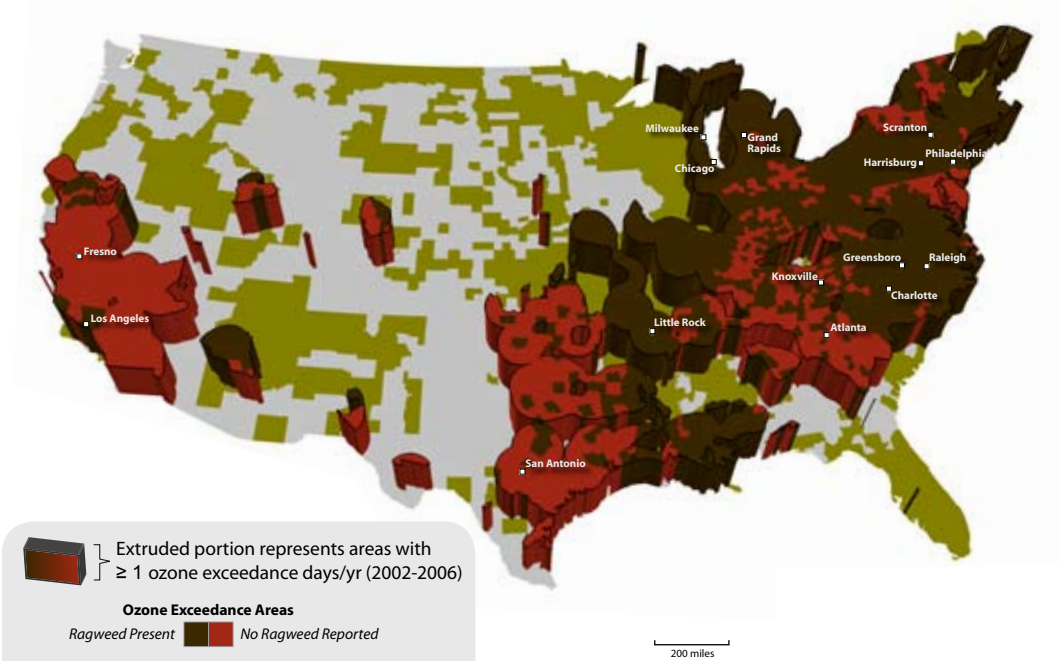
[1] Certified Allergy and Asthma Consultants, *Allergic Rhinitis* (Albany, New York, 2003), available at http://www.certifiedallergy.com/pdf/allergicrhinitis.pdf.
[2] "Sniffles and Sneezes: The AAAAI Offers Tips to Prepare for Ragweed Season." American Academy of Allergy, Asthma & Immunology (2007), available at http://www.medicalnewstoday.com/articles/78618.php
[3] Certified Allergy and Asthma Consultants, *Asthma Facts and Figures* (Albany, New York, 2003), available at http://www.certifiedallergy.com/asthma.asp.
[4] See http://aafa.org/pdfs/FinalPublicList_AC_2007.pdf.

### Protecting Your Family from Pollen and Ozone

**Follow these tips to avoid overexposure to ragweed pollen and ozone during the summer and fall, especially if you or family members have allergies or asthma:**

- Listen to the radio, watch TV, or visit online news outlets for daily pollen reports and air quality conditions (check EPA's www.airnow.gov website and the National Allergy Bureau's site at www.aaaai.org/nab). This is especially important on sunny days with little or no wind, when ozone concentrations can be particularly high.
- On days when pollen counts or ozone levels are high, minimize outdoor activities and keep windows closed when possible.
- Bathe or shower after spending time outdoors because pollen may have collected on your skin and in your hair.
- Wash bedding frequently to remove pollen that settles on pillows and sheets, and vacuum regularly, preferably with a vacuum cleaner that contains a high-efficiency particulate (HEPA) filter.
- Minimize your family's exposure to other known allergens because of the cumulative effect of multiple allergens in producing symptoms.
- Try to save your most strenuous outdoor activities for days with relatively low ozone levels, or do them in the morning before ozone levels rise.

### Ozone and Ragweed Occurrence in the Continental United States




Ragweed data as of 2007. Ozone data based on annual average of monitors with valid 8-hour data for at least 75 percent of required monitoring days in each year (2002-2006), limited to areas with at least one monitor within 62 miles (100 km).

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