KILLER AIR

Berkeley Earth Publishes Study on Air Pollution in China

Berkeley Earth released today a study showing that air pollution kills an average of 4000 people every day in China, 17% of all China’s deaths. For 38% of the population, the average air they breathe is “unhealthy” by U.S. standards. With unprecedented detail, the sources of pollution throughout China are mapped directly from ground-level measurements.

Key points:

- 4000 people die every day from PM2.5 pollution (1.6 million per year) in China alone – 17% of China mortality
- 38% of the population is exposed to “unhealthy” air on average.
- not limited to basins or cities

Solutions:
- scrubbers
- energy conservation
- shale gas
- nuclear

This plot shows results for 1-year of data

Results of Berkeley Earth analysis published in PLOS-ONE

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The most harmful pollution is PM2.5, particulate matter 2.5 microns and smaller. This penetrates deeply into lungs and triggers heart attacks, stroke, lung cancer, and asthma. “Beijing is only a moderate source PM2.5; it receives much of its pollution from distant industrial areas, particularly Shijiazhuang, 200 miles to the southwest,” says Robert Rohde, coauthor of the paper. Since the sources aren’t local, reducing pollution for the 2022 Olympics may prove difficult.
The paper has been accepted for publication in the refereed journal PLOS ONE. Berkeley Earth analyzed hourly measurements of 1500 ground stations covering 4 months. The fact that sources of PM2.5 match those of sulfur implies that most of the pollution comes from coal. Worldwide, air pollution kills over three million people per year – more than AIDS, malaria, diabetes or tuberculosis.

“Air pollution is the greatest environmental disaster in the world today,” says Richard Muller, Scientific Director of Berkeley Earth, coauthor of the paper. “When I was last in Beijing, pollution was at the hazardous level; every hour of exposure reduced my life expectancy by 20 minutes. It’s as if every man, women, and child smoked 1.5 cigarettes each hour,” he said.

Elizabeth Muller, Executive Director of Berkeley Earth, said “It’s troubling that air pollution is killing so many and yet isn’t on the radar for major environmental organizations in the US or Europe.” She says that solutions include greater use of scrubbers, increased energy efficiency, and switching from coal to natural gas, nuclear power, and renewables. “Many of the same solutions that mitigate air pollution will simultaneously reduce China’s contribution to global warming. We can save lives today and tomorrow.”

Berkeley Earth hopes to expand geographic coverage to include more of Asia, the US, and Europe, and to study how sources of air pollution change with time.

For the downloadable images accompanying this press release, the scientific paper, or to view the movie of mapped air pollution over time, see: http://berkeleyearth.org/air-pollution-overview/.

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