

U.S. Gets More Asian Air Pollution Than Thought

July 20 2005

Air pollution blows across the Pacific Ocean from Asia to North America far more regularly than was previously thought, says a new UC Davis study. The findings are likely to affect attempts to clear hazy skies over much of the U.S. and to understand how growing Asian air pollution will influence global climate change.

"Occasional, large-scale Asian dust storms had led us to believe that this pollution traveled east in infrequent, discrete events," said UC Davis atmospheric scientist Steve Cliff. "As it turns out, Asian pollution, particularly in the Sierra-Cascade range and elsewhere in the American West, is the rule, not the exception."

That may make it hard to meet air-quality goals set by the federal Clean Air Act, Cliff said. "Assuming Asia continues to develop as predicted, with commensurate energy needs from combustion, we will continue to increase our 'background' haze in the U.S.," he said.

It also may change the prevailing notions of long-range aerosol transport, which are used by scientists trying to predict climate change using computer models, he said.

The lead author on the new study is Tony VanCuren, an atmospheric scientist at UC Davis and the California Air Resources Board. The co-authors are Cliff; Michael Jimenez-Cruz, a former UC Davis student and now a researcher at the Advanced Light Source at Lawrence Berkeley National Laboratory; and Kevin Perry, a former UC Davis postdoctoral

scholar, who is now an assistant professor of meteorology at the University of Utah.

The study appeared in a recent issue of the Journal of Geophysical Research. It was based on air samples collected and analyzed during the 2002 Intercontinental Transport and Chemical Transformation experiment (ITCT 2K2), sponsored by the U.S. National Oceanic and Atmospheric Administration (NOAA).

That experiment used innovative air-sampling machines developed by UC Davis' DELTA research group (for Detection and Evaluation of Long-Range Transport of Aerosols). The new samplers allow researchers to collect airborne particles continuously and to analyze them in short time steps and over multiple size ranges. That made it possible to do the new analysis, which resolves relationships between pollutants and weather in much greater detail.

Source: University of California, Davis

Citation: U.S. Gets More Asian Air Pollution Than Thought (2005, July 20) retrieved 20 April 2024 from <https://phys.org/news/2005-07-asian-air-pollution-thought.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.