

Portland Air Toxics Assessment (PATA)



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Quality

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What are air toxics?

Air Toxics are generally defined as air pollutants known or suspected to cause serious health problems. Serious health effects include cancer, birth defects, lung damage and nerve damage.

What is the Portland Air Toxics Assessment?

The Portland Air Toxics Assessment (PATA) is a computer modeling project to estimate local levels of 12 air toxics based on where they come from, and where they could be concentrated.

PATA is the first local-scale air toxics modeling project conducted in Oregon as part of the developing state Air Toxics Program. The U.S. Environmental Protection Agency (EPA) has conducted a National Air Toxics Assessment (NATA), which provides pollutant estimates on a larger scale. PATA refines the national model by using the Department of Environmental Quality's (DEQ's) most current pollution information, including emissions from motor vehicle traffic, and factors in weather and topography (hills and valleys).

The DEQ expects this study to give a better understanding of air toxics in the Portland area by producing a more accurate estimate of the most significant air toxics. While NATA provided pollutant estimates at the county level, PATA will yield information for smaller areas, like neighborhoods. This will help DEQ develop geographically-based strategies to reduce people's exposure to air toxics. PATA is a collaborative effort between DEQ and EPA, with key contributions from Metro regional government.

What area does the study include?

The Portland Air Toxics Assessment will provide pollutant concentration estimates for the Portland Metro Area: most of Multnomah, Washington and Clackamas counties. We expect the study to show areas where air toxics are estimated to exist in higher concentrations.

What pollutants are modeled?

The Portland Air Toxics Assessment uses a computer model to estimate concentrations for 12 pollutants: formaldehyde, chromium, benzene, polycyclic organic matter (POM), chloroform, 1, 3-butadiene, acetaldehyde,

perchloroethylene, nickel, arsenic, diesel particulate and acrolein. EPA's National Air Toxics Assessment estimated that these pollutants exceed levels of concern for the Portland tri-county area, and many other counties statewide.

How is the study done?

First, DEQ gathered the most accurate and current information that was available on air toxics emissions from all types of emission sources. This process, called the emission inventory, relies on many types of information, including air pollution permits, vehicle registration and use, business licenses, and population-based estimates (for example, the percentage of residents in an area that burn wood). PATA used emission inventory information from the most current available year, 1999.

Second, DEQ entered emissions information into a computer model that estimates the movement and concentration of the 12 air toxics considering local weather patterns and topography.

Third, the estimated concentrations will be entered into another model that estimates how much of the pollutants people actually breathe. This is known as an "exposure model." DEQ will use exposure information to understand the potential health effects of air toxics.

Finally, DEQ will make PATA results available to the public, along with explanatory materials. DEQ will use PATA information to identify air toxics reduction strategies in the Portland area.

When are results expected?

The DEQ expects final results in early 2004. Materials will be available in hard copy and electronically on the DEQ Website: <http://www.deq.state.or.us/aq/>.

Alternative Formats

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