Allergies Getting Worse Due to Global Warming

By Sara Goudarzi, Special to LiveScience
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Sea levels are rising, polar ice caps are melting, hurricanes are getting stronger, and thanks to climate change, people are sneezing more.

The rapid rise in occurrence of allergic symptoms over the past few decades may be due to environmental changes such as mounting carbon dioxide and a warmer atmosphere, a new study finds.

Approximately 40 million Americans suffer from hay fever, while 16 million adults endure asthma. Although genetics play an important role in these conditions, recent research is finding that higher temperatures and more carbon dioxide are making allergy seasons worse, stimulating plants to produce more pollen and increasing fungi growth.

"There have been significant increases in allergies and asthma in recent decades, which obviously cannot be explained by any change in genetics," said Christine Rogers, a research associate in Environmental Science and Engineering at Harvard University.

Flowering earlier

Rogers reviewed the scientific literature on the change in plant flowering times and airborne pollen concentrations over the last few decades. She also looked at the relevant studies on pollen production in plants grown in conditions forcing elevated levels of carbon dioxide.

The results mean an increase in photosynthesis and more plant growth.

"Plants are flowering significantly earlier over time and advancing the season by approximately 0.8 days per year," Rogers said.

A separate study found plant growth is increasing in Arctic lakes, for example. In addition, total seasonal pollen is increasing for many plants, an example of which is ragweed.

The actual cause of the increase in allergic diseases is due to many factors such as lifestyle changes, obesity, and pollution. This leaves a much larger population sensitive to the increase in aeroallergens, airborne particles that cause allergies. Because of climate change, these aeroallergens are becoming more abundant in the environment and causing all those newly allergic people to potentially have stronger or more frequent symptoms, Rogers explained.

More mold

Other studies predict that a warming planet will bring more intense rainstorms. Carbon dioxide levels are expected to elevate further. In response, molds are likely to become common in more homes.

"With an increase in moisture as we might expect as a result of climate change, we can expect more

fungal growth on damp interior surfaces," Rogers told *LiveScience*. "Exposure to fungi is very clearly associated with both allergy and asthma symptoms."

The study is detailed as part of a recently released report titled Climate Change Futures, a project of the Center for Health and the Global Environment at Harvard Medical School.

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