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In this issue:

- 1- **New Index Provides Benchmark for Atmospheric Greenhouse Gases**
- 2- **Melanoma, a Rising Threat to Children**
- 3- **Airlines Chart a New Course to Manage Halons for Critical Fire-fighting Applications**
- 4- **New Ozone Hole over Czech Republic and Germany and Neighbouring Areas Poses Health Risk**
- 5- **Hungary meets EU regulations protecting the ozone layer**

Special Announcement >>>

The 2006 Stratospheric Ozone Protection Award

The US EPA established the Stratospheric Ozone Protection Awards in 1990 to recognize exceptional leadership, personal dedication, and technical achievements in protecting the Earth's stratospheric ozone layer.

In 2005, eight individuals, organizations, associations and teams earned the award through originality and public purpose, moral and persuasive leadership, and elimination of emissions of ozone-depleting substances. **Learn more and access nomination forms at <http://www.epa.gov/Ozone/awards/index.html>**

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Application deadline: 14 October 2005

GLOBAL

1- New Index Provides Benchmark for Atmospheric Greenhouse Gases

Sept. 27, 2005 - Researchers at the NOAA Climate Monitoring and Diagnostics Laboratory in Boulder, Colo., have developed an index that provides a simple means of tracking the annual increase in greenhouse gases in the atmosphere.

The Annual Greenhouse Gas Index, or AGGI, is based on an analysis of the atmospheric levels of all the major and minor, long-lived greenhouse gases, as measured since 1979 by NOAA/CMDL's global sampling network. These include carbon dioxide (CO₂), methane, nitrous oxide and chlorofluorocarbons (CFCs) and the replacements for CFCs. NOAA plans to update the index in April of each year.

The newly developed index provides an easily understood and scientifically unambiguous point of comparison for tracking annual changes in levels of atmospheric gases that contribute to the so-called "greenhouse effect," in which the radiation emitted by Earth's surface is re-radiated by the atmosphere back to the surface.

"This index provides us with a valuable benchmark for tracking the composition of the atmosphere as we seek to better understand the dynamics of Earth's climate," said retired Navy Vice Admiral Conrad C. Lautenbacher, Jr., Ph.D., undersecretary of commerce for oceans and atmosphere and NOAA administrator.

NOAA's five-year strategic plan commits the agency to understanding climate variability and change in

order to enhance society's ability to plan and respond.

"The AGGI will serve as a gauge of success or failure of future efforts to curb carbon dioxide and other greenhouse gas increases in the atmosphere both by natural and human-engineered processes," said David Hofmann, NOAA/CMDL director.

The index relates the total radiative forcing since pre-industrial times (defined as the year 1750) from all the gases sampled in a given year to the corresponding measurements taken in 1990. The 1990 baseline was chosen because greenhouse gas emissions targeted by the international Kyoto Protocol also are indexed to 1990.

Radiative forcing is the change in the balance between solar radiation coming into the atmosphere and Earth's radiation going out. Radiative forcing, as measured by the index, is calculated from the atmospheric concentration of each contributing gas and the per-molecule climate forcing of each gas. For every million air molecules in samples analyzed by NOAA/CMDL, about 375 of them are carbon dioxide, about two are methane and less than one is a nitrous oxide molecule. The CFC's make up less than one molecule in a billion in the atmosphere but play a role in regulating Earth's climate and are a key factor in the depletion of the protective ozone layer.

Most of the increase in radiative forcing measured since 1990 is due to CO₂, which now accounts for about 62 percent of the radiative forcing by all long-lived greenhouse gases. Hofmann noted that the AGGI value for 2004 was 1.20, representing a 20 percent increase in radiative forcing since 1990. The annual increase in the index from 2003 to 2004 was 1.12 percent.

The largest annual increase, 2.8 percent, occurred between 1987 and 1988, the smallest, 0.81 percent, from 1992 to 1993. While the index has increased in every year since NOAA's global measurements began in 1979, the increase during 2004 was on the low side.

Atmospheric greenhouse gas levels change from year to year depending on human-influenced processes as well as natural processes. The record high annual increase is believed to be related to the increased growth rate of CO₂ following the 1987-1988 El Niño and the record low annual increase is related to the decreased growth rate of CO₂ following the Pinatubo volcanic eruption in 1991.

NOAA's network of five global Baseline Observatories and approximately 100 global cooperative sampling sites extends from the high Arctic to the South Pole. NOAA/CMDL also takes samples at five-degree latitude intervals from three oceanic ship routes. All the air samples are analyzed in the Boulder laboratory for the major greenhouse gases by comparing the samples to NOAA's highly accurate world standards for these gases.

NOAA, an agency of the U.S. Department of Commerce, is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of the nation's coastal and marine resources. Relevant Web Sites NOAA Climate Monitoring and Diagnostics Laboratory <http://www.cmdl.noaa.gov/>

Source: National Oceanic and Atmospheric Administration, Boulder, Colorado, Press release, 27 September 2005 - Bureau of International Information Programs, U.S. Department of State. Web site: <http://usinfo.state.gov>

North America

2- Melanoma, a Rising Threat to Children

PHILADELPHIA - (KRT) - Melanoma, a potentially deadly skin cancer that usually affects adults, is showing up with increasing frequency in children.

