CLIMATE CHANGE, AIR POLLUTION, AND ALLERGIES

WHAT FAMILIES NEED TO KNOW TO STAY HEALTHIER

Allergies are one of the leading causes of chronic illness in the US, with an annual economic toll of $18 billion. Allergic diseases range from seasonal pollen allergies to food allergies, and symptoms can vary from mild discomfort to life-threatening illness. Research shows that climate change is exacerbating allergic diseases in several ways.

Longer pollen seasons

More than 65 million adults and 14 million children in the U.S. suffer from allergic rhinitis, often called hay fever. Pollen is the most common cause of hay fever, which has symptoms such as sneezing, runny nose, congestion, and itchy, watery eyes.

As climate change heats the planet, there are more frost-free days, which gives plants more time to grow, flower, and produce pollen. Pollen concentrations have increased by over 21% in North America over the past three decades, and the pollen season is more than 20 days longer than it was in 1990. In much of the U.S., spring allergy season can now start in February and last until early summer.

Not only are allergy seasons longer, but more frequent climate-fueled storms can disperse pollen and other allergens into the air making them easier to inhale and, in some cases, worsening hay fever symptoms.

Increased mold exposure

Global warming, which supercharges rainfall and high temperatures, can cause an increase in mold growth, which also affects allergies. Mold growth can be especially bad after flooding. Mold spores, plus smaller mold particles like hyphae and broken spore parts, are common triggers for allergies. These smaller particles can be more numerous than spores themselves. Health effects of mold and smaller particles can range from mild allergy symptoms to more serious conditions, like allergic bronchopulmonary aspergillosis. Breathing in mold spores can also exacerbate asthma for some people.

Increasing carbon dioxide

One of the main drivers of global warming is increasing carbon dioxide (CO_2) pollution from the burning of fossil fuels. Increasing CO_2 concentrations in the air can cause some plants, like ragweed, to produce more pollen. Higher CO_2 concentrations are also linked to larger poison ivy plants that produce more urushiol, the toxic, oily substance that makes this plant a potent skin irritant.

Air pollution and allergies

Some air pollutants, such as soot and ozone, contribute to and are worsened by global warming. When certain pollutants attach to airborne pollen grains, they can stimulate a stronger immune response than pollen alone, causing more intense allergy symptoms. Ground-level ozone, a harmful lung irritant, forms when chemicals react with heat and sunlight. Climate-fueled extreme heat has caused increased ozone pollution in many parts of the world. Children are more affected by this pollution because they are closer to the ground, engage in more outdoor play, and have smaller airways than adults. Persistent exposure to ground-level ozone can lead to higher risk of inflammation and susceptibility to allergens.

MOMS clean air FORCE

AAAAI American Academy of Allergy Asthma & Immunology

Moms Clean Air Force is a community of more than 1.6 million moms, dads, and caregivers united against air pollution—including the urgent crisis of our changing climate—to protect our children's health. www.momscleanairforce.org

The American Academy of Allergy, Asthma & Immunology (AAAAI) is the leading membership organization of more than 7,100 allergists/immunologists and a trusted resource for patients. www.aaaai.org

What can I do to stay healthy if I have allergies?

If you or your child suffers from allergies, make sure to ask your doctor about the best ways to protect your health where you live, as some allergies can be serious health issues.

Other ways to stay healthy include:

- Monitoring pollen levels and air quality near your home, such as with a website like Pollen.com or AirNow.gov.
- When pollen counts are high or the air quality is poor, stay indoors as much as possible (if keeping the indoor environment cool during summer months is possible) and keep windows closed to keep allergens out.
- Talk to your doctor about allergy medications before allergy season begins, so you'll have medications ready when you need them.
- If possible, purchase an air filter for your home or bedroom. Running air conditioning can also help keep pollen outdoors.

Get involved

Climate solutions are at hand, and we can and must demand them. Urge your lawmakers to take bold climate action that reduces our dependence on fossil fuels and strengthens pollution protections so that we can better protect our children from the extended pollen allergy season and emergency room visits for severe allergy symptoms.

Join Moms Clean Air Force to advocate for our children's health and future.

Health impacts of pollen

Asthma

Pollen allergies can trigger episodes of asthma, a respiratory disease that affects more than 24 million people in the U.S., including more than 6% of all children. Black, Indigenous, and Puerto Rican American communities are disproportionately affected by asthma, and Latino communities are twice as likely as non-Latino white communities to have asthma-related emergency room visits.

Immune health

Pollen exposure can weaken innate immune defenses, making people more susceptible to respiratory viruses.

Lower school performance

Pollen allergies are known to affect certain aspects of cognitive function, and for students, spring and summer exams often coincide with pollen season. One study found that increased pollen levels led to corresponding decreases in test scores, with potentially larger impacts for students with allergies.

Food allergies

For some people, pollen allergies are associated with food allergies. Climate-related changes in pollen intensity may affect some food allergies as well.

For sources, please visit:
www.momscleanairforce.org/sources-climate-allergies

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