CLIMATE CHANGE 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, more intense pollen seasons
Nearly 20 million adults and over 5 million children in the US suffer from allergic rhinitis, often called hay fever. Pollen is the most common cause of hay fever, which causes symptoms like sneezing, runny nose, congestion, and itchy, watery eyes.

As climate change warms the planet, there are more frost-free days, which gives plants more time to grow, flower, and produce pollen. A 2021 study found that 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. Human-caused climate change is the main reason for these changes.

Increased mold exposure
Another way that climate change affects allergies is through mold. In some parts of the world, climate change is contributing to heavier rainfall and higher temperatures, both of which can contribute to mold growth. Mold growth can be a significant health issue after flooding, and airborne mold spores are a common trigger for allergies. Health effects 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
New research suggests that climate change may be associated with changes in the ability of some plants to trigger an allergic reaction, making them more aggravating for people who suffer from allergies. One of the main drivers of climate change is increases in atmospheric carbon dioxide (CO2) levels due to burning fossil fuels, and increasing CO2 concentrations in the air can cause some plants, like ragweed, to produce more pollen. Higher CO2 concentrations are also linked to larger poison ivy plants that produce more urushiol, the toxic, oily substance that makes poison ivy a potent skin irritant.

Air pollution and allergies
Some forms of air pollution, such as pollution from vehicle emissions, both contribute to and are worsened by climate change. When certain air pollutants come into contact with airborne pollen grains, they can interact in ways that exacerbate allergies. For example, when some air pollutants bind to pollen grains, they can stimulate a stronger immune response than pollen alone, causing more intense allergy symptoms.

The mission of Moms Clean Air Force is to protect children from air pollution and climate change. We envision a safe, stable, and equitable future where all children breathe clean air. We fight for Justice in Every Breath, recognizing the importance of equitable solutions in addressing air pollution and climate change. www.momscleanairforce.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:\(^{15}\)

- 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 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 (in much of the US, spring allergy season can start in February and last until early summer).\(^{16}\)

- If possible, purchase an air filter for your home or bedroom. Running air conditioning can also help keep pollens outdoors.\(^{17}\)

Join Moms Clean Air Force

While it won’t help with a runny nose or itchy eyes, taking action to fight climate change and air pollution is another powerful way to fight allergies in the long run.

Visit www.moms CLEANAIRFORCE.org to learn more about how to join the movement for clean air and a healthy climate.

Health impacts of pollen

Asthma trigger

Pollen allergies can trigger episodes of asthma, a respiratory disease that affects 24 million Americans, including 7% of all children.\(^{18,19}\) Black, Native American, and Puerto Rican American communities are disproportionately affected by asthma,\(^{20,21}\) and Latino communities are twice as likely as non-Latino white communities to have asthma-related emergency room visits.\(^{22}\)

Emergency room visits

A study conducted in New York found that increases in daily tree pollen counts during the spring were associated with increased asthma-related emergency room visits, particularly for children.\(^{23}\)

Immune health

Pollen exposure can weaken innate immune defenses, making people more susceptible to respiratory viruses.\(^{24,25}\)

Lower school performance

Pollen allergies are known to affect certain aspects of cognitive function,\(^{26}\) and for students, spring and summer exams often coincide with pollen season. A Norwegian study found that increased pollen levels led to corresponding decreases in test scores, with potentially larger impacts for students with allergies.\(^{27}\)

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.\(^{28}\)

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

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