Melanoma is still a rare disease in children, with an estimated 500 cases a year in this country. But experts are alarmed by a steady increase in its prevalence among children and teens over the past few decades.

A study published in July documented a 2.9 percent increase a year in pediatric melanoma from 1973 to 2001 in the United States.

"You just can't say melanoma doesn't happen in children. It can," said Daniel Krowchuk, a professor of

pediatrics and dermatology at Wake Forest University who heads the American Academy of Pediatrics' dermatology committee.

Experts suspect early sun exposure is one factor but acknowledge they don't know all the reasons. Over the past decade, adults have been hearing public health messages to watch their sun exposure and be alert for suspicious changes in the shape and color of moles and other skin lesions. Now, Krowchuk said, pediatricians and parents alike also need to be vigilant.

"Sometimes it's right in front of a physician's nose and it's ignored or blown off as something else," said Casey Culbertson, a pediatric cardiologist at Children's Hospital and Research Center in Oakland, Calif., who heads the Melanoma Research Foundation.

In children and adults, melanoma is highly curable if diagnosed early, while still confined to the top layers of the skin. But it can spread to nearby lymph nodes and other parts of the body, making it difficult or impossible to cure. Melanoma is a far more worrisome skin cancer than basal cell or squamous cell cancers, which are more easily dealt with.

The July study, published in the *Journal of Clinical Oncology*, found that pediatric melanoma increased especially among white children, females, older children, and those living in areas where people are exposed to more UV radiation from the sun.

The study found that the overall five-year survival rate for children with melanoma was 93.6 percent. Children with advanced disease had a survival rate of 57 percent.

"The incidence of melanoma is increasing rapidly in children, especially in adolescents," concluded the researchers, headed by J.J. Strouse, a pediatric oncologist and hematologist at Johns Hopkins University. "This increase is similar to that seen in young adults."

Strouse, in an interview, said sun exposure in childhood seems to play a role in the increase, but other potential factors need to be studied further. For instance, he said, the popularity of tanning booths, particularly with teen girls, is exposing people to UV radiation. Also, hormonal influences, perhaps linked to early puberty, could be a factor, he said.

Some experts believe the rise in melanoma can be partly blamed on the thinning of the Earth's ozone layer, which offers protection against ultraviolet radiation from the sun.

Sunscreens can also provide a false sense of security, encouraging people to stay in the sun longer. And until recently, sunscreens typically protected against ultraviolet-B, but not ultraviolet-A. Both are damaging to the skin. Having one or more blistering sunburns in childhood increases the chances of developing melanoma later on.

Anthony J. Mancini, a dermatologist at Children's Memorial Hospital in Chicago, said his institution formed a pediatric melanoma committee after more cases started to turn up, including a 4-year-old with the cancer.

"We're up to about 12 cases in almost nine years," compared with only a few cases in the prior two decades, said Mancini, who is writing an article on the phenomenon for the American Academy of Pediatrics' newsletter.

Dermatologists say they are seeing more children referred by other doctors for mole checks, or by parents who have a heightened awareness of dangers of melanoma.

On a recent afternoon, Lynda Williams of Schwenksville, Pa., brought her 12-year-old son, Kyle, to see Albert Yan, director of pediatric dermatology at Children's Hospital of Philadelphia.

She wanted a second opinion after another dermatologist recommended that a large mole be removed. Williams said she wasn't eager for her child to undergo surgery, but also didn't want to take a lax attitude.

"I'd feel terrible if something did come up," she said.

Yan was reassuring.

"My personal opinion is that it looks benign. Chances are low something will happen to this one," he told Kyle and his mother. "At this point, it's fine to watch and leave it as it is."

He recommended that they keep an eye out for changes in the shape and color of the mole. He also suggested that Kyle see a dermatologist for yearly check-ups.

In cases where patients have many moles, Yan advises them to follow the "ugly duckling rule" - if one mole stands out from the pack, it could be troublesome.

For adults, doctors have come up with a list of criteria to flag suspicious lesions. For starters, there are the ABCDE rules - a mole may be suspicious if it has an asymmetrical shape; an uneven border; various shades of coloring; is larger than the diameter of a pencil eraser; or evolves or changes over time.

But a recent study out of Italy suggests that spotting a pediatric melanoma may be tricky. Researchers reported on 33 cases and found that only half of them did have the characteristic features. For instance, the lesion was pinkish or reddish, not the more typical dark brown.

"Although we have no data to support any suggestion of biological differences between young children and adolescents or adults, our findings give the impression that melanoma behaves differently in the younger age group," concluded the researchers, reporting in the March issue of *Pediatrics*.

Pam and Joe Rohr of Sicklerville, N.J., said their daughter, Jenni, was 13 when she had three moles removed. One, on her upper back, turned out to be cancerous.

"When we found out it was melanoma, she was very surprised, as were we," said Pam Rohr, especially since the family was diligent about using sunscreen.

