

A weekly electronic news service on ozone protection & related issues compiled by: UNEP DTIE OzonAction Programme 6 October 2000

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## 1. Ozone Hole Stretches Over S. America

WELLINGTON, New Zealand (AP) - The hole in the ozone layer over Antarctica has stretched over a populated city for the first time, after ballooning to a new record size, New Zealand scientists said Thursday.

Previously, the hole had only opened over Antarctica and the surrounding ocean.

Citing data from the U.S. space agency NASA (news - web sites), atmospheric research scientist Stephen Wood said the hole covered 11.4 million square miles - an area more than three times the size of the United States.

For two days, Sept. 9-10, the hole extended over the southern Chile city of Punta Arenas, exposing residents to very high levels of ultra violet radiation. Too much UV radiation can cause skin cancer and destroy tiny plants at the beginning of the food chain.

Wood is a researcher with New Zealand's respected National Institute of Water and Atmospheric Research.

Dr. Dean Peterson, science strategy manager of the Antarctica New Zealand research group, said Wood's findings showed for the first time a city being exposed by the ozone hole.

"The longer it gets, the greater the chances of populated areas being hit by low ozone levels," said Peterson, who was not involved in the study.

Peterson said segments separating from the hole could affect Argentina and even the tip of South Africa, Australia or New Zealand.

"The hole won't grow to that size. But as it breaks apart, fingers of low ozone, or filaments as we call them, will go over major land mass areas. Those filaments will be over the land mass for a few weeks."

Last month, scientists expressed surprise when NASA data from Sept. 3 showed the hole at just under 11 million square miles - the biggest it had ever been. Record-low temperatures in the stratosphere are believed to have helped the expansion of the ozone hole during the southern hemisphere's spring season. Antarctic ozone depletion starts in July, when sunlight triggers chemical reactions in cold air trapped over the South Pole during the Antarctic winter. It intensifies during August and September before tailing off as temperatures rise in late November of early December.

Depletion of the ozone layer over Antarctica and the Arctic is being monitored because ozone protects Earth from harmful ultraviolet radiation.

Human-made chlorine compounds used in refrigerants, aerosol sprays, solvents, foam-blowing agents and bromine compounds used in firefighting halogens cause most ozone depletion.

The temperature over Antarctica also significantly affects the size of each year's hole. Starting in October, warmer temperatures reduce the ability of chlorine and other gases to destroy ozone.

Experts agree that the man-made chemicals are leveling off thanks to the 1989 Montreal Protocol, which commits countries to eliminating production and use of ozone-depleting substances. But it could be 20 years before ozone levels recover noticeably.

``Although CFC levels will begin to reduce over the next 10 years, variations in the weather pattern will continue," Peterson said. Source: Associated Press Writer, 5 October 2000, By RAY LILLEY, <u>http://dailynews.yahoo.com/h/ap/20001005/wl/ozone\_hole\_1.html</u>

## 2. NASA Science News, 2 October 2000

Concentrations of ozone-destroying gases are down, but the Antarctic ozone hole is bigger than ever. It turns out here's more to ozone destruction than just CFCs. **FULL STORY at** : <u>http://science.nasa.gov/headlines/y2000/ast02oct\_1.htm?list116540</u>

## 3. Ozone Layer Can Recover, Just Not Right Now

BOULDER, CO, September 15, 2000 - Even though the use of ozone depleting substances is being reduced and the amounts of these substances in the atmosphere are decreasing, it could be decades before we see any improvement in the currently thin ozone layer. This prediction was published in the September 16th issue of the Journal of Geophysical Research.

Resources Laboratory in Boulder, Colorado, and colleagues, analyzed ten different chemical models to estimate the time required to see ozone recovery in different areas of the world. According to the researchers, the first positive news will show up earliest in the Southern Hemisphere near New Zealand, southern Africa and southern South America - but not for about 15 to 45 years.

"That's based on full compliance with the Montreal Protocol and its amendments and no other complicating factors such as major volcanic eruptions or enhanced stratospheric cooling," Weatherhead said.

In their recovery predictions, the scientists used what is called the total column approach instead of concentrating on one portion of the ozone layer because the column idea provides a more complete picture of how much ozone is present over a region. The total column ozone amount represents the number of ozone molecules in an imaginary tube one centimeter on a side, stretching upward from the surface of the Earth to the top of the atmosphere. Most of this ozone is located high in the atmosphere, between 20 and 30 kilometers (12 to 18 miles) in altitude.

Weatherhead says it is crucial to detect not just a decrease in ozone depleting substances but a recovery in total column ozone amounts. Only by measuring the total column amounts will we be sure that all processes leading to ozone destruction have been identified and the ozone layer is on its path to recovery she said. Source: EarthVision Environmental News, <a href="http://www.climateark.org/">http://www.climateark.org/</a>

## 4. Commerical Bakery Agrees \$3.5 Million Fine for Ozone-Depleting Gas Emissions

WASHINGTON September 13, 2000-- The Justice Department has reached agreement with Meyer's Bakery to settle claims that it illegally released ozone-depleting gases from its factories in five states.

The settlement, filed in federal court in Fort Smith, Ark., calls for Meyer's to pay a \$3.5 million penalty related to emissions of chlorofluorocarbons [CFCs] and hydrochlorofluorocarbons [HCFCs] at facilities in Hope, Ark.; Arizona City, Ariz.; Orlando, Fla.; Wichita, Kan.; and Cleburne, Texas.

"This penalty marks the largest civil fine to date under the federal program to control emissions that destroy the Earth's ozone layer," said Lois Schiffer, Assistant Attorney General for the Environment at the Justice Department. Little Rock-based Meyer's is a large commercial bakery that produces baked goods for distribution throughout the United States and Canada.

As part of its production process, Meyer's used CFCs and HCFCs as refrigerant in industrial mixers and chillers. An EPA investigation revealed that Meyer's consistently added refrigerant to its leaking mixers and chillers without locating or repairing leaks. The Justice Department alleged that from 1995 to 1998, Meyer's allowed thousands of pounds of ozone-depleting substances to leak from appliances. Clean Air Act regulations require companies to regularly check their equipment for leaks and repair them, but Meyer's own service logs revealed that the company failed to do so.

CFCs and HCFCs destroy stratospheric ozone, which is the Earth's protection against ultraviolet radiation. Ultraviolet radiation can cause skin cancer and cataracts, depress the immune system, decrease crop output, and destroy plankton in the oceans where the food chain begins. More information on refrigerants and ozone depletion is available on EPA's website at <a href="http://www.epa.gov/r02earth/epd/ques\_ans/cfcfaq.htm">http://www.epa.gov/ozone</a> Source: <a href="http://www.epa.gov/ozone">http://www.epa.gov/ozone</a> Source

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