Further surgery and testing showed the cancer had spread to Jenni's lymph nodes, so she began a series of treatments, including radiation and chemotherapy.

Eventually, the cancer spread to her lungs.

"All she wanted to do was go to high school and do what every other normal teenager wants to do,"

Rohr said. Jenni died two years ago at age 14, just after starting ninth grade. "Parents need to be aware that it could happen," said Rohr. "If you see a funny looking mole, you need to get it checked and doctors need to be aware."

Source: The Philadelphia Inquirer, By Suzan Fitzgerald, Knight Ridder Newspapers

<http://www.philly.com>

WEST ASIA

3- Airlines Chart a New Course to Manage Halons for Critical Fire-fighting Applications

28 September, Manama, Kingdom of Bahrain - For the first time airlines and airport authorities based in developing countries have met with counterparts and experts from developed countries to consider long-term options to manage dwindling stocks of halons used for onboard and ground fire protection. As a result of this roundtable meeting, the airlines agreed to examine their current and future halon use and consider applying the concept of "halon banking" to manage their critical applications over the next 20-30 years.

Halons are found in aircraft cabin interiors and airframes, engines, cargo bays and airport ground facilities worldwide. In some key applications, notably on planes, they play a critical safety role and are currently the only fire protection option available. However, due to their destructive effect on the ozone layer, countries of the world are progressively phasing out halons under the Montreal Protocol.

The Manama roundtable meeting was convened under the patronage of Bahrain's Ministry of Transportation Civil Aviation Affairs and organized by the UNEP ROWA CAP team. Five international airlines participated: Air India, British Airways, Garuda Indonesia Group, Gulf Air, JAT Airways and Trans Mediterranean Airlines. British Airways, which has already made substantial progress in replacing these ozone-depleting chemicals in many of its operations, and Garuda, which operates Indonesia's national halon bank, shared their experiences and strategies with the other airlines. They were joined by Co-Chairs of the Halon Technical Option Committee (HTOC), a representative of the International Air Transport Association (IATA), representatives of several national halon banks and National Ozone Officers from the region.

The roundtable participants drafted an action plan to address their future strategic needs related to halon banking, and established an informal information network to share ideas and best practices between themselves on the halon issue. As a next step, Gulf Air in cooperation with UNEP and HTOC plan to organize a meeting with aircraft manufacturers and aviation authorities in the Gulf region. UNEP

and HTOC hope to organize roundtables in other regions in 2006 to encourage airlines based in other developing countries to pursue halon bank management strategies.

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EUROPE

4- New Ozone Hole over Czech Republic and Germany and Neighbouring Areas Poses Health Risk

Depletion of the ozone layer by man-made chemicals, and particularly the ozone hole over the Antarctic, has been known for decades. This year, however, the problem became even more globalised with the announcement by scientists of severe ozone depletion in the Arctic. This has already resulted in reports of high incidences of ultraviolet (UV) radiation reaching the earth over the Czech Republic and parts of Germany, Austria and Slovakia. In the second half of June 2005, all-time record high levels of UV radiation were recorded in the Czech Republic. High incidences of UV can lead to skin cancer, eye cataracts and reduce the ability of our immune system to protect us from disease. Health warnings were issued, and some local TV programmes have started to report the UV index which is already routine in southern hemisphere countries like Australia and New Zealand. For up-to-date UV radiation monitoring, see the TEMIS project website of the European Space Agency (ESA). **Source:** http://europa.eu.int/comm/environment/ozone/international_action.htm

5- Hungary meets EU regulations protecting the ozone layer

Budapest, September 14 (MTI) -Hungary has drastically reduced the use of substances that damage the ozone layer, in line with European Union regulations, a senior Environment Ministry official said on Wednesday.

Speaking at an environmental seminar, Deputy State Secretary Robert Rakics said that since the first relevant efforts in the early 1990's, Freon, a gas contributing to the thinning of the ozone layer had completely been replaced with other materials.

Some 20 percent of total Freon consumption was eliminated through USD 7 million in grants from the World Bank, which helped companies to buy alternative technologies, Rakics said. The application of HCFC, which was first used to replace Freon, but which still does some harm to the ozone layer, was reduced to an annual 147 tonnes in 2004, compared to 1,371 tonnes consumed in 1999, the official said, adding that the use of methyl-bromide, a soil disinfectant, had been banned in 2005.

Source: Hungarian News Agency Corporation, 15 September 2005, <http://english.mti.hu/>

FEATURED READING >>>

- **OzonAction newsletter**, issue 50 a special edition on Ozone and Climate is now available >>> <http://www.unep.fr/ozonaction/library/mmfiles/4465-e-oan50.pdf>
- **Antarctic Ozone Bulletins** - The Secretariat of the World Meteorological Organization issues bulletins containing information on the state of the ozone layer in the Antarctic at roughly two week intervals from August to November. The bulletins are based on data provided by WMO Members which operate ozone monitoring stations in the southern hemisphere and satellites to observe ozone globally. **Read latest Bulletin at** <http://www.wmo.ch/web/arep/gawozobull05.html>

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